



## राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठ, नागपूर

“ (सेंट्रल प्रोव्हिन्सेस शासन शिक्षण विभागाची अधिसूचना क्रमांक ५१३ दिनांक १ ऑगस्ट, १९२३ द्वारा स्थापित व महाराष्ट्र विद्यापीठ अधिनियम, १९९४ द्वारा संचालित राज्य विद्यापीठ) ”

### (विद्या विभाग)

छत्रपती शिवाजी महाराज प्रशासकीय परिसर, रविन्द्रनाथ टागोर मार्ग, नागपूर — ४४० ००१.

दूरध्वनी क्रमांक: कार्यालय: ०७१२-२५३२०६३ फॅक्स : ०७१२-२५५५७०१

क्र. रातुमनावि/विद्या/१५/३१७

दिनांक

१४

जुलै २०१५

### अधिसूचना

सर्व संबंधीतांच्या माहितीकरीता सुचित करण्यात येते कि, वाणिज्य विद्याशाखे अंतर्गत येणारे बी. कॉम भाग-२ करिता मराठी, हिन्दी, इंग्रजी आणि पुरक इंग्रजी हया विषयाचे नवीन पाठयपुस्तक तसेच इंग्रजी व पुरक इंग्रजी हया विषयाचे सुधारीत प्रश्न पत्रिकेचे सुधारीत स्वरूप २०१५-२०१६ पासून लागु करण्यात येत आहे. बी. कॉम.भाग-२ करिता नवीन चार विषयांचे नवीन पाठयपुस्तक आणि इंग्रजी व पुरक इंग्रजी हया विषयांचे सुधारीत प्रश्न पत्रिकेच्या स्वरूपाला दिनांक

१०ण्टू७.०६.२०१५ रोजी संपन्न झालेल्या वाणिज्य विद्या शाखेने मान्यता प्रदान केलेली आहे त्यास मा. कुलगुरू महोदयांनी बी. कॉम.

भाग- २ करिता चार विषयांचे नवीन पाठयपुस्तक व सुधारीत प्रश्न पत्रिकेच्या स्वरूपाला सत्र २०१५-२०१६ पासून लागु करण्याकरीता महाराष्ट्र विद्यापीठ अधिनियम १९९४ च्या कलम १४ (७) अंतर्गत विद्वत परिषदेच्या वतीने दिनांक १.०७.२०१५ रोजी मान्यता प्रदान केलेली आहे. याची कृपया नोंद घ्यावी.

बी. कॉम. भाग-२ चे इंग्रजी व पुरक इंग्रजी हया विषयांचे सुधारीत प्रश्न पत्रिकेचे स्वरूप राष्ट्रसंत तुकडोजी महाराज नागपूर एदहनदपअमतेपजलण्वतह या संकेतस्थळावर उपलब्ध करण्यात आलेली आहे.

कृपया संबंधीतांनी नोंद घ्यावी

स्वाक्षरीस / —

पुरणचंद्र  
मेश्रामद्व  
कुलसचिव

### प्रतिलिपी माहिती व पुढील कार्यवाहीसाठी अग्रेषितरू

१. राष्ट्रसंत तुकडोजी महाराज नागपूर विद्यापीठाशी संनगनीत वाणिज्य विद्याशाखेतील सर्व संबंधित महाविद्यालयांचे प्राचार्य

२. मा. अधिष्ठाता, वाणिज्य विद्याशाखा
३. मा. परिक्षा नियंत्रक,
४. उपकुलसचिव ;पुर्व परीक्षा ६ परिक्षा उपरांतद्ध
- ५ सहायक कुलसचिव ;सा. परीक्षा ६ सा परीक्षा व चौकशी) ६. सहायक कुलसचिव ;गोपनीय)
- ७ .सहायक कुलसचिव ;व्यावयायीक परिक्षा)
- ८ .अधिक्षक;अध्यादेश विभाग)
९. अधिक्षक;निकाल विभाग)
१०. प्रभारी अधिकाारी ;प्रकाशन विभाग)
- ११.मा.कुलगुरूंचे स्वीय सहायक,
- १२.मा.प्र-कुलगुरूंचे स्वीय सहायक,
१३. मा. कुलसचिवांचे स्वीय सहायक,
- १४.श्रीमती विना प्रकाशे, माहिताशास्त्र

स्वाक्षरीस / —  
(मनिष झोडपे)  
उपकुलसचिव  
(विद्या)



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY,**  
**NAGPUR**

**NOTIFICATION**

No. Acad/164.

Date : 12<sup>th</sup> June, 2014

To,

The Principal  
of all the affiliated Commerce  
Colleges of Rashtrasant Tukadoji  
Maharaj Nagpur University, Nagpur

**Subject:- Direction No. 8 of 2014.**

**Sir/Madam,**

I am forwarding herewith a copy of the Direction No. 8 of 2014 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 "**Direction Governing The Examinations Leading To The Degree Of Bachelor Of Commerce (B.Com.) In The Faculty Of Commerce**" along with the scheme to be implemented from Academic Session 2014-2015.

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Yours faithfully,

Encl: As above.

Sd/-  
**(Dr. A.V. Gomashe)**

Registrar,  
Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

No. Acad/164

Nagpur dated the 12<sup>th</sup> June, 2014

**Copy for information and necessary action along with the Direction and Scheme as mentioned above to :-**

- 1) The Dean, Faculty of Commerce, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 2) The Chairman, All Board of Studies in Commerce Faculty, R.T.M. Nagpur University.
- 3) The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 4) The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 5) The Deputy Registrar (Exam.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 6) The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

- 7) The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 8) The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 9) The Asstt. Registrar (Exams & Enquiry.), R.T.M. Nagpur University, Nagpur
- 10) The Asstt. Registrar University's Sub-Centre at Gadchiroli, R.T.M. Nagpur University, Nagpur.
- 11) The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
- 12) The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur
- 13) The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 14) The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 15) The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
- 16) Mrs. Veena Prakash, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-  
**(Puran Meshram)**  
Deputy Registrar(Acad.)  
Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



## **RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY**

“(Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Universities Act, 1994.)”

Directions, Subject Scheme and Syllabus  
For  
**Bachelor of Commerce (B.Com) Examination**

**FACULTY OF  
COMMERCE**  
**Bachelor of Commerce (B.Com) Examination**  
2014-15 and Onwards  
(Three Years Degree Course)

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

**Direction No. 8 of 2014**

**DIRECTIONS GOVERNING THE EXAMINATION LEADING TO THE DEGREE OF  
Bachelor of Commerce (B.Com) Examination**

**WHEREAS** the Maharashtra Universities Act No. XXXV of 1994 has come into force with effect from 22nd July, 1994.

**AND**

**WHEREAS** the amendment to the said Act came to be effected from 12th May, 2000.

**AND**

**WHEREAS** the Faculty of Commerce at its meeting held on 01-05-2013 have decided to restructure the syllabus for the award of the degree of **Bachelor of Commerce (B.Com)** Examination commensurate with the curricula existing in the various Universities in India and with a view to include the latest trends in the commerce stream as well as to design it to suit to the needs of the industries and corporate houses as provided under Section 38(a) of the Act.

**AND**

**WHEREAS** all the Board of Studies in Faculty of Commerce in its meeting held on 20-07-2013 restructured the existing syllabi and recommended the new scheme of examination.

**AND**

**WHEREAS** the recommendations made by the all four Board of studies under Faculty of Commerce were approved by the Academic Council, in its meeting held on \_\_\_\_\_.

**AND**

**WHEREAS** it is expedient to provide and Amend Ordinance for the purpose of prescribing examinations leading to the degree of **Bachelor of Commerce (B.Com)** in the Faculty of Commerce.

Now, therefore, I, Anoop Kumar, Vice-Chancellor, Rastrasant Tukdoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section 14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction.

*[Signature]*  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

## Scheme of Examination

1. This Ordinance may be called 'Examination leading to the degree of Bachelor of Commerce (B.Com) in the Faculty of Commerce (Amendment) Ordinance, -----  
-----
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. There shall be three examinations leading to the degree of **Bachelor of Commerce (B.Com)** namely :
  - (1) The **Bachelor of Commerce (B.Com) Part - I** Examination,
  - (2) The **Bachelor of Commerce (B.Com) Part - II** Examination and
  - (3) The **Bachelor of Commerce (B.Com) Final** Examination.
4. The duration of the Degree Course under this shall be of three academic years with the **B.Com Part - I** Examination at the end of the first academic year, the **B.Com Part - II** Examination at the end of the second year and the **B.Com Final** Examination at the end of the third year.
5. The Examinations Specified in paragraph 3 above shall be held twice a year at such places and on such dates as may be fixed by the University.
6. The details of the procedure for admission as well as eligibility for examination of

(A) For the **B.Com Part - I** Examination shall have Passed the 12<sup>th</sup> Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education, with English at Higher or Lower level and any Modern Indian Language at higher or lower level with any combination of optional subjects;

OR

XII Standard Examination of Maharashtra State Board of Secondary and Higher Secondary Education in Vocational Stream with one language only; OR any other examination recognized as equivalent thereto; in such subjects and with such standards of attainments as may be prescribed Minimum Competition vocation course (MCVC).

OR

**Any other Equivalent Examination of any State in (10+2) pattern with English & any combination of subjects**

(B) For the **B.Com Part - II** Examination the student shall have appeared in **B.Com Part - I** Examination of this University & should be eligible as per ATKT rules.

(C) For the **B.Com Final** Examination the student shall have Passed **B.Com Part - I** & shall have appeared in **B.Com Part - II** Examination of this University & should be eligible as per ATKT rules.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

7. A collegiate candidate shall have pursued a regular course of study for not less than one academic year before being examined for B.Com Part - I or the B.Com Part - II or the B.Com Final Examination in any recognized institution and or college affiliated to Rashtrasant Tukdoji Maharaj Nagpur University where the course is conducted.

8. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said Ordinance shall apply to every collegiate candidate.

9. The fees for the examination shall be as prescribed by the University from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



## Examination Scheme

10. (A) An examinee for the **Bachelor of Commerce (B.Com) Part – I** examination shall be examined in the following subjects:

Sr No	SUBJECT	MAX MARKS (THEORY)
1	Compulsory English	100
2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi, etc.)	100
3	Financial Accounting – I	100
4	Fundamentals of Statistics & Computer	100
5	Principles of Business Management	100
6	Business Economics	100
7	Company Law & Secretarial Practice (CLSP)	100

(B) An examinee for the **Bachelor of Commerce (B.Com) Part – II** examination shall be examined in the following subjects:

Sr No	SUBJECT	MAX MARKS (THEORY)	INTERNAL/ PRACTCAL MARKS
1	Compulsory English	100	Nil
2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi, etc.)	100	Nil
3	Financial Accounting – II	100	Nil
4	Cost & Management Accounting	100	Nil
5	Business Communication	80	20
6	Monetary Economics	100	Nil
7	Business and Industrial Law	100	Nil

(C) An examinee for the **Bachelor of Commerce (B.Com) final** examination shall be examined in the following subjects:

Sr No	SUBJECT	MAX MARKS (THEORY)	INTERNAL/ PRACTCAL MARKS
1	Financial Accounting– III	100	Nil
2	Income Tax & Auditing	100	Nil
3	Functional Management	100	Nil

4	Indian Economics	100	Nil
5	Business Finance	100	Nil
6	Computerized Accounting	80	20

#### **(D) Choice of Vocational courses**

Apart from doing General B.Com, students can opt for vocational courses in B. Com as under :

- **Vocational subjects:** The various vocational courses (mainly sponsored by UGC) which can be chosen by the students are given below. As per the UGC letter no. F.9-3/95 (Desk-VE) dated 23.12.1999 a course for Entrepreneurial Development is compulsory for students opting for vocational subjects. Thus with every vocational subject there will be one paper of Entrepreneurship Development.

#### **Group I. Tax Procedures & Practice**

1. Tax Procedures & Practice-Paper- I and
2. Entrepreneurship Development- Paper-I  
(2 papers in each year i.e. 6 papers in 3 years)

#### **Group II. Office Management and Secretarial Practice**

- I. Office Management and Secretarial Practice-Paper- I and
- II. Entrepreneurship Development- Paper-I  
(2 papers in each year i.e. 6 papers in 3 years)

#### **Group III. Advertising, Sales Promotion and Sales Management.**

- I. Advertising, Sales Promotion and Sales Management-Paper-I and
- II. Entrepreneurship Development- Paper-I  
(2 papers in each year i.e. 6 papers in 3 years)

#### **Group IV. Computer Applications**

- I. Computer Applications
- II. Entrepreneurship Development- Paper-I  
(2 papers in each year i.e. 6 papers in 3 years)

#### **Group V. Principles and Practice of Insurance**

- I. Principles and Practice of Insurance
- II. Entrepreneurship Development- Paper-I

(2 papers in each year i.e. 6 papers in 3 years)

**\*1. NOTE:**

**B.Com Part- I** Students opting for UGC Vocational subject (any **one group** of the **five** mentioned above) may select the same in lieu of

- a. II nd Language subject i.e. Hindi, Marathi, Supp. English, etc.
- b. **Company Law & Secretarial Practice (CLSP)**

And for **B.Com Part II**, the vocational subjects will be in lieu of -

- a. II nd Language subject i.e. Hindi, Marathi, Supplementary English, etc.
- b. **Business Communication**

And for **B.Com Part III**, the vocational subjects will be in lieu of -

- a. **Functional Management**
- b. **Indian Economy**

**\*2. NOTE:** II nd language subject of **B.Com Part- I** shall be **Any one** of Hindi, Marathi, Supplementary English, Urdu, Gujrathi, Telgu, Bengali, Persian, Arebic, Pali & Prakrit, Latin etc. The syllabus of these **subjects, question paper pattern & question paper** shall be same as that of **B.A. Part- I**.

**\*3. NOTE:** II nd language subject of **B.Com Part- II** shall be **Any one** of Hindi, Marathi, Supplementary English, Urdu, Gujrathi, Telgu, Bengali, Persian, Arebic, Pali & Prakrit, Latin etc. The syllabus of these **subjects, question paper pattern & question paper** shall be same as that of **B.A. Part- II**.

11. (A) The scope of the subjects and pattern of examination shall be as indicated in Syllabus.

(B) **The Medium of instructions and examinations shall be in ENGLISH, MARATHI & HINDI only. The practicals / numericals wherever applicable will be set & attempted in English only.**

(C) The Maximum marks which each subject carries in Bachelor of Commerce (B.Com) Part - I, Part- II and Final Examination shall be as indicated in Examination Scheme (item no 10) "A", "B", and "C" respectively.

(D) All subjects of B.Com Part - I, II & Final shall have a period of **48 minutes** duration each & **workload as indicated below:**

## WORKLOAD CHART ( 71 Periods per Week)

### (Commerce Subjects)

B. Com. – I			B. Com. – II			B. Com. – III		
1	Financial Accounts-I	5 periods	1	Financial Accounting – II	5 periods	1	Financial Accounting– III	5 periods
2	Fundamentals of Statistics & Computer	5 periods	2	Cost & Management Accounting	5 periods	2	Income Tax & Auditing	5 periods

3	Principles of Business Management	4 periods	3	Business Communication	5 periods	3	Functional Management	4 periods
4	Business Economics	4 periods	4	Monetary Economics	4 periods	4	Indian Economics	4 periods
5	Company Law & Secretarial Practice (CLSP)	4 periods	5	Business and Industrial Law	4 periods	5	Business Finance	4 periods
						6	Computerized Accounting	4 periods
<b>TOTAL PERIODS</b>		<b>22</b>	<b>TOTAL PERIODS</b>		<b>23</b>	<b>TOTAL PERIODS</b>		<b>26</b>
<b>TOTAL WORK LOAD - 71 PERIODS</b>								

## WORKLOAD CHART (LANGUAGES)

B. Com. – I			B. Com. – II		
1	Compulsory English	5 Period of Theory for B.Com. Part-I. In addition one period of tutorial for a batch of 20 students. A batch shall not exceed 20 students and 10% of 20.	1	Compulsory English	5 Period of Theory for B.Com. Part-II. In addition one period of tutorial for a batch of 20 students. A batch shall not exceed 20 students and 10% of 20.
2	II <sup>nd</sup> Language (Indian language as per syllabus) (Supplementary English, Hindi, Marathi, etc.)	4 periods	2	II <sup>nd</sup> Language (Indian language as per syllabus) (Supplementary English, Hindi, Marathi, etc.)	4 periods
<b>TOTAL PERIODS</b>		<b>10</b>	<b>TOTAL PERIODS</b>		<b>10</b>

For Vocational Subjects the workload will be 3 periods for each theory paper & for practical 6 periods per week for BCom-I, BCom-II & BCom final examinations.

NOTE:

1. Number of periods / Lectures indicated are per week.
2. Each period / Lecture duration shall be 48 minutes.

12. The scope of the subject, percentage of passing in Theory and Internal Practical will be governed as per following rules:

- (i) In order to pass at the Bachelor of Commerce (B.Com) Part - I, II and Final Examinations an examinee shall obtain not less than 35% marks in each paper, that is to say separately in the written Examination and in internal practicals wherever applicable.
- (ii) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.
- (iii) An examinee who has failed at the Internal practical examination only shall required to register himself afresh for doing the Internal practical work again in the Department / College in the subject/subjects in which he has failed on payment of fresh annual Internal practical fee of Rs. 100/- per paper. Such registration shall be done on or before the beginning of the respective Academic Session. The Director / Principal shall on being satisfied about the completion of the Internal practical work of such a candidate

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

send the fresh Internal practical marks to the University and these fresh Internal practical marks shall be taken into consideration for computing his / her result at the examination.

**13. (a)** There shall be no classification of examinees successful at the Bachelor of Commerce (B.Com) Part - I & II Examinations. Division at the Bachelor of Commerce (B.Com) Final Examination shall be declared on the basis of the aggregate marks at the Bachelor of Commerce (B.Com) Part - I Examination , the Bachelor of Commerce (B.Com) Part -II Examination and the Bachelor of Commerce (B.Com) Final Examination taken together.

**(b)** Successful examinees at the Bachelor of Commerce (B.Com) Part -I, Bachelor of Commerce (B.Com) Part -II and the Bachelor of Commerce (B.Com) Final Examinations taken together and obtaining 75% or more in the aggregate shall be placed in the distinction, 60 % or more in the aggregate shall be placed in the first division, those obtaining less than 60 % but not less than 45 % in the Second Division & those obtaining less than 45% in third division.

**c)** Successful examinees in the Bachelor of Commerce (B.Com) Part -I, Bachelor of Commerce (B.Com) Part -II and Bachelor of Commerce (B.Com) Final Examination shall be awarded Distinction in each subject in which examinees obtain 75 % or more marks in that subject at the respective Examination.

**14.** Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.

**15.** Provisions of Ordinance No. 3 of 2007 relating to the award of Grace Marks for passing an examination, securing higher division / class and for securing distinction in subject(s) shall be applicable.

**16.** Notwithstanding anything to the contrary in this Direction, no person shall be admitted to an examination under this Ordinance, if he/ she has already passed the same examination or an equivalent examination of any other University.

**17.** Examinees passing the Bachelor of Commerce (B.Com) Examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.

**18.** The aforesaid Amendment shall come into force from the date of its issuance and shall remain in force till the relevant Ordinance come into being in accordance with the provisions of the Maharashtra University Act, 1994.

**19. The A.T.K.T. rules shall be as under:**

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Theory and Internal practicals shall be considered as separate passing heads. The internal practical passing heads shall not be considered for promoting to higher class as per ATKT rules.**

The marks for internal practical examinations should be communicated to university within time limit as per University norms.

The record of conduct of such examination, evaluation and marks should be maintained for a period of at least **two** years by the respective college / Department for the verification by the competent authority.

Admission to academic year	Candidate should have passed in following examinations of RTM Nagpur University	Candidate should have passed in Minimum <b>THREE</b> of <b>Theory subjects</b> of the following examination
I Year	H.S.S.C/equivalent	-----
II Year	-	Ist year
Final Year*	Ist year	IInd year

**Note: (\*)** A candidate admitted to Final Year can appear for Final year examination however the result of the Final year examination will be withheld unless the candidate clears all the lower examinations of the B.Com program

**20.** This direction shall come into force phase wise from the academic session 2014-15.

Nagpur:  
Dated : 4.6.2014

Sd/-  
( Anoop Kumar )  
Vice-Chancellor

## **BOARD OF STUDIES**

  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Com. Part-I**

<b>Sr No</b>	<b>SUBJECT</b>	<b>B O S</b>
1	Compulsory English	Language
2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi, etc)	Language
3	Financial Accounting – I	Accounts & Statistics
4	Fundamentals of Statistics & Computer	Accounts & Statistics
5	Principles of Business Management.	Business Management
6	Business Economics	Business Economics
7	Company Law & Secretarial Practice (CLSP)	Commerce

**B. Com. Part-II**

<b>Sr No</b>	<b>SUBJECT</b>	<b>B O S</b>
1	Compulsory English	Language
2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi, etc.)	Language
3	Financial Accounting – II	Accounts & Statistics
4	Cost & Management Accounting	Accounts & Statistics
5	Business Communication	Business Management
6	Monetary Economics	Business Economics
7	Business and Industrial Law	Commerce

**B. Com. Part-III**

<b>Sr No</b>	<b>SUBJECT</b>	<b>B O S</b>
1	Financial Accounting– III	Accounts & Statistics
2	Income Tax & Auditing	Commerce
3	Functional Management	Business Management
4	Indian Economics	Business Economics
5	Business Finance	Accounts & Statistics
6	Computerized Accounting	Accounts & Statistics

### **Vocational Papers**

#### **BOARD OF STUDIES IN COMMERCE**

##### **B.Com. Part-I**

1. Group-I
  - i. Tax Procedure and Practice – I
2. Group V.
  - i. Principles and Practice of Insurance - I

##### **B.Com. Part-II**

1. Group-I
  - i. Tax Procedure and Practice – II
2. Group V
  - i. Principles and Practice of Insurance - II

##### **B.Com. Part-III**

1. Group-I
  - i. Tax Procedure and Practice – III
2. Group V
  - i. Principles and Practice of Insurance - III

### **Vocational Papers**

#### **BOARD OF STUDIES IN BUSINESS MANAGEMENT & ADMINISTRATION**

##### **B.Com. Part-I**

1. Group-II
  - i. Office Management and Secretary Practice – I
  - ii. Entrepreneurship Development – I



2. Group-III

i. Advertising Sale Promotion and Sales Management – I

**B.Com. Part-II**

1. Group-II

i. Office Management and Secretary Practice – II

ii. Entrepreneurship Development – II

2. Group-III

i. Advertising Sale Promotion and Sales Management – II

**B.Com. Part-III**

1. Group-II

i. Office Management and Secretary Practice – III

ii. Entrepreneurship Development – III

2. Group-III

i. Advertising Sale Promotion and Sales Management – III

**Vocational Papers**

**BOARD OF STUDIES IN COMPUTER APPLICATION  
(AD-VOC)**

**B.Com. Part-I**

Group-IV

1. Elements of Information Technology & MIS (EIT & MIS)

**B.Com. Part-II**

Group-IV

1. Visual Basic & DBMS (VB & DBMS)

**B.Com. Part-III**

Group-IV

1. E-Commerce & Web Development (EWD)

---

R T M Nagpur University

*Proposed New syllabus  
for*

*B.Com*

From the Academic session  
2014-15

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

*Detailed Syllabus for B. Com. Part-I*

**Paper - I  
COMPULSORY ENGLISH**

**Textbook titled “SWAN and PEARLS” shall be prescribed  
COMPULSORY English textbook.**

**Question Paper Pattern  
B.Com Part - I  
Subject – COMPULSORY English**

Marks-100	Time – Three hrs
<b>Question-1) A-</b> One LAQ about 200 words on Unit-I	8
<b>B-</b> Two SAQ about 100 words on Unit-I	(4 x 2) 8
<b>Question-2) A-</b> One LAQ about 200 words on Unit-II	8
<b>B-</b> Two SAQ about 100 words on Unit-II	(4 x 2) 8
<b>Question-3) A-</b> One LAQ about 200 words on Unit-III	8
<b>B-</b> Two SAQ about 100 words on Unit-III	(4 x 2) 8
<b>Question-4) A.</b> Do as directed	
a. Give synonym of given words (2 items)	2
b. Give synonym of given words (2 items)	2
c. Give one words substitution (2 items)	2
d. Degree of Comparison (2 items)	2
e. Common errors in English sentences (2 items)	2
<b>B.</b> Letter Writing : One letter to be attempted, based On prescribed topics.	10
<b>C.</b> Comprehension of an Unseen Passage	10
<b>Question-5) A.</b> Write an Essay in about 300 word on any one Topics out of the four given topics.	10
<b>B.</b> Six Very Short answer question carrying two Marks each (from Unit I, II, III )	(6 x 2) 12

\*\*\*\*\*

**Syllabus for B.Com Part 1 (Compulsory English)**

100 Marks

Objective- The poems, Short Stories and Essays not only serve the purpose of studying language skills among students but also enjoyment and application,

**Course Content -**

Text Prescribed - **Swan and Pearls**, an Anthology of Short Stories, Poems and Essays Editors - Ratnakar Bhelkar, Varsha Vaidya

**Unit I - Short Stories**

The Gifts, Quality, The Axe, Someday, Marriage is a Private Affair, The Taxi Driver

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Unit II - Poetry**

You Turned Yourself, Mending Wall, Unknown Citizen , Art of Life, Horses Graze, Swan and Shadow

**Unit III - Essays**

Tolerance , The Philosophy of Pleasure , on Painted Face, Knowledge and Wisdom, On Education, What is Indianness?

**II-Non Textual Components****Unit IV -**

Synonyms, Antonyms, One Word Substitution, Degree; of Comparison, common errors in English sentences

**III-Business Correspondence**

Letter Writing - Enquiries, Complaint, Sales, Placement of order and Trade letters

Comprehension of Unseen passage

Essay Writing (Social, Economical, Environmental & Current Topics)

**Books for Reference -**

1. *Macmillan Foundation English*, by R.K. Dwivedi, & A.Kumar, Published by Macmillan India Ltd.
2. *English For Practical Purposes*, by .N. Patil, B.S. Valke , A. Thorat, Zeenat Merchant Pub.by Macmillan
3. *Learner's English Grammar & Composition* by N.D.V. Prasada Rao, S.Chand & Company Ltd.
4. *Business Communication* by Gupta and P. Mahajan. Published by, Sahitya Bhawans
5. *Enriching Your Competence in English* by Walke, Thorat and Gokhale published by Orient Longman

**Distribution of Marks**

Unit	Course content	LAQ	SAQ	VSAQ	Total
I	Short Stories	8	8	4	20
II	Poetry	8	8	4	20
III	Essays	8	8	4	20
IV	Basic Language Skills And Grammar Usage				40
	Total				100

**Paper - II****Subject – Supplementary English**

**Textbook titled “ZENITH” shall be prescribed  
Supplementary English textbook.**

**Question Paper Pattern  
B.Com Part - I  
Subject – Supplementary English**

Marks-100

Time – Three hrs

<b>Question-1) A-</b> One LAQ about 200 words on Unit-I	8
<b>B-</b> Two SAQ about 100 words on Unit-I	(4 x 2) 8
<b>Question-2) A-</b> One LAQ about 200 words on Unit-II	8
<b>B-</b> Two SAQ about 100 words on Unit-II	(4 x 2) 8

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

<b>Question-3) A-</b> One LAQ about 200 wards on Unit-III	8
<b>B-</b> Two SAQ about 100 wards on Unit-III	(4 x 2 ) 8
<b>Question-4) A.</b> Developing a paragraph with the help of important point	10
<b>B.</b> One Question out of Two on “Brief Conversational modules”	10
<b>C.</b> Precis Writing 10	
<b>Question-5) A.</b> Write an Essay about 300 words on any one of four given topics.	10
<b>B.</b> Six VSAQ carrying two marks each on Unit I, II, III,	(6 x 2 ) 12

\*\*\*\*\*

## Syllabus for B.Com I (Supplementary English)

**100 Marks Time - 3 hours**

**Objective** - To enhance language skills as well as to encourage students to appreciate nuances of language and literature.

### **Course Content-**

**Text Prescribed :- Zenith, an Anthology of Prose and Poetry**

#### **UNIT I - Lessons**

- i) A New Star Rises
- ii) Mahatma Gandhi
- iii) Jagdish Chandra Bose
- iv) My Greatest Olympic Prize
- v) Eating for Health

#### **UNIT II - Lessons**

- i) Using the Dictionary
- ii) The Rule Of The Road
- iii) How I Become The Public Speaker
- iv) Seeing People Off
- v) The Postmaster

#### **UNIT III - Poems**

- i) Virtue
- ii) Solitude
- iii) How Sleep The Brave
- iv) The Daffodils
- v) Stopping by Woods on a Snowy Evening

#### **UNIT IV - Non Textual Components**

- i) Interview Techniques
- ii) Preparing an effective CV
- iii) Paragraph Writing
- iv) Essay Writing (Social, Economical, Environmental, Current Topics)
- v) Precis / Summary Writing

#### **Books for Reference -**

- i) *Business Communication : Techniques and Methods*, Om P. Juneja , Aarti Majumdar, Published by Orient Blakswan
- ii) *Macmillan Foundation English*, R.K. Dwivedi ,A. Kumar , Published by Macmillan India LTD
- iii) *Modern Commercial Correspondence*, R.S.N Pillai, Bagarathi, published by S.Chand and Co. Ltd, New Delhi.
- iv) *Professional Communication Skills*, Alok Jain, Pravin S. R. Bhatia, A.M. Sheikh, Published by S. Chand and Co. Ltd, New Delhi.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**Distribution of Marks**

Unit	Course Content	LAQ	SAQ	VSAQ	Total
I	First Five Lessons	8	8	6	22
II	Last Five Lessons	8	8	4	20
III	Poems	8	8	2	18
IV	Non Textual Components				40
					100

**Paper - II**  
**II nd LANGUAGE (MARATHI)**

**Textbook titled “Bhashadarshan - I” shall be prescribed  
Marathi textbook.**

**Question Paper Pattern**

**II nd LANGUAGE (MARATHI)**

**ch- dkWe- izFke**  
**o"kZ \* ejkBh \***

**osG&3 rkl**

**xq.k ¼100½**

**iz'u Øekad % 1½ x| & fn?kksZRRjh ¼nksu iSdh ,d½**  
**¼20½**

**iz'u Øekad % 2½ il | & fn?kksZRRjh ¼nksu iSdh ,d½**  
**¼20½**

**iz'u Øekad % 3½ x| foHkkx & ¼vkBiSdh dks.krsgh pkj**  
**iz'u lksMok½ ¼20½**

**iz'u Øekad % 4½ il | foHkkx & ¼ vkBiSdh dks.krsgh pkj**  
**iz'u lksMok½ ¼20½**

**iz'u Øekad % 5½ ¼loZ iz'u lksMfo.ks vfuok;Z vkgs-½**  
**¼20½**

**v½ i= ys[ku- & 5 xq.k**

**c½ bfro`Rr r;kj dj.ks- & 5 xq.k**

**d½ eqyk[krhps ra= & 5 xq.k**

**M½ Eg.kh iq.kZ dj- & 5 xq.k ¼ vkBiSdh iakp½**

**Paper - II**  
**II nd LANGUAGE (HINDI)**

Textbook titled "Sahityavithika -I" shall be prescribed Hindi textbook.

**Question Paper Pattern - II nd LANGUAGE (HINDI)**

**ch- dkWe- izFke o"kZ**

**\* fganh \***

**osG&3 rkl**

**xq.k ¼100½**

**iz'u-i= dk izk:lk ,oa vad foHkktu**

iz'u 1 - ikB;iqLrd ds fu/kkZjhr ikBksa esa ls fodYi ds lkFk nh?kksZRRkj iz'u !

(nks iz'uksa esa ls ,d iz'u dk mRrj visf{kr gSS  
– 20 vad

iz'u 2 - ikB;iqLrd dh fu/kkZfjr dforkvkss esa ls fodYi ds lkFk nh?kksZRRkj iz'u !

(nks iz'uksa esa ls ,d iz'u dk mRrj visf{kr gS )  
– 20 vad

iz'u 3 - ikB;iqLrd ds fu/kkZfjr ikBksa esa ls vkB iz'u tk,Waxs, ftuesa ls

fdUgh pkj iz'uksa ds mRrj visf{kr gS  
(izR;sd iz'u ij ikWap vad gkssxs) 4 x  
5= 20 vad

iz'u 4 - ikB;iqLrd ds fu/kkZfjr dforkvkksa esa ls vkB iz'u gksxas ftues ls fdUgh

pkj nks iz'uksa ds mRrj visf{kr gS )  
(izR;sd iz'u ij ikWap vad gkssxs) 4 x  
5= 20 vad

iz'u 5 - ikB;dze ds varxZr fu/kkZfjr x| ,oa ij dks NksMdj vU; ikB;

lkexzh ls dqy ikWap vfr y?kqRrjh vfuok;Z iz'u iwNs tk,Wxs

(izR;sd iz'u ij pkj vad gkssxs) 4 x 5=  
20 vad

**dqy vad foHkktu**

x| foHkx – 40 vad

ij foHkx – 40 vad

vU; ikB; lkeqzh – 20 vad

**PAPER III**  
**FINANCIAL ACCOUNTING - I**

**Unit – I**

- An overview of basic of Book Keeping and Accountancy.
- Rules of Double Entry Account System.
- Preparation of Journal, Ledger, Cash Book, Trial Balance & Annual Accounts of Sole Traders.
- Accounting Concepts & Conventions.
- Accounting Standards :- Introduction, Need & Objectives, AS 1 to AS 10, Accounting Policies and their Discloser.

**Unit – II**

Hire Purchase Accounts (Excluding Installment System and Repossession of Assets)

**Unit – III**

Branch Accounts (Excluding Foreign Branch)

**Unit – IV**

Accounts of Co - Operative Societies. (Preparation of Cash Book and Trading and Profit and Loss A/c and Balance Sheet as per Maharashtra State Co - Operative Societies Act,1960)

**Unit – V**

- Consignment Account
- Joint Venture Accounts (Centralized & Decentralized Method)

**Note :- Accounting year should be 31<sup>st</sup> March.**

**Reference Books :**

- ✓ S. N. Maheshwar :- Financial Accounting – Vikas Publishing House, New Delhi
- ✓ Gupta R. L. – Advanced Financial Accounting – S. Chand & Sons
- ✓ Kumar, Anil S. – Advanced Financial Accounting – Himalaya Publication House
- ✓ Shukla and Grewal : Advanced Accounts (S. Chand & Ltd. New Delhi)
- ✓ Jain and Narang : Advanced Accounts (Kalyani Publishers, Ludhiana)
- ✓ Sr. K. Paul : Accountancy, Volume –I and II (New Central Book Agency, Kolkata)
- ✓ R. K..Lele and Jawaharlal : Accounting Theory (Himalaya Publishers)
- ✓ M. A. Arulnandam :- Advance Accounting – Himalay Publication
- ✓ Prof. PradeepWath, Dr. R. D. Mehta, Dr. DilipGotmare :- Financial Accounting– Payal Prakashan

**FINANCIAL ACCOUNTING - I**  
**Question Paper Pattern**

**Paper – III**

**N.B. – 1) All Questions are compulsory. 2)  
All Questions carry equal marks.**



**Time :- 3 hours**

**Marks-100**

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 3 – Unit III	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 5 – Unit V	A) Problem on Consignment Accounts	10 Marks
	B) Problem on Joint Venture Accounts	10 Marks
	<b>OR</b>	
	C) Problem on Consignment Accounts/ Joint Venture Accounts	20 Marks

\*\*\*\*\*

## **Paper- IV**

### **FUNDAMENTALS OF STATISTICS & COMPUTER**

#### **Unit – I**

Computer Block diagram, functioning, generations, classification of computers, characteristics, limitations of computer. Computer memory: types of primary memory. Storage devices: Hard disk, optical disk (CD/ DVD), Flash memory cards, pen drive. Input devices: keyboard, mouse, joystick, light pen, scanners, OCR, MICR, Touch Screen, Bar code reader. Output devices: monitor, printers, classification of printers, plotters. Computer Software Types of software, Operating Systems- concept, need, and functions. Internet: Brief history, www, browsers, Internet services and applications.

#### **Unit – II**

Meaning, Scope, Importance, Functions and Limitations of statistics. Collection of data, Tabulation and Classification, Primary Data and Secondary Data Measures of Central Tendency - Mean, Median, Mode, Geometric Mean and Harmonic Mean.

#### **Unit – III**

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Measures of Dispersion Standard Deviation, Mean Deviation, Quartile Deviation, Decile, Percentile, Range and its coefficient, co-efficient of variation and skewness.

**Unit – IV**

Correlation (Co-efficient, Probable Error, Test of Significance)  
(Simple series -Two way series), Rank Correlation.

Regression Analysis-Regression co-efficient & Equations (Simple Series only)

**Unit – V**

Business Mathematics:- Ratio Proportion, Percentages, Simple & Compound Interest, Profit/ Loss.

**Reference Books:**

- ✓ Fundamentals of statistics : D. V. Elhance & Veena Elhance
- ✓ Statistics : V. K. Kapoor – S. Chand & Sons
- ✓ Statistics : B. New Gupta – Sahitya Bhavan Agra
- ✓ Statistics Methods : S.P. Gupta – S. Chand & Sons
- ✓ Fundamental of Statistics : S. C. Gupta – Himalaya Publishing House
- ✓ Business Mathematics & Statistics : NEWK Nag & S.C. Chanda – Kalyani Publishers
- ✓ Problem in statistics : Y. R. Mahajan - Pimplapure Publisher Nagpur
- ✓ I.T. TODAY (ENCYCLOPEDIA) BY S. JAISWAL
- ✓ Information Technology - Dr. Sushila Madan (Taxmann's)
- ✓ COMPUTER FUNDAMENTALS BY P. K. SINHA (BPB Pub)
- ✓ INFORMATION TECHNOLOGY BY S.B. KISHOR (DASGANU)
- ✓ Fundamentals of Computers – IITL Education Solutions Ltd. (Pearson)

**FUNDAMENTALS OF STATISTICS & COMPUTER  
Question Paper Pattern  
Paper - IV**

**N.B. – 1) All Questions are compulsory.**

**2) All Questions carry equal marks.**

**Time :- 3 hours**

**Marks-100**

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	
Question No. 2 – Unit II	A) Problem	10 Marks
	B) Problem / Theory	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 3 – Unit III	A) Problem	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Question No. 4 – Unit IV	A) Problem	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 5 – Unit V	A) Theory / Problem	10 Marks
	B) Theory / Problem	10 Marks
	<b>OR</b>	
	C) Theory / Problem	10 Marks
	D) Problem	10 Marks

---

## Paper - V

### PRINCIPLES OF BUSINESS MANAGEMENT

#### Unit-I

- **Nature And Scope of Business:** Meaning And Definition of Business, Characteristics, Objectives of Business, Classification of Business Activities, Industry, Commerce & Trade, Social Responsibility of Business Towards Different Groups.
- **Forms of Business Units:** Sole Trader, Partnership, Joint Stock Company and Co-Operative Society – Meaning, Characteristics, Advantages & Disadvantages.

#### Unit-II

- **Management And Administration:** Meaning and Definition of Management, Characteristics, Scope, Importance, Management And Administration, Management – A Science or Art.
- **Planning:** Meaning, Nature and Characteristics, Objects, Process, Importance, Types, Components.

#### Unit-III

- **Decision Making:** Concept, Characteristics – Importance, Process, Types of Decisions.
- **Organizing:** Concept, Principles, Types – Line, Functional, Line and Staff, modern types of organizations-Project, Matrix, Formal and Informal Organization, Advantages and Disadvantages.

#### Unit-IV

- **Delegation of Authority:** Meaning and Definition, Elements of Delegation of Authority, Advantages, Obstacles in the Process of Delegation.
- **Direction: Meaning,** Nature, Importance and Techniques.
- **Co-Ordination:** Meaning, Principles, Internal and External Co-Ordination, Methods of Achieving Effective Co-Ordination.

#### Unit-V

- **Leadership and Morale: Leadership** – Concept, Characteristics, Types and Qualities, Morale – Meaning, High And Low Morale, Measurement of Morale, Morale of Executive and Supervisors.
- **Control:** Meaning, Characteristics, Need, Procedure, Types, Essential of Good Control System, Control Devices.

#### Reference Books

- ✓ P.C. Jain : Government & Business Policy (Galgotia Publishing Company, New Delhi)
- ✓ Raj Agrawal & ParagDiwan : Business Environment (Excel Books)
- ✓ C. P. Bose : Business Organisation & Management
- ✓ P. C. Tripathi, P. N. Reddy: Principles of Management (Tata Mcgraw Hill, New Delhi)
- ✓ J. S. Chandan : Management Theory & Practice (Vikas Publishing House, New Delhi)
- ✓ Fred Luthans : Organizational Behaviour, Mcgraw Hill, New York

- ✓ Bodankar Dr. Sudhir Kanetkar Dr. Medha : Principles of Business Management (Shri. Sainath Prakashan, Nagpur)
- ✓ R. N. Gupta : Principles of Management, ( S. Chand & Co. Ltd., New Delhi)
- ✓ Dr. Kiran Nerkar & Dr. Vilas Chopde : Principals and Practices of of Management, (Dreamtech Press, New Delhi)

**Paper - V**  
**PRINCIPLES OF BUSINESS MANAGEMENT**  
**Pattern of Question Paper**

**Time : - 3 hrs**

**Max. marks :- 100**

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
Question No. 2 – Unit II	D) Theory	10 Marks
	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
Question No. 3 – Unit III	C) Theory	10 Marks
	D) Theory	10 Marks
	A) Theory	10 Marks
	B) Theory	10 Marks
Question No. 4 – Unit IV	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
	A) Theory	10 Marks
Question No. 5 – Unit V	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks

**Paper - VI**

**BUSINESS ECONOMICS**

**Duration : 3 Hrs**

**Max. Marks : 100.**

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Level of Knowledge:** Basic Knowledge.

**OBJECTIVES**

1. To expose students of Commerce to basic Micro Economics Concepts and inculcate in analytical approach to the subject matter.
2. To stimulate the students interest by showing the relievable and use of various economic theories.
3. To apply economic reasoning to problems of business.

**CONTENTS**

**Unit – I      Nature and Scope of Business Economics.**

A) Business economics meaning, Scope and objectives of Business economics, Nature and types of business decisions, Role and responsibilities of business economist, Role and social responsibility of business & business economist, Micro economics and macro economics definition, scope, Merits and Demerits.

**B)            Theory of Consumption.**

1. Law of demand, Demand determinants, Changes in Demand, Exceptions to the law of demand Geffen's paradox. Law of equi-marginal utility, Assumptions Limitations, Importance criticism of cardinal approach.
2. Indifference Curve – Concept, definition, Definition, Properties, Importance of indifference curve.
3. Elasticity of demand – Concept, kinds, definition Measurement of elasticity of demand, factors influencing elasticity of demand, Importance of elasticity of demand.
4. Demand forecasting: Meaning, Need, Importance, Methods of demand forecasting.

**Unit – II      Theory of Production and Cost**

1. Production Function – Concept Definition, Types of products, Total Production, Average Production, Marginal production, Law of variable proportions, Assumptions, Limitations and Significance.
2. Isoquant curves, Definition, General properties of isoquant curves, Expansion path internal and external economic and diseconomies of scale, Ridge line.
3. Theories of population, - Malthusian theory of population, Optimum theory of population, Demographic Transition Theory of population and criticism.

**Unit – III      Theory of cost and Revenue and Markets**

1. Law of supply & Criticism influencing factors of supply.
2. The concept of cost – Accounting Cost, Economic Cost, Opportunities Cost, Fixed Cost, Variable Cost, Direct and Indirect Cost, Real Cost, Explicit,

Implicit Cost, Money Cost, Total Cost, Average Cost, Marginal Cost, Selling Costs.

3. Revenues - Total Revenues, Average Revenues, Marginal Revenues and Relationship and Time Element.
4. Market – Concept, meaning, Definition, Classification of market structures, Type Firm, Industry, Meaning, objectives, difference between Industry and firm.

**Unit IV :- Pricing of Products.**

- 1) Perfect Competition definition, properties Price determination under perfect competition.
- 2) Monopoly -Definition, Properties, types, Price determination under Monopoly
- 3) Monopolistic competition, meaning, concepts, properties and Price determination under Monopolistic competition.
- 4) Price and output under oligopoly – indeterminate pricing and output price leadership, collusive oligopoly, Kinked demand curve.
- 5) Price discrimination – Meaning, Types, Conditions under which it is possible and profitable, importance, Concept of Dumping.

**Unit V - Theories of Distribution**

- 1) Modern Theory of Distribution of Rent.
- 2) Theory of rent – Ricardian theory of Rent, Modern theory of Rent, Criticism, concept of Quasi Rent.
- 3) Theory of interest – Loanable Funds Theory of Interest, Liquidity Preference Theory of Interest, Criticism, Concept of gross interest net interest.
- 4) Theories of Profit – Uncertainty Bearing Theory of Profit, Dynamic Theory of Profit, Innovation theory of Profit, Criticism, Gross Profit, Normal Profit, Abnormal profit.
- 5) Theory of Wages – Nominal wages, real wages, Exploitation of labour, Marginal productivity theory of wages.

**Reference Books**

1. Principles of Economics : D.M. Mithani, Sheth Publishers PVT LTD.
2. LTD. Mumbai 2000
3. Business Economics : V.G. Mankar, Himalaya Publication House.
- 3- O;kolkf;d vFkZ'kkL= % MkW- ,e-,e- oku[ksMs] MkW- ts-,e- dkdMs
- 4- vFkZ'kkL= % nso'kkL=h tagkxhjdj] fiiaykiwjs vWUM d-a iCyh'kLkZ

**PAPER - VI**  
**BUSINESS ECONOMICS**  
**B.Com. Part – I**  
**Question Paper Pattern**

**Time – Three Hours**

**Maximum Marks - 100**

Note : 1) All Question are compulsory  
2) All Questions carry equal marks.

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 3 – Unit III	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 5 – Unit V	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

C) Theory

10 Marks

D) Theory

10 Marks

## PAPER - VII

### Company Law & Secretarial Practice (CLSP)

Level of Knowledge - Basic knowledge.

**Objectives :-** 1) To develop conceptual knowledge regarding various types of companies.  
2) To impart knowledge regarding various functions of a company secretary.

#### Unit – 1

- **Corporate personality/ company**
- Meaning of a company, characteristics of a company, lifting the corporate veil, Kinds of company.
- **Formation, Incorporation and Promotion of a company**
- Stages in formation of a company, Duties of a secretary regarding Incorporation, Pre- incorporation contracts, Commencement of business.
- Meaning and definition, Duties and liabilities of promoters, Importance of promoters.
- **Memorandum of Association and Articles of Association**
- Meaning and Definition of Memorandum of Association, Importance of Memorandum of Association, Contents of Memorandum Of Association, Alteration in Memorandum of Association, Meaning and Definition of Articles of Association, Contents of Articles of Association.

#### Unit – 2

- **Prospectus**
- Definition of Prospectus, Statutory requirement of prospectus, Contents of prospectus, Demand Prospectus, Statement in Lieu of Prospectus, Misrepresentation in Prospectus, Consequences of Misrepresentation, Liabilities of Directors and Promoters towards misrepresentation.
- **Share Capital**
- Classification of share Capital, Meaning of Shares, Kinds of Shares, Issue of Shares.
- **Allotment of shares**
- Statutory restrictions and procedure on allotment of shares.

#### Unit -3

- **Share holders and Members**
- Meaning of shareholder/ Member, Procedure to become a member, kinds of members.
- **Directors**

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



- Meaning of Directors, Appointment of Directors, Qualifications of Directors, Powers of Directors, Duties of Directors, Remuneration of Directors.
- **Managing Directors**
- Meaning of Managing Directors, Appointment of Managing Directors, Remuneration of Managing Directors, Qualifications of Managing Directors, Term of Managing Directors, Powers and duties of Managing Directors.

#### Unit -4

- **Secretary**
- Meaning of Secretary, Definition of Secretary, Qualifications of Secretary, Duties of Secretary, Liability of company for secretary Acts.
- **Secretary & Correspondence**
- Correspondence with members- about allotment, call, forfeitures, transfer of shares
- **Company meeting**
- Statutory meeting, Annual Meeting, Extra ordinary meeting--
- Meaning, agenda, notice of meeting

#### Unit -5

- **Report writing-**
- Essentials of good report, contents of statutory report, Progress report, Importance of reports.
- **Depositories and Dematerializations of securities**
- Meaning of depository, Procedure of Depository, Meaning of dematerialization of shares, Procedure of dematerialization of shares.
- **E- Governance and E- Filing**
- Meaning of E- Governance and E- Filing, Advantages of E- Governance and E- Filing
- Procedure of E- Governance and E- Filing

#### Reference Books:

- ✓ Company Law & Secretarial Practice- Appannaian Reddy, Prabhudev, Himalaya Publishing House
- ✓ Company Law for Beginners- Dr. V.K. Jain, Sheth Publishers Pvt. Lt.
- ✓ Company Law and Secretarial Practice- Dr. R.K. Nelakha, Ramesh Book Depot, Jaipur, New Delhi.
- ✓ Company Law and Secretarial Practice- Dr. K.R. Dixit, Vishwa Publishers & Distributors, Nagpur
- ✓ Secretarial Practice & Company Law- Arunkumar, Rachana Sharma- Atlantic Publishers and Distributors

- ✓ daiuh dk;nk vkf.k lfpokph dk;Zi)rh& MkW- es/kk dkusVdj ( Jh- lkbZukFk izdk"ku ( ukxiwj-
- ✓ daiuh dk;nk vkf.k fpV.khkhph dk;Zi)rh& MkW- izHkkdj ns"keqjo ( faiGkiqjs vW.M daiuh( ukxiwj-
- ✓ daiuh fof/k (MkW vkj- ukSyjok (MkW vkb ih =hikBh( MkW ih ds tSu ( jes"k cqd Msiks( ubZ fnYyh-

## PAPER - VII

### QUESTION Paper Pattern Company Law & Secretarial Practice

**Full Marks: 100**

**Time: Three Hours**

N. B. ---- (1) **All questions are compulsory**

(2) **All questions carry equal Marks**

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 3 – Unit III	A) Theory	10 Marks

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

B) Theory 10 Marks

**OR**

C) Theory 10 Marks

D) Theory 10 Marks

Question No. 4 – Unit IV A) Theory 10 Marks

B) Theory 10 Marks

**OR**

C) Theory 10 Marks

D) Theory 10 Marks

Question No. 5 – Unit V A) Theory 10 Marks

B) Theory 10 Marks

**OR**

C) Theory 10 Marks

D) Theory 10 Marks

**B.Com-II**

### **COMPULSORY ENGLISH**

To be implemented from the academic session 2015-16 i.e. Summer 2016 Examination and onwards.

**B. Com. Part II (Compulsory English) Full Marks - 100 Text prescribed - BLOSSOM (An Anthology of Prose and Poetry)**

#### **Compulsory English**

**Pattern of Question paper to be followed from 2015-16 session**

Question 1 (A) One LAQ out of two to be answered in about 200 words from Unit I 10  
(B) Two SAQ's out of four to be answered in about 75 words from Unit I 5 x 2 = 10

Question 2 (A) One LAQ out of two to be answered in about 200 words from Unit II. 10  
(B) Two SAQ's out of four to be answered in about 75 words from Unit II 5 x 2 = 10

Question 3 (A) One LAQ out of two to be answered in about 200 words from Unit III. 10  
(B) Two SAQ's out of four to be answered in about 75 words from Unit III 5 x 2 = 10

Question 4 (A) Do as directed:  
i. Affirmative - Negative sentences (4 items) 4  
ii. Interrogative - Assertive sentences (4 items) 4  
iii. Exclamatory - Assertive sentences (4 items) 4  
iv. Punctuation (4 items) 4  
v. Change the voice (4 items) 4

Question 5 (A) Draft a Memo / Office Order (Any one of Two) 10  
(B) Draft the agenda / Minutes of a meeting (Any One of Two) 10

**B.Com - II**

### **COMPULSORY ENGLISH**

To be followed from 2015 - 16 session

Distribution of Marks

Unit I	Course Content	LAQ	SAQ	VSAQ	Total
I	First 4 lessons	10	10		20
II	Last 4 lessons	10	10		20
III	Poetry Section	10	10		20
IV	Grammar & Business Correspondence				40
	Total				100

*[Signature]*  
20/03/2016  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.Com-II**  
**SUPPLEMENTARY ENGLISH**

To be implemented from the academic session 2015-16 i.e. Summer 2016 Examination and onwards.

**B. Com. II (Supplementary English) Full Marks -100 Text Prescribed - REFLECTIONS (An Anthology of Prose and Poetry)**

**Supplementary English**

**Pattern of Question paper to be followed from 2015-16 session**

- Question 1 (A) One LAQ out of two to be answered in about 200 words from Unit I 10  
(B) Two SAQ's out of four to be answered in about 75 words from Unit I  $5 \times 2 = 10$
- Question 2 (A) One LAQ out of two to be answered in about 200 words from Unit II. 10  
(B) Two SAQ's out of four to be answered in about 75 words from Unit II  $5 \times 2 = 10$
- Question 3 (A) One LAQ out of two to be answered in about 200 words from Unit III. 10  
(B) Two SAQ's out of four to be answered in about 75 words from Unit III  $5 \times 2 = 10$
- Question 4 (A) Do as directed:  
i. Add Question Tags - (4 items) 4  
ii. Tenses - (4 items) 4  
iii. Phrasal Verbs - (4 items) 4  
iv. Change the narration - (4 items) 4  
v. Simple, Compound, Complex Sentences (4 items) 4
- Question 5 (A) Draft an email 10  
(B) LAQ on Group Discussion 10

**Distribution of Marks**

Unit	Course Content	LAQ	SAQ	VSAQ	Total
I	First 4 lessons	10	10		20
II	Last 4 lessons	10	10		20
III	Poetry Section	10	10		20
IV	Grammar & Business Correspondence				40
	Total				100

**PAPER – II**  
**II nd LANGUAGE - Marathi**

Textbook titled “Bhashadarshan - II” shall be prescribed  
Marathi textbook.

**ch- dkWe- f}rh; o" kZ**  
**\* ikB;Øe ejkBh \***

**osG&3 rkl**

**xq.k ¼100½**

**iz'u Øekad % 1½ x| & fn?kksZRrjh ¼nksu iSdh ,d½**  
**¼20½**

**iz'u Øekad % 2½ il & fn?kksZRrjh ¼nksu iSdh ,d½**  
**¼20½**

**iz'u Øekad % 3½ x| y?qkRrjh& ¼ vkBiSdh dks.krsgh pkj iz'u**  
**lksMok½ ¼20½**

**iz'u Øekad % 4½ il y?qkRrjh &**  
**¼ vkBiSdh dks.krsgh pkj iz'u lksMok½**  
**¼20½**

**iz'u Øekad % 5½ ¼loZ iz'u lksMfo.ks vfuok;Z vkgs-½**  
**¼20½**

**v½ dYiuk foLrkj dj-**  
**c½ vtZ ys[ku-**  
**d½ ckreh ys[ku-**  
**M½ [kkyhy 'kCnkaps okD;kr mi;ksx dj**  
**( dks.krsgh ikp)**

**PAPER – II**  
**II nd LANGUAGE - HINDI**

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Textbook titled “Sahityavithika - II” shall be prescribed HINDI textbook.

ch- dkWe- f}rh; o" kZ  
\* ikB;Øe fganh \*

osG&3 rkl

xq.k ¼100½

iz'u-i= dk izk:lk ,oa vad foHkktu

iz'u 1 - ikB;iqLrd ds fu/kkZjhr ikBksa esa ls fodYi ds lkFk nh?kksZRRkj iz'u !

(nks iz'uksa esa ls ,d iz'u dk mRrj visf{kr gSS  
– 20 vad

iz'u 2 - ikB;iqLrd dh fu/kkZfjr dforkvkss esa ls fodYi ds lkFk nh?kksZRRkj iz'u !

(nks iz'uksa esa ls ,d iz'u dk mRrj visf{kr gS )  
– 20 vad

iz'u 3 - ikB;iqLrd ds fu/kkZfjr ikBksa esa ls vkB iz'u tk,Waxs, ftuesa ls

fdUgh pkj iz'uksa ds mRrj visf{kr gS  
(izR;sd iz'u ij ikWap vad gkssxs) 4 x  
5= 20 vad

iz'u 4 - ikB;iqLrd ds fu/kkZfjr dforkvkksa esa ls vkB iz'u gksxas ftues ls fdUgh

pkj nks iz'uksa ds mRrj visf{kr gS )  
(izR;sd iz'u ij ikWap vad gkssxs 4 x  
5= 20 vad

iz'u 5 - ikB;dze ds varxZr fu/kkZfjr x| ,oa ij dks NksMdj vU; ikB;

lkexzh ls dqy ikWap vfr y?kqRrjh vfuok;Z iz'u iwNs tk,Wxs

(izR;sd iz'u ij pkj vad gkssxs) 4 x 5=  
20 vad

**dqy vad foHkktu**

x  foHkkx	–	40 vad
ij foHkkx	–	40 vad
vU; ikB; lkeqxzh	–	20 vad
daqy vad	–	100 vad

PAPER III

FINANCIAL ACCOUNTING - II

### Unit – I

- Flotation of Joint Stock Companies and their Capital Structure.
- Accounting for Issue, Forfeiture of shares & reissue of forfeited shares.

### Unit – II

- Annual or Final Accounts of Joint Stock Companies.  
(Excluding Managerial Remuneration)

### Unit – III

- Final Accounts of Banking Companies  
(Preparation of Annual accounts as per Banking Companies Regulation Act 1949 as per amendment by RBI)

### Unit - IV

- Final Accounts of General Insurance Companies.

### Unit - V

- Profit Prior to Incorporation.
- Liquidation of Company.
- (Preparation of Liquidator's Final Statement of Account only)

### Reference Books:

- ✓ Corporate Accounting:-Maheshwari S N, Vikas Publishing house Pvt. Ltd.
- ✓ Gupta R. L. – Advanced Financial Accounting – S. Chand & Sons
- ✓ Kumar, Anil S. – Advanced Financial Accounting – Himalaya Publication House
- ✓ Shukla and Grewal : Advanced Accounts (S. Chand & Ltd. New Delhi)
- ✓ Jain and Narang : Advanced Accounts (Kalyani Publishers, Ludhiana)
- ✓ Sr. K. Paul : Accountancy, Volume –I and II (New Central Book Agency, Kolkata)
- ✓ R. K. Lele and Jawaharlal : Accounting Theory (Himalaya Publishers)
- ✓ Dr. L. S. Porwal : Accounting Theory (Tata McGraw Hill)
- ✓ Robert Anthony, D. F. Hawkins & K. A. Merchant : Accounting Text & Cases (Tata McGraaw Hill)
- ✓ Dr. S. N. Maheshwari : Corporate Accounting (Viakas Publishing House Pvt. Lit. New Heldi)
- ✓ Dr. Ashok Sehgal& Dr. Deepak Sehgal : Advanced Accounting (Taxmann, New Delhi)
- ✓ Dr. R. D. Mehta, Prof. PradeepWath& Dr. D. C. Gotmare :- Advanced Financial Accounting (PayalPrakashan)

## Paper - III FINANCIAL ACCOUNTING - II Question Paper Pattern

**N.B. – 1) All Questions are compulsory.**  
**2) All Questions carry equal marks.**

**Time :- 3 hours**

**Marks-100**

Question No. 1 – Unit I A) Theory  
B) Problem

10 Marks  
10 Marks

20  
  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

	OR	
	C) Problem	20 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Problem	10 Marks
	OR	
	C) Problem	20 Marks
Question No. 3 – Unit III	A) Theory	10 Marks
	B) Problem	10 Marks
	OR	
	C) Problem	20 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Problem	10 Marks
	OR	
	C) Problem	20 Marks
Question No. 5 – Unit V	A) Problem on Profit Prior to Incorporation	10 Marks
	B) Problem on Liquidation of Company	10 Marks
	OR	
	C) Problem on Profit Prior to Incorporation/ Problem on Liquidation of Company	20 Marks

\*\*\*\*\*

## Paper - IV

### COST AND MANAGEMENT ACCOUNTING

#### Unit – I

- **Cost Accounting :-** Meaning, Importance, Element of Cost, Cost-Absorption, Allocation of Overheads and Methods of costing, Difference between Cost Accounting and Financial Accounting.
- **Management Accounting :-** Meaning, Scope, Importance, and Limitations of Management Accounting. Difference between Cost Accounting and Management Accounting, Role of Management Accounting

#### Unit – II

- Cost Sheet, Tender and Quotations. Reconciliation of Profit /Loss shown by Cost and Financial Accounts.

#### Unit – III

- Process Cost Accounting (Including Abnormal loss and Abnormal effectives, Joint Process Accounts)
- Contract Cost Accounting (One years contract for complete & incomplete contract)

#### Unit – IV

- Break -Even Point Analysis
- Ratio Analysis (Ratios related to Trading and Profit and Loss Account and Current Ratio, Liquid Ratio, debtors Turnover Ratio, Creditors Turnover Ratio, Working Capital Turnover Ratio)

#### Unit – V

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur



- Fund Flow Analysis
- Business Budget (Cash Budget and Flexible Budget Only)

**Books Recommended -**

- ✓ S. N Maheshwari : Cost Accounting Theory and problems –ShriMahavir Book Depot, New Delhi
- ✓ V.K. Saxena : Cost Accounting Text Book- Sultan Chand and Sons New Delhi
- ✓ M.C. Shukls – T.S. – Grewal, M.P. Gupta – Cost Accounting – S. Chand , New Delhi
- ✓ R. S. N. Pallai, V Bhagavathi – Cost Accounting – S. Chand, New Delhi
- ✓ S. M. Shukla :- Cost Accounts (Hindi)
- ✓ Nigam R. S. – Advanced Cost Accounting , S. Chand & Company
- ✓ Jain S. P. – Advanced Cost Accounting – Kalyani Publication
- ✓ Gawada, J Made – Advanced Cost Accounting – Himalaya Publication House
- ✓ Pillai R. S. N. – Management Accounting – S. Chand & Co. Pvt. Ltd.
- ✓ Agrawal N. K. – Managements Accounting – Galgotia Publication
- ✓ Singh, Jagwant - Managements Accountings – KitabMahal
- ✓ Rathnam P. V. - Managements Accountings – KitabMahal
- ✓ Sharma R. K. - Managements Accountings – Kalyani Publication

**PAPER - IV**  
**COST AND MANAGEMENT ACCOUNTING**  
**Question Paper Pattern**

**N.B. – 1) All Questions are compulsory. 2)  
All Questions carry equal marks.**

**Time :- 3 hours**

**Marks-100**

Question No. 1 –Unit I	A) Theory on Cost Accounting	10 Marks
	B) Theory on Management Accounting	10 Marks
	OR	
	C) Theory on Cost Accounting	10 Marks
	D) Theory on Management Accounting	10 Marks
Question No. 2 –Unit II	A) Problem (Cost Sheet /Tender)	10 Marks
	B) Problem (Reconciliation)	10 Marks
	OR	
	C) Problem (Cost Sheet/Tender/Reconciliation)	20 Marks
Question No. 3 –Unit III	A) Process Cost Accounts	10 Marks
	B) Contract Cost Accounts	10 Marks
	OR	
	C) Process / Contract Accounts	20 Marks
Question No. 4 –Unit IV	A) B.E.P.	10 Marks
	B) Ratio	10 Marks
	OR	
	C) B.E.P. / Ratio	20 Marks
Question No. 5 –Unit V	A) Fund Flow Analysis	10 Marks
	B) Budget	10 Marks
	OR	

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

\*\*\*\*\*

**PAPER - V**  
**Business Communication**

**Unit I:**

Business communication: concept, objective, elements, purpose & importance. Salient features & principles of effective communication. Types of communication, interpersonal, supervisory & grapevine communication, their characteristics. Public speaking: concept, principles, qualities & role of manager as Public speaker, importance of humor. Business writing: Elements, do's & don'ts, layout of business writing. Sales letter, enquiry, order, complaint letter, commercial letter, interview letter, appointment letter & show cause notice.

**Unit II:**

Communication media: Types, characteristics, advantages & disadvantages of print media, audio visual & internet. Organizational communication: Salient features, benefits & effectiveness of Company manual, house journal, placement broacher, leaflets. Public relations: Meaning, objectives, principles. Functions & qualities of public relation officer, corporate image, communication with government.

**Unit III: Word processing**

Introduction, Creating document, Structure of Ms-word window and its application, mouse & keyboard operations, designing a document; formatting-selection, cut, copy, paste, Toolbars, Printing, Saving, Opening, Closing of document; creating a template; Tables, borders, textbox operations; Spelling and Grammar check, Mail merge, Envelope and label, protection of document, Change the view of document.

**Unit-IV : Spreadsheet Package**

Introduction To Ms-excel, Excel Toolbars and Operations, formatting Features, Copying Data Between Worksheets; Entering and Editing Cell Entries, Creation of Charts, Editing and Formatting Charts, Goal Seek, Auditing, Linking, Workbook, Database in Excel (Auto Filter, Advanced Filter, Sort, Form), Mathematical, Statistical and Financial Functions in Ms-Excel.

**Unit- V : Power point**

Working with Power point, Standard Toolbar, Formatting Toolbar, Drawing Toolbar, Moving the Frame, Inserting Clip Art, Picture, Slide; Text Styling, Send to Bank, Entering Data to Graph, Organization Chart, Table, design Template, Master Slide, Animation Setting, show and Presentation, Auto Content Wizard, Package for CD (pack & Go Feature).

**Practical: (20 Marks)**

**The practical's shall be evaluated by Subject teacher (Internal examiner), moderated & certified by the Principal, marks shall be sent to University .**

**The practical's shall be based on following:**

**Practical assignments in MS WORD, MS EXCEL & MS POWER POINT (MS OFFICE 2007)**

Practical marks shall be awarded as below :

a) Record of Practical Assignments	10 marks
b) Internal Viva-Voce	10 marks
	-----
Total -	20 marks

**Books Recommended:**

- ✓ A guide to Business Correspondence–Kapoor A.–S.Chand &Co.
- ✓ Basic Business Communications – Rober M. Archer
- ✓ English Grammar – Wrenin & Martin
- ✓ Effective Business Communication – Herta Murphy Chorles Perk – Tata Mcgraw Hill
- ✓ Microsoft Office -2000/2007 - Gini Courter, Annelte Marquis BPB
- ✓ It Today (Encyclopaedia) - S.Jaiswal
- ✓ A First Course In Computers - Sanjay Saxena
- ✓ First Text Book On Information Technology – Srikant Patnaik

**PAPER - V**  
**Business Communication**  
**QUESTION PAPER PATTERN**

**Total Marks : 80**

**Time: Three Hours**

- N.B.) a) All Questions are compulsory.  
b) All Questions carry equal marks. **(Sixteen each)**

Question No. 1

**Unit – I (a + b)**

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**OR**  
**Unit-I ( c )**

Question No. 2                      **Unit – II ( a + b )**  
**OR**  
**Unit – II ( c )**

Question No. 3                      **Unit – III ( a + b )**  
**OR**  
**Unit – III ( c )**

Question No. 4                      **Unit – IV ( a + b )**  
**OR**  
**Unit – IV ( c )**

Question No. 5                      **Unit— V ( a + b )**  
**OR**  
**Unit—V ( c )**

## **Paper - VI**

### **MONETARY ECONOMICS**

**Total 100 Marks**

---

➤ Level of knowledge's Basic Knowledge

➤ Objectives :- This course is meant to accountant the Students with the Monetary Economies in which Money Banking and Public finance as are applicant in business and also

#### **Course Contents :-**

##### **Unit : I**

##### **Money**

- Evolution, meaning, definition, nature and functions of money.
- Types of Money (Metal, paper Plastic)
- Quantity Theory of Money and Criticism.
- Inflation, deflation, meaning, nature, Causes, effects, impact, remedial measures by RBI and role,
- Money Market Concept of Money market objective importance, Monetary policy and fiscal policy Concept - meaning, objectives need, importance, impact, recent charges/Trends

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Unit : II

### Banking

Commercial Bank – Evolution, Meaning, definition, functions, role, credit creation, investment policy, Limitations.

- Assets and liabilities and Management – (ALM) – Meaning objectives, balance sheet, importance, constituent, Ingredients of ALM
- Non-Performing Assest. – Meaning, Criteria and Causes.
- E-Banking & Core Banking – Meaning, nature, features, essential factors, Advantage & dis-advantages. ATM – (Automated Teller wachiues) Meaning, features. Merits and demerits credit cards (KCC) Plastic cards small cards, cheque cards, e-purse, laser cards – Meaning, features, Merits & demerits.
- Automated clearing Houses, online Banking, Advanced Ledger Posting Machines, MICR Technology – Cheques – clearing EFT (Electron fund Transfer) Internet Banking e-cheque ECS (Electronics clearing system)

## Unit : III

### Banks and Customers – Relationship and Services

- Introduction, meaning of customer, Bank & Customer relationship – Debtor & creditors, Trustee and Beneficiary, Agent and Principal, Baitec and Baitec special relationship.
- Opening, operating and closing of an Bank accounts, types – demat account advantages, role of demat partner. Buying and selling of demat securities.
- Methods of Calculating Interest Rates – on deposits, on loans advances, on cash credits on overdraft facilities - Banker Right & obligations.

## Unit : IV

### Central Bank

- Introduction, Meaning, objectives, functions, role – professional & regulatory organization & Management
- Credit Control – Meaning objectives methods :- Quantitative – Bank rate, open market operation, varying reserve requirement, credit rationing. Qualitative – Varying margin requirement, regulation of consumer's credit, Issuing directives to restrict bank advances and limitation.
- Monetary Policy and Reserve Bank – Meaning, objectives function, role, measures, impact discrete actions and rules cash Reserve Ratio (CRR) statutory liquidity Ratio (SLR)

## Unit : V

### Public Finance –

- Concept, Meaning, scope, importance – Principles of Public
- finance Theory of Maximum Social Advantages & their criticism.
- Taxation – Definition – Characteristics, cannons of taxation,
- Taxable capacity – Meaning, importance, theory of ability to pay tax & criticism factors influcing taxable capacity. Types of taxation – proportional, progressive and regressive taxation system Direct and in directs tax concept, meaning, objectives merits & demerits.
- Information Monetary fund – (IMF) Concept, meaning, objectives, need function, impact on economy.

### Books Recommended:-

- ✓ Mankiw, N. Gregory. Macroeconomics. Macmillan worth Publishers New York, Himpshire U.K.
- ✓ Dornbusch, Rudiger, and Stanley. Fischer. Macroeconomics. McGraw-Hill.
- ✓ Dornbusch, Rudiger., Stanley. Fischer and Richard Startz. Macroeconomics. Irwin/McGraw-Hill, Singapore.
- ✓ Deepashree, “Macro Economics”, ANE Books Pvt. Ltd. New Delhi.
- ✓ Barro, Robert J. Macroeconomics. MIT Press, Cambridge MA.

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- ✓ Burda, Michael, and Wyplosz. Macroeconomics A European Text. Oxford University Press, Oxford.
- ✓ Salvatore, Dominick. International Economics. John Wiley & Sons Singapore.
- ✓ Branson, William H. Macroeconomic Theory and Policy. Harper Collins India Pvt. Ltd.

## Paper - VI Question Paper Pattern

**Time – Three Hours**

**Maximum Marks - 100**

Note : 1) All Question are compulsory  
2) All Questions carry equal marks.

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 3 – Unit III	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 5 – Unit V	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks

## PAPER – VII

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

## Business and Industrial Law

Level of Knowledge- Basic knowledge.

**Objectives :-** 1) To develop conceptual knowledge regarding various laws related to business and industry.

2) To impart knowledge regarding to procedure of various laws related to business and industries.

### Unit – 1

- **Indian Contract Act 1872-** Definition, Kinds and concepts of contracts. Offer and Acceptance Consideration -Capacity of parties -Free consent - Legality and objects of consideration -Void Agreements-Performance of Contract -Discharge of Contract and Remedies.
- **Patent Act- 2002-** Meaning, Objective and important Definition - Inventions not patentable -Patent office and power controller - Penalties.

### Unit-2

- **The Indian Partnership Act, 1932** -Concept of partnership -Test for determination of existence for partnership -Kinds of partnership - Registration, Effects of Non- Registration -Rights and duties of partners towards other partners -Authority of partner and liabilities towards third parties -Admission, retirement, expulsion of partners and their liabilities - Dissolution of the firm
- **The Sale of Goods Act- 1930** -Contract of sale of Goods -Conditions and Warranties -Transfer of Property -Performance of contract of sale -Rights of unpaid seller

### Unit -3

- **Information Technology Act- 2000** -Meaning, objective and scope, offences and penalties adjudicating -Digital Signature and Electronic Governance - Offences and penalties
- **Right to Information Act-2005** -Important Definition, aims and objects of Right to information Act -Request for acquiring Information and procedure regarding information -Charges for supply of information -Appeal Officers - Consequences of non supply of information -Format of complaint application

### Unit-4

- **The Consumer Protection Act** -Salient Features of Act -Definition- Consumer, Complaint, Services, -Defect and Deficiency, complaints -Rights and relief's available to consumers -Procedure to file complain -Consumer Disputes Redresser Agencies -Procedure followed by Redresser Agencies
- **Environment Protection Act- 1986** -Meaning, objective and scope -Power of Central Government to protect and improve Environment -Location of Industries, Process and Operations -Offences and penalties

### Unit- 5

- **The Indian Factories Act- 1948** -Important Definitions -Provisions regarding workers Health -Provisions regarding safety of workers -Rules regarding Labor welfare -Provisions regarding Adults, Women workers and young workers
- **The Industrial Disputes Act-1947** -Important Definition -Authorities for the settlement of Industrial Disputes -Work procedure of different authorities and their powers and responsibilities -Duties of Conciliation officer and board - Duties of court of enquiry -Strikes and Lock out

- **Workmen's Compensation Act, 1923** -Important Definitions -Rules regarding Workmen's compensation -Amount of Compensation -Notice and claim for compensation ,Workmen's compensation commissioners

**Books Recommended:-**

- ✓ Dr. V. K. Jain: Mercantile Law, Seth Publications, Nagpur
- ✓ M.C. Shukla: Company Law, S. Chand & Company, Nagpur
- ✓ Sen & Mitra: Cinnercuak Kawn, The World Press Pvt. Ltd., Kolkata
- ✓ M.C. Kuchhal: Mercantile Law, Vikas Publishing House, New Delhi
- ✓ C.K. Kapoor: Lectures on Business and Corporate Laws, Vidya Sadan, Delhi
- ✓ V.S. Datey: Business and Corporate Laws, Taxman, New Delhi
- ✓ K.R. Bulchandani, Business Law for Management, Himalaya P. House, Mumbai-2006
- ✓ Right to Information Act, 2005- Bare Act
- ✓ Right to Information Act, 2005-Books Published by Yashada (Yashwantrao Chavan, Vikas Prakashan Prabhodini- Rajhans Prakashan)
- ✓ Information Manual: By Advocate, U.P. Deopujari, Nagpur Laws House
- ✓ Cyber Laws: By Justice Yatindra Singh, Universal Law Publishing Co., New Delhi
- ✓ N.D. Kapoor: Mercantile Law, Sultan Chand & Sons, Educational Publishers, New Delhi.
- ✓ Business Laws: Dr. Kiran Nerkar, Dr. Anant Deshmukh, Prof. Shantanu Jog, Sai Jyoti Publication, Nagpur
- ✓ O;kolkf;d dk;ns&MkW- es/kk dkusVdj] Jh lkbZukFk izdk'ku] ukxiwj

**PAPER – VII**  
**Business and Industrial Law**  
**QUESTION Paper Pattern**

**Tmie – Three Hours**

**Maximum Marks - 100**

**N. B. ---- (1) All questions are compulsory**

**(2) All questions carry equal Marks**

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
 Question No. 2 – Unit II	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
 Question No. 3 – Unit III	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur



	D) Theory	10 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 5 – Unit V	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks

### **Detailed Syllabus for B. Com. Part-III**

#### **PAPER - I FINANCIAL ACCOUNTING -III**

##### **Unit – I**

Amalgamation and Absorption of Companies.

##### **Unit – II**

Reconstruction of Companies.

(Internal and External Reconstruction of Companies)

##### **Unit – III**

Accounts of Holding Companies.

(Excluding Right Issue & Bonus Issue)

##### **Unit - IV**

Valuation of Goodwill and Valuation of Share

##### **Unit - V**

- Fire Insurance Claims.

- (Excluding Computation of Loss of Profit)

- Accounts of Public Utility Companies (Electricity, Gas and Water Supply Companies) According to Double Accounting System.

##### **Books Recommended**

- ✓ Gupta R. L. – Advanced Financial Accounting – S. Chand & Sons
- ✓ Kumar, Anil S. – Advanced Financial Accounting – Himalaya Publication House
- ✓ Shukla and Grewal : Advanced Accounts (S. Chand & Ltd. New Delhi)
- ✓ Jain and Narang : Advanced Accounts (Kalyani Publishers, Ludhiana)
- ✓ Sr. K. Paul : Accountancy, Volume –I and II (New Central Book Agency, Kolkata)
- ✓ R. K. Lele and Jawaharlal : Accounting Theory (Himalaya Publishers)
- ✓ Dr. L. S. Porwal : Accounting Theory (Tata McGraw Hill)
- ✓ Robert Anthony, D. F. Hawkins & K. A. Merchant : Accounting Text & Cases (Tata McGraaw Hill)
- ✓ Dr. S. N. Maheshwari : Corporate Accounting (Viakas Publishing House Pvt. Lit. New Haldi)
- ✓ Dr. Ashok Sehgal & Dr. Deepak Sehgal : Advanced Accounting (Taxmann, New Delhi)

**Paper - I**  
**FINANCIAL ACCOUNTING - III**  
**Question Paper Pattern**

**N.B. – 1) All Questions are compulsory. 2)  
All Questions carry equal marks.**

**Time :- 3 hours**

**Marks-100**

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 3 – Unit III	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Problem	10 Marks
	<b>OR</b>	
	C) Problem	20 Marks
Question No. 5 – Unit V	A) Problem on Fire Insurance Claim.	10 Marks
	B) Problem on Public Utility Concern	10 Marks
	<b>OR</b>	
	C) Problem on Fire Insurance Claim / Public Utility Concern	20 Marks

\*\*\*\*\*

**Paper - II**

**Income Tax and Auditing**

**Objectives:-**

To understand the basic concept and definition of Income Tax Act, 1961.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

To Acquire knowledge about Computation of Income under different heads of Income of Income Tax Act, 1961 and Direct Tax code 2012.

To Acquire Knowledge about the submission of Income Tax Return, Tax deducted at Source.

To prepare student Competent enough to take up employment in Tax planner.

### **Unit – I:**

- **Auditing:** Nature of Auditing, Meaning & Definition, Objectives, Advantages, Principles, scope and Limitations of Auditing .Types of Auditing—Continuous Audit, Annual, Periodical Audit, Internal Audit - Definition, objectives, Advantages, Basic Principles of Internal Audit, and Auditor.
- **Audit Planning and Documentation:** Commencement of New Audit, Preparation for Audit programme, Objectives, Types of Audit programme, Advantages and Disadvantages of Audit programme.

### **Unit – II :**

- **Auditing Techniques: - Vouching-** Meaning, Need for Vouching, Procedure of Vouching, Vouching of Cash Book, vouching of subsidiary book, Vouching of Ledgers.
- **Basic Concepts of Income Tax**  
Assessment Year, Previous Year, Meaning & Definitions, GTI, Difference between Exemption & deduction, Capital & Revenue Expenditure. Due Dates of Filing return by different Assessee.
- **Introduction of Five Heads of Income Tax & theory**  
Salary, House Property, Income from Business & Profession, Capital Gains & Income from Other Sources.
- **Residential Status and its effects on Tax incidence**  
(Residential status of Individual, HUF, Firm & Association of Person, Company, Basic Conditions & Additional Conditions. (Theory)

### **Unit-III :**

- **Income from Salary**  
Types of allowances (Taxable & Tax free), perquisites, and Tax treatment of P.F, E.P.F., Superannuation Fund, Allowances & Perquisites, Computation of Income from Salary and Calculation of Tax Liability. (Problems)
- **Deduction under section 80C, 80CCC, 80CCD, 80D, 80DDB, 80E, 80G, 80GG, 80U.**

### **Unit-IV:**

- **Income from Business and profession**  
Definition & Meaning of Business, Business deduction and allowances, maintenance of accounts by certain persons, Special provisions under section 44 AD and 44 AE, Depreciation U/S 32, Computation of income from business. Computation of Total Income of Individuals. (Theory/Problems).

- **Tax Return Preparers Scheme 2006 (section 139 B)**

Definition of Tax Return Preparers (TRP), Educational Qualification, Duties and Responsibilities of Tax Return Preparer, Preparation and Submission of Return of Income by TRP, Remuneration of TRP, and Information related to TRP, Function and Restriction of assesses in relation to Tax Return Preparers scheme. (Theory)

**Unit-V:**

- **Income House Property** -Meaning & Definition, Gross Annual Value Net Annual Value , Arrears of Rent ,Unrealized Rent, Interest on Loan Pre-construction & Post Construction, Composite Rent etc. Computation of Income from house property.
- **Income from Other Source** – Basis of Charge, Chargeable Incomes, Exempt Incomes, Computation of Income from other sources.
- (Income Tax Calculation – Rates applicable for respective Assessment year\* Education Cess.)  
(\* N. B.- Current Academic year will be the Assessment. year )

**Books Recommended :**

- ✓ Ahuja G. K. and Ravi Gupta :- Systematic Approach to Income and Central Sales tax, Bharat law house, New Delhi.
- ✓ Singhanian V. K. :- Direct taxes :- Law and Practice, Taxman's publication, Delhi.
- ✓ Jain K. C., Gour V. P., Narang D. B. :- Direct taxes Kalyani Publishers, Delhi.
- ✓ Jain Dr. V. K. :- Income tax for beginners—Seth publishers, Mumbai.
- ✓ Datey V. S. :- Indirect taxes law and Practice, Taxman, New Delhi, customs and excise Law Time :- various issues.
- ✓ Sonegaonkar Dr. Shripad, Sontakke Dr. Ravindra, Patil Dr. Milind :- Auditing and Income Tax- Himalaya publishing House, Nagpur.
- ✓ Upgade Dr. V. and Shende Dr. A. K. :- Direct taxes – Anuradha publication, Nagpur.
- ✓ Auditing principles – Jagdish Prasad.
- ✓ Practical Auditing – Spicer and Peglar

**Paper - II**  
**Income Tax and Auditing**  
**Pattern of Question Paper**

**Time : - 3 hrs}**

**{ Max. marks :- 100}**

---

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
<b>OR</b>		
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Theory	10 Marks
<b>OR</b>		
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 3 – Unit III	(A) Practical	10marks
	(B) Practical	10 marks
<b>OR</b>		
	(C) Practical	20 marks
Question No. 4 – Unit IV	(A) Practical	10marks
	(B) Theory	10 marks
<b>OR</b>		
	(C) Practical	20 marks
Question No5 – Unit V	(A) Practical	10 marks
	(B) Practical	10 marks
<b>OR</b>		
	(C) Practical	10 marks
	(D) Practical	10 marks

**PAPER – III**  
**Functional Management**

**Unit-I**

**Human Resource Function:-**

- Human Resource Philosophy (Concept Scope Role and functions of HR)  
Human Resource planning , Recruitment , Selection, placement , Induction  
Training and deployment, Compensation, Job evaluation .

**Unit-II**

**Marketing Function:-**

- Evolution of Modern concept of Marketing Market Segmentation, Basis for  
Segmenting consumer and industrial market, Product planning and  
deployment, pricing policies and strategies. Channels of Distribution.

**Unit-III**

**Finance Function:-**

- Scope and Importance of Financial Management, Functions and Role of  
Financial manager, Sources of capital, cost of capital.

**Unit-IV**

**Production Function:-**

- Meaning Nature scope and Importance of production Management.  
Production process, production planning and control, product Design and  
product Research.

**Unit-V**

**International Business Environment:-**

- Globalization – Introduction, Significance, Nature and Scope of Global  
Business, Social Cultural Economic, Political and Ecological factors of  
Global Business Environment.

**Books Recommended:**

- ✓ Personnel and Human Resource Management-- David A Decenzo & Stephen Robbins.
- ✓ Human Resource Management -- Garry Dersler , prentice Hall
- ✓ Human Resource Management Treat and cores -- V.S.P. Rao, Excel Books Delhi.
- ✓ 4) M.Y. Khan & P.K.Jain: Financial Management
- ✓ Financial Management- I M Pandey
- ✓ Marketing Management planning, Implementation control- Ramaswamy and Hamakumaris ,  
prentice Hall, Delhi
- ✓ International Business Environment, The Text and cases – Prentice Hall of India.

**PAPER – III**  
**Functional Management**

**QUESTION PAPER PATTERN**

**Total Marks : 100**

**Time:Three Hours**

N.B.) a) All Questions are compulsory.

b) All Questions carry equal marks. (**Twenty each**)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Question No. 1	<b>Unit – I (a + b)</b> <b>OR</b> <b>Unit-I ( c )</b>
Question No. 2	<b>Unit – II (a + b)</b> <b>OR</b> <b>Unit – II ( c )</b>
Question No. 3	<b>Unit – III (a + b)</b> <b>OR</b> <b>Unit – III ( c )</b>
Question No. 4	<b>Unit – IV (a + b)</b> <b>OR</b> <b>Unit – IV ( c )</b>
Question No. 5	<b>Unit— V (a + b)</b> <b>OR</b> <b>Unit—V ( c )</b>

### **Paper - IV**

## **INDIAN ECONOMICS**

**Marks 100**

➤ **Level of knowledge's** Basic Knowledge

➤ **Objectives :-** This course is meant to acquaint the Students with the Indian Economics as are applicable in Business

### **Unit I**

#### **Indian Economy & Planning**

- **Economic Planning:-** Characteristics Rational features, Objectives, evaluation of the objectives of economic planning and recent five year plan.
- Strategy of India's development plans: 10<sup>th</sup>, 11<sup>th</sup> plan
- The employment perspectives in 11<sup>th</sup> plan.
- Resources allocation and financing of five years plan :- way to Increase revenue and control expenditure.
- Regional planning in India – aspects of regional planning – conceptualization, Magnitude, Regional and lack of gerunie regional planning in India.

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- Assessment of India planning – Basic approach, targets and achievement an appraisal.
- Achievement and short comings of Economics planning.

## Unit II

### Indian Economy & policy

- Concept of economic growth of Economic Development Characteristics of underdeveloped/Developing countries
- Broad features of Indian economy
- Natural resources – Land, soil, water, forest, mineral.
- Infrastructure – sources of energy in India. Power, coal, oil and Gas, Atomic, Non-conventional, Energy strategy. Transport system in India – Railways, Road, Water, Air Transport.
- India's population: Size and Growth trends future, causes and consequences on economic development, Explosion, remedies, population policy.
- Employments and unemployment :- Trends, structure, employment in India, Nature and estimates of unemployment – urban, rural, agricultural unemployment, causes, government policy for removing unemployment and Sectoral Issues

## Unit III

### Indian Agriculture

- Nature, Role of Agriculture in India economy
- Cropping pattern in India and its determining factors. Crop insurance and live stock insurance – problem and Remedies
- Progress of Land reform, cooperative farming
- Green resolution: impact and constraints.
- Trends in Agricultural Production and Productivity law levels and causes of low productivity, measures to increase production and productivity.
- Agriculture marketing and finance – Need and sources, agriculture finance, co-operative credit societies. NABARD ( National Bank for Agriculture and Rural Development) Financial inclusion.
- Agriculture Marking Concept Meaning Advantage, Disadvantages, problems, remedies, and Government measures to improve the system of agriculture Marking co-operative marketing.
- Agricultural price policy – Trends, Need, Agriculture, subsidies, Public distribution system in India. Targeted public distribution system (TPDS)
- Agricultural Labour :- Definition, conditions and problems, Measures adopted by the Government, Measures for improvement.

## Unit IV

### Indian Industry

- Industrial policy 1991 some major Industries - Iron and steel, jute, Textile, sugar, cement
- Small scale and cottage industries – Definition, role, performance, importance problems, and remedies
- Public sector industries : Role, Performance, importance, Problems, and remedies
- Privatization of Public sector industries: meaning, methods, Evolution of privatization policy in India. Process from disinvestment and methodologies adopted and a critique of privatization and disinvestment
- Private sector industries Meaning Role importance, problems and remedies.



- Industrial sickness in India – Definition, causes, consequences, remedial measures
- Service sector: Growth, contribution of services sector in India, rapid service growth share services in employment.
- Indian trade union movement: Concept and Meaning, Role and functions, strength and weakness.

## Unit V

### India's International Trade

- Foreign Trade and foreign capital :- Concept and Meaning, advantages, disadvantages, Composition and direction export policy and import policy.
- Special Economic Zones:- Concept history, benefits, arguments against SEZS, EGOM, Decision on SEZS and impact on Economics.
- Foreign capital and Aid:- Need, role, problems , non – resident deposits, India's external debt.
- Multinational corporation, Concept:- Role, importance, advantages and disadvantages of MNC's and control over MNC's, impact on economy.
- Liberalization, privatization, Globalization meaning, importance, Role and steps forwards LPG, effects, and impact on Indian economy.
- World Trade Organization (WTO) :- Objective, working and functions and Role
- Public Expenditure – classification, Role, increasing causes of Public Expenditure.
- Public debt Meaning, Concept Meaning, Classification, Role, problem and remedies.

### Books Recommended:

- ✓ Agarwal, A.N. – Indian Economy
- ✓ Datta and Sundaram – Indian Economy
- ✓ Misra S.K. and Puri V.K. – Indian Economy
- ✓ Gupta N.S. – Industrial Economy of India
- ✓ Mishra R.P. – Rural Development
- ✓ Government of India – Five year plans
- ✓ Government of India – Economy Survey
- ✓ Reserve Bank of India – Annual Reports on Currency and finance.

## Paper - IV

### Question Paper Pattern

Time – Three Hours

Maximum Marks - 100

Note : 1) All Questions are compulsory  
2) All Questions carry equal marks.

Question No. 1 – Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 2 – Unit II	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 3 – Unit III	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 4 – Unit IV	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 5 – Unit V	A) Theory	10 Marks
	B) Theory	10 Marks
	<b>OR</b>	
	C) Theory	10 Marks
	D) Theory	10 Marks

## PAPER - V

### BUSINESS FINANCE

#### Unit – I

- Meaning, Nature, Significance, Objects and Scope of Business Finance, Recent Development and Reform in Finance Sector. Sources of Business

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Finance, Long- Medium and Short Term, Capital Market, Primary Market and Secondary Market.

**Unit – II**

- Role and Functions of Stock Exchange and SEBI. Project Financing, Venture Capital Financing, International Finance, Euro Issue, External Commercial Borrowings, Financing and Management of Small and Medium Enterprises.

**Unit – III**

- Meaning of Working Capital, Types, Determinants, Assessment of Working Capital Requirement, Operating Cycle. Inventory Management, Debtors Management and Creditors Management.

**Unit - IV**

- Dividend Policy, Essentials of Sound Dividend Policy, Determination of Dividend Policy and its types. Surplus and Reserve Policy. Cash Flow for Investment Analysis.

**Unit - V**

- Capital Budgeting :- Meaning, Nature and Types of Capital Budgeting, Investment Appraisal Techniques, Pay Back Period Method, Rate of return method, Net Present Value Method, Discounted Cash Flow Method,
- Leverages -Concept of Leverages, Operating and Financial Leverages.

**Books Recommended:**

- ✓ Financial Management Problems & Solutions :- Kishore Ravi M (Taxman Allied Service (p) Ltd.)
- ✓ Fundamentals of Financial Management :- Chandra Prasanna (Tata McGraw Hill Publishing Co. Ltd.)
- ✓ Management Accounting & Financial Management :- Arora M N (Himalaya Publishing House Pvt. Ltd.)
- ✓ Financial Management :- M R Agrawal (Garima Publication, Jaipur)
- ✓ Financial Management :- P V Kulkarni , B G Sathyaprasad (Himalaya Publishing House)
- ✓ Financial Management :- Dr. R. S. Kulshrestha, Prof. Sanjaykumar Shrivastava, Dr. Ghanshyam Mishra (S B P D Publishing House)
- ✓ Business Finance :- Shashi K Gupta, R K Sharma (Kalyani Publishers)
- ✓ Business Finance :- N P Agrawal, B K Mishra (Ramesh Book Depot)

**PAPER - V**  
**BUSINESS FINANCE**  
**Question Paper Pattern**

**N.B. – 1) All Questions are compulsory. 2)  
All Questions carry equal marks.**

**Time :- 3 hours**

**Marks-100**

Question No. 1 –Unit I	A) Theory	10 Marks
	B) Theory	10 Marks
	OR	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 2 –Unit II	A) Theory	10Marks

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

	B) Theory	10 Marks
	OR	
	C) Theory	10 Marks
	D) Theory	10 Marks
Question No. 3 –Unit III	A) Theory	10 Marks
	B) Theory	10 Marks
	OR	
	C) Problem	10 Marks
	D) Problem	10 Marks
Question No. 4 –Unit IV	A) Theory.	10 Marks
	B) Theory	10 Marks
	OR	
	C) Problem	10 Marks
	D) Problem	10 Marks
Question No. 5 –Unit V	A) Problem	10 Marks
	B) Problem	10 Marks
	OR	
	C) Problem	10 Marks
	D) Problem	10 Marks

\*\*\*\*\*

## PAPER - VI COMPUTERIZED ACCOUNTING

### Unit-I

- Introduction to Accounting, Advantages of accounting, Books of accounts, Classification of Accounts, Financial Statements, Inventory management, Computerized Accounting, Need of Computerized Accounting, Accounts Organization, Accounts group, Loans Liabilities, Assets and Budget.

### Unit-II

- Accounting Software's Introduction to tally Software, Features of Tally Screen, Company information, Creating new Company, Gateway, Selection of Company, selection of Options, Buttons at Gateway, Working with multiple Companies, Company Features.

### Unit-III

- Configuration- General, Numeric Symbols, Voucher Entry, Creation of Voucher Screen, invoice Order Entry, Printing. Accounts info menu, Account Groups-create new group, creation of primary group. Normal and advance information, Ledger Accounts, cost categories, Cost Centers. Creation of Budget, Types of budget.

### Unit-IV

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

- Voucher- Voucher Entry, creation of Vouchers Screen, types of Voucher, Selection of Voucher types, Post Dated Voucher, printing of Vouchers, Cheque Printing, advance Features of account Voucher. Inventory info, Features of Inventory info. Configure- Inventory Info, balance Sheet, Audit Trail, Ratio Analysis.

### Unit-V

- Display-Accounting Report Display, Inventory report Display, and MIS Report Display. Printing Reports, Export of Data. Maintenance- Bank Reconciliation, House Keeping, Data Maintenance. Security- Users and Password, Security Controls, Types of Security, Creation New Security Levels and Tally Audit.

### Practical: (20 Marks)

**The practical's shall be evaluated by Subject teacher (Internal examiner), moderated & certified by the Principal, marks shall be sent to University .**

**The practical's shall be based on following:**

**Practical assignments in TALLY software based on syllabus.**

Practical marks shall be awarded as below :

a) Record of Practical Assignments	10 marks
b) Internal Viva-Voce	10 marks
	-----
Total -	20 marks

### Books Recommended:

- ✓ Accounting with Tally : K.K. Nadhani, BPB Publication
- ✓ Tally Tutorail : K.K. Nadhani and A.K. Nadhani, BPB Publication
- ✓ Advances Accounts Vol-I: M.c. Shukla, T.S.Grewal and S.G,Gupta, S.Chand & Company, Delhi.
- ✓ Accounting Principles: Anthony R.N. and J.S. Richard, Irwin Inc.
- ✓ Advanced Accountancy By P.C. Tulsian, Tata McGraw HILL Publication.
- ✓ Microsoft Office -2000/2007- Gini Courter, Annelte Marquis BPB
- ✓ It Today (Encyclopaedia) - S.Jaiswal
- ✓ A First Course In Computers - Sanjay Saxena
- ✓ First Text Book On Information Technology – Srikant Patnaik

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**PAPER - VI**  
**COMPUTERIZED ACCOUNTING**  
**QUESTION PAPER PATTERN**

**Total Marks : 80**

**Time: Three Hours**

- (N.B.) a) All Questions are compulsory.  
b) All Questions carry equal marks. (**Sixteen** each)

Question No. 1	<b>Unit – I (a + b)</b> <b>OR</b> <b>Unit-I ( c )</b>
Question No. 2	<b>Unit – II (a + b)</b> <b>OR</b> <b>Unit – II ( c )</b>
Question No. 3	<b>Unit – III (a + b)</b> <b>OR</b> <b>Unit – III ( c )</b>
Question No. 4	<b>Unit – IV (a + b)</b> <b>OR</b> <b>Unit – IV ( c )</b>
Question No. 5	<b>Unit— V (a + b)</b> <b>OR</b> <b>Unit—V ( c )</b>

**VOCATIONAL COURSES**

**Vocational subjects:** The various vocational courses (mainly sponsored by UGC) which can be chosen by the students are given below. As per the UGC letter no. F.9-3/95 (Desk-

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

VE) dated 23.12.1999 a course for Entrepreneurial Development is compulsory for students opting for vocational subjects. Thus with every vocational subject there will be one paper of Entrepreneurship Development & these papers shall be common for all vocational subjects.

**Internal (30 Marks) in all Vocational Subjects except (Group IV) computer application subjects shall be evaluated by Subject teacher (Internal examiner), moderated & certified by the Principal, marks shall be sent to University.**

Practical/Internal marks shall be awarded as below :

a) Record of Practical Assignments	15 marks
b) Internal Viva-Voce	15 marks
	-----
	Total - 30 marks

### ***B.Com - I***

**(Same syllabus for all vocational group subjects in B.Com - I) Entrepreneurial Development-I**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

- **Level of knowledge: basic knowledge**
- **Objective:** To provide an introduction to entrepreneurship and its development process, environment and current scenario in India. It also enables the student to learn about project formulation, appraisal, financial and implementations. Further it attempts to provide conceptual clarification to small scale industry and the stages involved in the establishment of small business.

**Contents**

**Unit-I**

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- Entrepreneurship - Introduction, Types of Entrepreneurship, Classification of Business, Theories of Entrepreneurship, Definitions of Entrepreneurship, Entrepreneur, Entrepreneurship, Entrepreneurial process & event, Theory of Achievement Motivation, McClelland's Experiments, Women Entrepreneur's Entrepreneurship and sociological theories,

### **Unit-II**

Concept of Entrepreneurship - Entrepreneurship and environment-Policies governing entrepreneurs, entrepreneurial development programs (EDP) - Institutions for - entrepreneurship development. Role of government in organizing EDPs. Entrepreneurship development in other countries. Entrepreneurship and the role of innovation. Identifying & Developing Entrepreneurial Potential, Business Ideas Generation Process, Evaluation of Business Idea.

### **Unit-III**

- Institutions for Entrepreneurial Development - Ancillarization in India, Ancillaries & Industrial Development, Ancillary Opportunities in different Economic Sectors, Role of consultancy organizations - Role of financial institutions -Bank finance to entrepreneurs, Entrepreneurship development: Role of developmental financial institutions.

### **Unit-IV**

- Concept of project and classification of project identification project formulation - project report - project design - project appraisal - profitability appraisal - project planning - social cost benefit analysis - project financing.

### **UNIT- V:**

- Financial analysis - Ratio analysis - Investment process; Break even analysis - Profitability analysis, - Budget and planning process.

### **Books Recommended:**

- ✓ GN Pandey : A complete guide to successful entrepreneurship (Vikas Publishing House, New Delhi)
- ✓ Vasanta Desai :Dynamics of entrepreneurial development and management;
- ✓ Vasanta Desai : Entrepreneurial development;
- ✓ Peter F. Drucker : Innovation and development;
- ✓ M.V. Deshpande : Entrepreneurship of small scale industries;
- ✓ Balakrishnan, G : Financing of small scale industries.



## ***B.Com - II***

**(Same syllabus for all vocational subjects in B.Com - II)**

### **Entrepreneurial Development - II**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

- **Level of knowledge: Basic knowledge**
- **Objectives: to develop entrepreneurship amongst students as an effective alternative to “white-collar job”. To gain an insight into the various concepts of entrepreneurship development.**

#### **Unit-I**

1. Entrepreneurship-Enterprise: Conceptual issues. Entrepreneurship vs. Management. Roles and functions of Entrepreneurship in relation to the enterprise and in relation to the economy. Entrepreneurship- interactive process between individual & economic environment. Small business as seedbed of Entrepreneurship. Career Planning, Choice of entrepreneurship as a career. Business Ideas: Process of generating business ideas. Evaluation of business ideas. Preparation of feasibility reports, ancillary opportunities in Agro Industries, Transportation, distribution, service industries.

#### **Unit-II**

- Entrepreneurial Support System -District Industry Centers (DICs) -Commercial Banks - State Financial Corporations - Small Industries Service Institutes (SISIs), Small Industries Development Bank of India (SIDBI), National Bank for Agriculture and Rural Development (NABARD), National Small Industries Corporation (NSIC) and other relevant institutions/organizations at State level.

#### **Unit-III**

- Market Survey and Opportunity Identification (Business Planning) - How to start a small scale industry- Procedures for registration of small scale industry - List of items reserved for exclusive manufacture in small scale industry - Assessment of demand and supply in potential areas of growth - Understanding business opportunity - Considerations in product selection - Data collection for setting up small ventures.

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

#### **Unit-IV**

- Legal Aspects of Small Business – Major provisions of Income Tax, Sales Tax, Patent Rules, Excise Rules - Factory Act and Payment of Wages Act.

#### **Unit-V**

- Environmental considerations -Concept of ecology and environment-Factors contributing to Air, Water, Noise pollution - Air, water and noise pollution standards and control – regulatory bodies. Personal Protection Equipment (PPEs) for safety at work places.

#### **Books Recommended:**

- ✓ A Handbook of Entrepreneurship, Edited by BS Rathore and Dr JS Saini; Aapga Publications, Panchkula (Haryana)
- ✓ Entrepreneurship Development by CB Gupta and P Srinivasan, Sultan Chand and Sons, New Delhi
- ✓ Environmental Engineering and Management by Suresh K Dhamija, SK Kataria and Sons, New Delhi 99
- ✓ Environmental and Pollution Awareness by Sharma BR, Satya Prakashan , New Delhi
- ✓ Environmental Protection Law and policy in India: Thakur Kailash, Deep and Deep Publications, New Delhi
- ✓ Handbook of Small Scale Industry by PM Bhandari
- ✓ Marketing Management by Philip Kotler, Prentice Hall of India, New Delhi
- ✓ Total Quality Management by Dr DD Sharma, Sultan Chand and Sons, New Delhi.
- ✓ Principles of Management by Philip Kotler TEE Publication

### ***B.Com - III***

**(Same syllabus for all vocational subjects in B.Com - III)**

### **Entrepreneurial Development - III**

**Full Marks : 70**

**Time : 3 Hours**

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Internal Assessment : 30

Level of knowledge: Basic Knowledge

Objectives: To gain an insight into the various aspects of Entrepreneurship development. To study the practical aspects of organization and management of small industries and village industries.

### CONTENTS

#### Unit-I

- Role of Entrepreneur, Factors affecting Growth of Entrepreneurship, generation of employment opportunities, complementing and supplementing economic growth, bringing about social stability and balanced regional development of industries, role in export promotion and import substitution, forex earnings and augmenting & meeting local demand.
- Entrepreneurial behavior and psycho-theories, critical evaluation.

#### Unit-II

- Promotion of a venture – opportunities analysis, economic, social and technological, competitive factors, legal requirements for establishment of new unit, raising of funds, venture capital sources and documentation required.
- Organizing rural business, rural marketing potential marketing of agricultural inputs-warehousing, cold storage-importance and problems, governing policy.

#### Unit-III

- Organizing and management of agro-based industries and small scale industries, khadi and village industries – importance, problems, government policy and schemes for setting up these industries, financing schemes for khadi and village industries, small scale industries.
- WTO and small & village industries.

#### Unit-IV

- Indian Business Environment – Role of government in economic development, fiscal policy, industrial policy, industrial licensing, privatization, foreign trade policy, concept of cyber space and internet – importance of cyber marketing, internet usage applications. Technology as driver for entrepreneurship.

#### Unit-V

- Project Report Preparation - Preliminary Project Report -Techno-Economic feasibility report- Project Viability, silent features of DPR. Specific formats for bank.

#### Books Recommended:

- ✓ Rajgopal, organizing Rural business (Sage Publications, New Delhi)
- ✓ Tandon BC, Environment and Entrepreneur (Chugh Publications, Allahabad)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- ✓ SS Khanka, Entrepreneurial development (S Chand & Co )
- ✓ Srivastava SB, A practical guide to industrial entrepreneurs (Sultan Chand & Sons, New Delhi)
- ✓ Prasanna Chandra, Project preparation, Appraisal, implementation (Tata McGraw Hill, New Delhi)
- ✓ Pandey IM, Venture Capital – The Indian Experience (Prentice Hall of India) [Hindi/Marathi Books as per B.Com., part I syllabus]

**QUESTION PAPER PATTERN FOR  
Entrepreneurial Development SUBJECTS OF  
BCom – I, BCom –II, BCom – III**

**Full Marks : 70**

**Time : 3 Hours**

- N.B.) a) All questions are compulsory  
b) All Questions carry equal marks. (Fourteen marks each)

**Q. 1 : EITHER**

- |            |         |
|------------|---------|
| [a] Unit-I | 7 Marks |
| [b] Unit-I | 7 Marks |

**OR**

- |            |          |
|------------|----------|
| [c] Unit-I | 14 Marks |
|------------|----------|

**Q. 2 : EITHER**

- |             |         |
|-------------|---------|
| [a] Unit-II | 7 Marks |
| [b] Unit-II | 7 Marks |

**OR**

- |             |          |
|-------------|----------|
| [c] Unit-II | 14 Marks |
|-------------|----------|

**Q. 3 : EITHER**

- |              |         |
|--------------|---------|
| [a] Unit-III | 7 Marks |
| [b] Unit-III | 7 Marks |

**OR**

- |              |          |
|--------------|----------|
| [c] Unit-III | 14 Marks |
|--------------|----------|

**Q. 4 : EITHER**

[a] Unit-IV 7 Marks

[b] Unit-IV 7 Marks

**OR**

[c] Unit-IV 14 Marks

**Q. 5 :**

[a] Unit-V 7 Marks

[b] Unit-V 7 Marks

**OR**

[c] Unit-V 14 Marks

## **VOCATIONAL COURSES**

### **Group - I**

### **Tax Procedures & Practice**

### **B.COM - I**

### **Tax Procedures & Practice – I**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

#### **Unit I**

##### **Indian Income Tax Act, 1961**

- Definitions – Person, Assesses, Assessment, Assessment Year, previous year Income, Agricultural Income, Company, Indian Company, Business, Capital Asset,. Short Termcapital Asset.
- Capital and Revenue: capital ; Expenditure, Revenue Expenditure, Capital loss and revenue loss Residential Status & Tax Liability:Residential Status of the Assessee- Individuals, Hindu undivided families, Firm & Association of persons, Companies, other persons. Scope of total Income, Classification of Income problems on Residence and Tax Liability

#### **Unit II**

##### **Computation of Income Under the head of :**

- Income form salaries including Retired persons
- Income form House Property.

#### **Unit III**

##### **Computation:**

- Capital gains
- Income form other sources
- Deductions u/s- 80C, 80CCC, 80D, 80DD, 80DDB, 80E, 80G, 80U
- Computation of total and Tax liability an Individual.

#### **Unit IV**

- Income –tax authorities- their appointment, Jurisdiction and power.
- Permanent Account Number
- Payment of advance tax; filing of return of income; assessment; collection and
- recovery of tax .
- Offences, prosecutions, penalties .

#### **Unit V**

- Refunds of Tax
- Appeals, Revision & References

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- Agricultural Income
- Interest payable by to Assessee.

**Books Recommended:**

- ✓ V.K. Singhania ,Students Guide to income Tax ( Taxman, New Delhi)
- ✓ Dr. V.K. Jain, Income Tax for beginners ( Sheth Publishers, Mumbai )
- ✓ Girish Ahuja, Ravi Gupta, Systematic Approach to Income Tax (Bharat, New Delhi)
- ✓ K.C. Jain, V.P.Gaur, D.B. Narung Direct Taxes ( Kalyani Publisher, Delhi )
- ✓ Dr. V. Upgade and Dr. A.K. Shende Direct Taxes ( Anuradha publication, Nagpur)
- ✓ Dr. Shripad Sonegaonkar, Prof. Ravindra Sontakke, Prof. Milind Patil Auditing and Income Tax ( Himalaya publishing House, Nagpur )

**B.COM - I**

**Tax Procedures & Practice – I**

**PATTERN OF QUESTIONS PAPER**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Question No. 1 –Unit I	[a]	Theory	07 Marks
	[b]	Practical (Problem)	07 Marks
	<b>OR</b>		
	[c]	Theory	07 Marks
	[d]	Practical (Problem)	07 Marks
Question No. 2 –Unit II	[a]	Problem	07 Marks
	[b]	Problem	07 Marks
	<b>OR</b>		
	[c]	Problem	14 Marks
Question No.3 –Unit III	[a]	Problem	07 Marks
	[b]	Problem	07Marks
	<b>OR</b>		
	[c]	Problem	14 Marks
Question No.4 –Unit IV	[a]	Theory	07 Marks
	[b]	Theory	07 Marks
	<b>OR</b>		
	[c]	Theory	07 Marks
	[d]	Theory	07Marks
Question No.5 –Unit V	[a]	Theory	07 Marks
	[b]	Theory	07Marks
	<b>OR</b>		
	[c]	Theory	07 Marks
	[d]	Theory	07 Marks

**B.COM.- II**  
**Tax Procedures & Practice – II**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

**CONTENTS**

**Unit I**

- Profits and Gains of Business and Professions.
- Assessment of Firms

**Unit II**

- Assessment of Hindu Undivided Family
- Taxation of Co-Operative Societies

**Unit III**

- Taxation of Trusts & Charitable and religious institutions
- Set off and carry forward of losses
- Deduction and Collection of Tax at Source.

**Unit IV**

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

- Assessment of Companies
- Assessment of Association of Persons

### Unit V

- Tax Evasion, Tax Avoidance
- Tax Planning
- Tax Management
- Self – Assessment, Regular Assessment
- National Tax Tribunal
- Credit for advance Tax

### Books Recommended:

- ✓ K.C. Jain, V.P. Gaur, D.B. Narang, Aykar Direct Taxex ( Kalyani Publisher, Delhi)
- ✓ Dr. V. Uggade & Dr. A.K. Shende Direct Taxes ( Anuradha publication, Nagpur )
- ✓ Sonegaonkar, Prof. Sontakke, Prof. Patil, Auditing and Income Tax ( Himalaya Publishing House, Nagpur )
- ✓ Sundarbahu : Income Tax Law & Practice ( S. chand & company, New Delhi)
- ✓ V.K. Singhania : Students Guide to Income Tax ( Taxmann, New Delhi)
- ✓ B.B. Lal : Direct Taxes ( Konark publishers pvt.Ltd. , Delhi )

## ( B.COM.II )

### Tax Procedures & Practice – II

#### PATTERN OF QUESTIONS PAPER

**Full Marks : 70**

**Time : 3 Hours**

#### Internal Assessment : 30

Question No. 1 –Unit I	[a]	Problems	14 Marks
		<b>OR</b>	
	[b]	Problems	14 Marks
Question No. 2–Unit II	[a]	Problems	14Marks
		<b>OR</b>	
	[b]	Problems	14 Marks
Question No. 3 –Unit III	[a]	Problems	07 Marks
	[b]	Problems	07 Marks
		<b>OR</b>	
	[c]	Problems	14 Marks
Question No. 4 –Unit IV	[a]	Problems	14 Marks
		<b>OR</b>	
	[b]	Problems	14 Marks
Question No. 5 –Unit V	[a]	Theory	07 Marks
	[b]	Theory	07 Marks

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur



**OR**

[c]	Theory	07 Marks
[d]	Theory	07 Marks

**B.COM - III**  
**Tax Procedures & Practice – III**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

**CONTENTS**

**Unit I**

CENTRAL EXCISE DUTY

**Unit II**

Customs Act 1962

**Unit III**

Central Sales Tax Act 1956 & MSVAT

**Unit IV**

Service Tax

**Unit V**

Wealth Tax : Computation of Taxable net wealth of person & company

**Books Recommended:**

- ✓ Dr. H.C. Mehrotra and Dr. S.P. Goyal Direct & Indirect Taxes ( Sahitya Bhawan, Agra)
- ✓ V.S. Datey : Indirect Taxes law and practice ( Taxman, New Delhi)
- ✓ V. Balchandran : Indirect Taxes ( Sultan chand & Sons , Delhi )
- ✓ Girish Ahuja , Ravi Gupta , Indirect Taxes ( Bharat, New Delhi)

## Tax Procedures & Practice – III

### PATTERN OF QUESTIONS PAPER

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

Question No. 1 –Unit I	[a]	Theory	07 Marks
	[b]	Problem	07 Marks
		<b>OR</b>	
	[c]	Theory	07 Marks
	[c]	Problem	07 Marks
Question No. 2 –Unit II	[a]	Theory	07 Marks
	[b]	Problem	07 Marks
		<b>OR</b>	
	[c]	Theory	07 Marks
	[c]	Problem	07 Marks
Question No. 3 –Unit III	[a]	Theory	07 Marks
	[b]	Problem	07 Marks
		<b>OR</b>	
	[c]	Theory	07 Marks
	[c]	Problem	07 Marks
Question No. 4 –Unit IV	[a]	Theory	07 Marks
	[b]	Problem	07 Marks
		<b>OR</b>	
	[c]	Theory	07Marks
	[d]	Problem	07 Marks
Question No. 5 –Unit IV	[a]	Theory	07 Marks
	[b]	Problem	07Marks
		<b>OR</b>	
	[c]	Theory	07 Marks
	[d]	Problem	07 Marks

### *Group II.*

### *Office Management and Secretarial Practice*

### **B.COM - I**

### **Office management & Secretarial practice - I**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

**Objective:**

The subject of office procedure and Management occupies an important place in the course contents for industrial and personnel management as well as for other different professional examination. The latest knowledge of this discipline is indispensable for the in-depth understanding of modern business world which has becoming highly professional and dynamic. The office is the most significant part of any organizations as being the nerve centre of it.

### **Unit-I**

- Secretarial/officials functions of PA/PS: Secretarial/ Official functions of Personal Assistant/ Personal Secretary, Personal and professional qualities of Personal Assistant/ Personal Secretary and Telephone conduct.

### **Unit-II**

- Sources of information: Telephone Directories, Railway time table, Year Books, Government reports, Encyclopedia, Travel information, Rail, Air, Sea

### **Unit-III**

- Public relations of PA/PS: Receptionist duties, message book recording messages, visitors diary.

### **Unit-IV**

- Office machines & equipments: Office machines and equipments - need and importance.
- Function and operation of the following office machines and appliances.
  - o Electronic calculator,
  - o Cyclo-Styling machine, Electronic Stencil cutter
  - o (Scanner), Xerox machine, Electronic photocopier.
  - o Billing machine, Time recorder, Cash register.
  - o Tape recorder, Dictaphone, Intercom, PBX, EPABX.
  - o Desktop Computer and Laptop Pc.
  - o Functioning of FAX machine
  - o Sending and receiving E-mail.

### **Unit-V**

- Development of M.I.S. (Management Information System): Meaning, Objectives, Need & Importance, Principle of Management Information System.

### **Recommended books:**

- ✓ Office Management and Procedure by RK Sharma, Shashi Gupta and Sushil Nayar; Kalyani Publication, Ludhiana
- ✓ Office Management by PK Gupta
- ✓ Office Management by Ghosh and Aggarwal
- ✓ Office Management by Gupta, Bansal, Jain and Malik
- ✓ Modern Office Management by Dr. IM Sahai
- ✓ Office Management and Procedure by Singh and Chhabhria; Dhanpat Rai and Sons, New Delhi
- ✓ Manual of Office Management and Correspondence by BN Tondon; S Chand and Co., Ram Nagar, New Delhi

## **B.COM - II**

### **Office management & Secretarial practice - II**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

#### **UNIT – 1**

- Typing of letters, blocked, semi blocked and NOMA simplified with open closed and mixed punctuations. Typing of short letters (small and/or full size letter papers) one page letter and letter running into more than one page.
- Typing on printed forms like invoices, bills, quotations, tenders index cards, telegrams, etc. Composing at the typewriter (using typewriting as a writing tool, drafting the subject matter at the typewriter directly. Typing from recorded tapes.

#### **UNIT – 2**

- Typing of addresses on envelopes, inland and postcards including window display chain feed. Typing of annexure and appendices to letters.
- Production typing, typing of simple and confused manuscripts. Typing of orders, circulars, notices, memoranda, notes, advertisements, interview letters, appointment letters etc. Typing of bibliography, Typing of graph papers.

#### **UNIT – 3**

- Tabular typing, two columns table and multiple column table box, etc. display of tabulation work. Typing of financial and costing statements, use of carbon paper for taking out more than one copy. Methods using carbon, machine assembly method and desk assembly method.

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- Care and maintenance of the typewriter. Oiling and cleaning of the machine. Change of ribbon, Minor repair work.

#### **UNIT – 4**

- Correction of errors on the carbon copies (paper being in the machine and taken out of the machine).
- Calculation of speed, straight copy typing (GWAM, CWAM and NWAM) and production typing (G-PRAM and N-PRAM) and MWAM. Speed competition, Indian and world records in typing.

#### **UNIT – 5**

- Stencil cutting : Its insertion in the machine change of ribbon setter or removal of ribbon. Placement of subject matter, use of different materials like, styles scales, slate, signature pad etc.
- Personal habits and work habits, personal appearance, willingness, promptness, initiative, trustworthiness, punctuality, etc. Following instructions/directions.

#### **Recommended books:**

- ✓ Office Management and Procedure by RK Sharma, Shashi Gupta and Sushil Nayar; Kalyani Publication, Ludhiana
- ✓ Office Management by PK Gupta
- ✓ Office Management by Ghosh and Aggarwal
- ✓ Office Management by Gupta, Bansal, Jain and Malik
- ✓ Modern Office Management by Dr. IM Sahai
- ✓ Office Management and Procedure by Singh and Chhabhria; Dhanpat Rai and Sons, New Delhi
- ✓ Manual of Office Management and Correspondence by BN Tondon; S Chand and Co., Ram Nagar, New Delhi

## **B.COM - III**

### **Office management & Secretarial practice - III**

**Full Marks : 70**

**Time : 3 Hours**

#### **Internal Assessment : 30**

##### **Unit-I**

- Office communication: principles of business communication – means of communication – oral, written, visual, audio-visual, the internet; electronic mail, video-conferencing – essential of good business letter.
- Business correspondence:
  - o Personnel – Drafting of interview letters, call letters and offer of appointment; provisional appointment orders; final order of appointment, employee disciplinary matters – show causes notices, charge sheets, letter of dismissal, discharge and other punishments.
  - o Purchase – request for quotations, tenders, samples and drawings, test order, complaints and follow-up.
  - o Sales – drafting of sales letters, circular letters, preparation of sales notes with condition of sale; status inquires, preparation of market survey reports, reports of sales manager such as sales promotion matters, drafting of advertisements.
  - o Accounts – correspondents with various agencies: customers – regarding dues, follow up letters, banks – regarding over-drafts, cash credits and account current; insurance companies – regarding payments, renewal of insurance premium claims and their settlement; public authorities like provident fund commissioner, post and telegraph authorities, regarding payment of provident fund contributions; installation of new connections and payment of telephone bills; payment of sales tax.
  - o Miscellaneous: Resume, letter of application, goodwill messages, condolence letters.

##### **Unit-II**

- Administration and Miscellaneous: Drafting of telegraphic and facsimile messages, messages through electronic media; public notices and invitations, representations to Trade Associations, Chambers of Commerce and Public authorities.
- Interdepartmental communication: Internal memos, office circulars, office orders, office notices, representation of chief executive and replies thereto, communication with regional/branch offices.
- Preparation of press releases

##### **Unit-III**

- Company Secretarial Practice – Nature and meaning of company, promotion and incorporation of a company, familiarization with the concept of board of directors, shareholders and company meetings, company secretary.
- Secretarial correspondence with the shareholders and debenture holders pertaining to dividend and interest, transfer and transmission.

- Company meetings – kinds of meetings and resolutions, law practice and procedure relating to general meetings and other meetings, recording and signing of minutes, drafting of resolutions, notice, agenda and minutes.

#### **Unit-IV**

- Drafting of directors report, chairman speech, statutory registers and statutory returns – maintaining and monitoring the statutory registers, preparing and filling with Registrar of Companies, annual returns, reports and accounts, returns of allotment, notices of and changes to registered office and appointment in respect of directors, secretary and auditors.
- Art of conducting negotiations; art of public relation; drafting of corporate notices and advertisements, corporate image building.

#### **Unit-V**

- Centering, horizontal and vertical mathematical and judgement placement. Proof reading and correcting of error, proof correction marks, use of different types of erasing materials, erasers (rubber, pencial) chemical tape, chemical liquid, correction tape within the machine squeezing and superseding. Key board operation : Need for proper type and size of tables and chairs for use of typist, sitting postures materials required.

#### **Recommended books:**

- ✓ RC Sharma & Krishna Mohan: Business Correspondence and Report Writing – Tata McGraw Hill Publication Co. Ltd., New Delhi.
- ✓ Pink & Thomas: English Grammar, Composition and Correspondence – Donnington Press, Berks.
- ✓ Tickoo, Champa & Sasikumar, Jay: Writing with purpose, Delhi – Oxford University Press, 1979
- ✓ Hill LA: Letter writing for students of English, London - Oxford University Press, 1963
- ✓ Arora VN & Chandra, Laxmi: Improve your writing, Delhi – Oxford University Press, 1981
- ✓ VK Jain: Company law & Practice, Seth Publishers, New Delhi
- ✓ ML Sharma: Secretarial practice with registrar of companies – Taxmann Allied Services Pvt. Ltd. New Delhi – 110005
- ✓ K Mujumdar, GK Kapoor, company Law and Practice, Taxmann Allied Services Pvt. Ltd. New Delhi – 110005

**QUESTION PAPER PATTERN FOR**  
**Office management & Secretarial practice**  
**SUBJECTS OF**  
**BCom – I , BCom –II, BCom – III**

**Total Marks : 70**

- N.B.) a) All questions are compulsory  
 b) All Questions carry equal marks. (Fourteen marks each)

**Q. 1 : EITHER**

- |            |         |
|------------|---------|
| [a] Unit-I | 7 Marks |
| [b] Unit-I | 7 Marks |

**OR**

- |            |          |
|------------|----------|
| [c] Unit-I | 14 Marks |
|------------|----------|

**Q. 2 : EITHER**

*(Signature)*  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

[a] Unit-II	7 Marks
[b] Unit-II	7 Marks
<b>OR</b>	
[c] Unit-II	14 Marks
<b>Q. 3 : EITHER</b>	
[a] Unit-III	7 Marks
[b] Unit-III	7 Marks
<b>OR</b>	
[c] Unit-III	14 Marks
<b>Q. 4 : EITHER</b>	
[a] Unit-IV	7 Marks
[b] Unit-IV	7 Marks
<b>OR</b>	
[c] Unit-IV	14 Marks
<b>Q. 5 :</b>	
[a] Unit-V	7 Marks
[b] Unit-V	7 Marks
<b>OR</b>	
[c] Unit-V	14 Marks

**Group III.**  
**Advertising, Sales Promotion and Sales Management**

**B.COM - I**

**Advertising, Sale Promotion and Sales Management – I**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

**Objectives:** The aim of the paper is to acquaint the students with concepts, techniques and give experience in the application of concepts for developing an effective advertising programme.

**Unit-1**

- Advertising Role in the Marketing Process: Legal Ethical and social Aspects of Advertising. Functions and types of advertising. Integrated Marketing communication .Brand management , Brand Image, Brand Equity and Brand Building. Ethics of advertising

**Unit- 2**

- The major players in advertising, Advertising agency, Brand manager, market research firms, Media, Type of agencies. Structure of an agency and its functions. The process of developing an ad.



### Unit- 3

- Objective Setting and market Positioning; Dagmar Approach in Determination of Target Audience and understanding them. Assumptions about consumer behavior an advertiser makes. Building of Advertising Programme-Message, Headlines, Copy, Logo, Illustration, Appeal, layout Campaign Planning. Creative Strategies. Production and execution of TVCs and print ads

### Unit-4

- Sales Promotion – Introduction to Sales Promotion; Role and growth of Sales Promotion; its Features and Purpose; Tools and Techniques of Sales promotion, Sales promotion campaign, Developing a logic for sales promotion programmes.

### Unit-5

- Role of selling in planed economy, selling as a career, Acquiring skills and developing new qualities for salesmen and to improve growth chances, Tips and suggestions to improve personal ability, skills for salesmen, product knowledge, planned selling system.

### Recommended books:

- ✓ Luick, John F and Siegler, William Lee, Sales promotion and Modern Merchandising (McGraw Hill Book Co., New York, 1968)
- ✓ Still, Richard, Edward W & Govoni Norman AP, Sales management Decisions, Strategies and cases (Prentice Hall India Pvt. Ltd., New Delhi, 1981)
- ✓ Stanton, William J & Buskrit, management of Sales Force ( Richard D, Irwin, Inc. Homewood, 1987)
- ✓ Russell, Frederic A. Beach, Frank H & Buskrit, Richard H, Selling principles and Practices (Mcgraw Hill, International Book Co.1982)
- ✓ David Aaker, Advertising management (Prentice Hall India Pvt. Ltd., New Delhi)
- ✓ Kazmi & Batra, Advertising & Sales Promotion – Excel Books.
- ✓ Belch & Belch, Advertising & Promotion – Tata McGrow Hill.
- ✓ Jethwaney & Jain – Advertising Management, Oxford Univ. Press

## B.COM - II

### Advertising, Sales Promotion and Sales Management – II

Full Marks : 70

Time : 3 Hours

Internal Assessment : 30

- Level of knowledge: basic knowledge
- Objectives: to acquaint students with the theory and practice of advertising as well also management of a firm's sales operation.

#### CONTENTS

##### Unit-I

- **Introduction:** meaning of advertising, importance of advertising from the viewpoint of marketing and communication, role of advertising in the marketing mix – inter- relationship with product decisions, Pricing Decision, Channels Decision. Personal Selling, Sales Promotion and Publicity.
- **Scope of advertising:** How advertising works (a few case studies), Stimulating, Expanding and sustain scale: secure sales lead, Increasing profits, Demarketing, Supporting other promotion tools etc.

##### Unit – II

**Various forms of advertising:** National, Retail, Trade, Cooperative, Industrial, Corporate/Institutional, Financial, Public Service, Political, Primary and Selective demand Ad; Push and Pull Ad.

- **Advertising objectives:** Meaning and importance, Difference between objective, goals and strategy, possible Ad objectives, Sales as an objective, communication objectives, DAGMAR Approach of RH Colley.

##### Unit-III

- **Advertising Budget:** Consideration to be kept in mind while deciding the budget, different methods. The budget-making process.
- **Media planning:** Importance of the exercise, Evaluation of important media- print, audio-visual, outdoor, direct mail, advertising on internet misc. media, the media planning process, important considerations- cost, coverage, flexibility, impact etc. computerized media selection, current Ad, Media scene in India.

##### Unit-IV

- Role of selling in planed economy, selling as a career
- Acquiring skills and developing new qualities for salesmen and to improve growth chances.

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- Tips and suggestions to improve personal ability, skills for salesmen, product knowledge, planned selling system.
- Practical suggestions to improve day to day field working, customer psychology, buying motives, trade relations, effective distribution network.
- Sales organizations- types, principles, aims and objectives.

#### Unit-V

- Selection and training of sales force, latest techniques in training.
- Motivation and compensation plans
- Sales planning (forecasting) methods, budgets, implementation, review techniques.
- Communication, how to develop skills for effective communication, principles, objectives and methods.
- Sales managers/supervisors – their role, authority and responsibility

#### Recommended books:

- ✓ Luick, John F and Siegler, William Lee, Sales promotion and Modern Merchandising (McGraw Hill Book Co., New York, 1968)
- ✓ Still, Richard, Edward W & Govoni Norman AP, Sales management Decisions, Strategies and cases (Prentice Hall India Pvt. Ltd., New Delhi, 1981)
- ✓ Stanton, William J & Buskritt, management of Sales Force ( Richard D, Irwin, Inc. Homewood, 1987)
- ✓ Russell, Frederic A. Beach, Frank H & Buskritt, Richard H, Selling principles and Practices (Mcgraw Hill, International Book Co.1982)
- ✓ David Aaker, Advertising management (Prentice Hall India Pvt. Ltd., New Delhi)
- ✓ Rajiv BAtra, Myers, David Aaker, Advertising Management (Prentice Hall India Pvt. Ltd., New Delhi)

## **B.COM - III** **Advertising, Sales Promotion and Sales Management – III**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

#### OBJECTIVES:

- To expose students to the principles and practices of advertising and sales promotion and develop the conceptual abilities in this functional area of marketing.
- To develop the skills of the students, which will help them to prepare effectively for a career in the advertising and sales promotion function of any company or in the advertising agency.

#### CONTENT:

#### Unit-I

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- Communication Process - Communication models for rural communication and urban communication
- Advertising - Organizational structure of advertising agency and its functions. Evaluation of agency functioning, Creativity in Advertising including Message development, copy righting, layout; Media selection

## Unit-II

- Advertising Research. Effectiveness of advertising- methods of measurement. Rationale of testing Opinion and Attitude Tests, Recognition, Recall

## Unit-III

- Message Strategy: Attention and comprehension, Associating Feelings with the Brand, Brand Equity, Image and Personality and Group Influence and word of mouth advertising

## Unit-IV

- Sales Territories - Concept of Sales territory - Procedures for setting up Sales territories - Deciding assignment of sales personnel to territories - Sales Budget and Sales Quota - Sales budget - Purpose, form and content of sales budgets, Sales Quota - Concept, Types of quota, Quota setting procedures, Administering the quota system.

## Unit-V

- Consumer Promotions and Trade Promotions – Their purpose and types How to plan and evaluate a successful promotion, The relationship between advertising and promotions, Introduction to Global Marketing, Advertising and sales promotion

## Recommended books:

- ✓ Advertising Management – Concepts and Cases, Manendra Mohan (Tata McGraw Hill)
- ✓ Sales Promotion and Advertising Management (6thEd.)Himalaya Publishing House
- ✓ Advertising Excellence by Bovee, Thill, Dovel and Wood (McGraw Hill)
- ✓ Advertising Management – Shelekar, Victor & Nirmala Prasad (Himalaya Publishing House)
- ✓ Foundations of Advertising – Theory & Practice – S.A. Chunawala
- ✓ Brand Positioning – Subroto Sengupta, Tata McGraw Hill
- ✓ Cases in Marketing Management – M.L. Bhasin, Excell Books
- ✓ Sales & Distribution Management (Units 12-16 for Sales Promotion) F.L. Lobo, Global Business Press
- ✓ Successful Sales Promotion – Choudhry, Elliot & Toop, Orient Longman
- ✓ Advertising Management by Batra, Myers and Aakar(5th Ed.) PHI
- ✓ Promotion Management by S.A. Chunawalla (2nd Ed.) Himalaya

**QUESTION PAPER PATTERN FOR**  
**Advertising, Sales Promotion and Sales Management**  
**SUBJECTS OF**  
**BCom – I , BCom –II, BCom – III**

**Total Marks : 70**

- N.B.) a) All questions are compulsory  
b) All Questions carry equal marks. (Fourteen marks each)

**Q. 1 : EITHER**

[a] Unit-I 7 Marks

[b] Unit-I 7 Marks

**OR**

[c] Unit-I 14 Marks

**Q. 2 : EITHER**

[a] Unit-II 7 Marks

[b] Unit-II 7 Marks

**OR**

[c] Unit-II 14 Marks

**Q. 3 : EITHER**

[a] Unit-III 7 Marks

[b] Unit-III 7 Marks

**OR**

[c] Unit-III 14 Marks

**Q. 4 : EITHER**

[a] Unit-IV 7 Marks

[b] Unit-IV 7 Marks

**OR**

[c] Unit-IV 14 Marks

**Q. 5 :**

[a] Unit-V 7 Marks

[b] Unit-V 7 Marks

**OR**

[c] Unit-V 14 Marks

**Group-IV**  
**Computer Applications**  
**B.Com. Part-I**

**Information Technology & MIS (IT & MIS)**

**Full Marks : 70**

**Time : 3 Hours**

**Practical : 30**

**Unit –I**

**Word Processing**

- Introduction, Starting word, Creating document, Structure of Ms-word window and its application, Mouse & keyboard operations, designing a document; formatting-selection, cut, copy, paste, Toolbars, operating on text; Printing, Saving, Opening, Closing of document; creating a template; Tables, borders, textbox operations; Spelling and Grammar check, Mail merge, Envelope and Label, Protection of document, Change the view of document.

**Unit-II**

**Spreadsheet Package**

- Introduction To Ms-Excel, Navigating, Excel Toolbars and Operations, Formatting Features- Copying Data Between Worksheets; Entering and Editing Cell Entries, Creation of Charts, Editing and Formatting Charts, Goal Seek, Auditing, Linking, Workbook, Database in Excel (Auto Filter, Advanced Filter, Sort, Form), Mathematical, Statistical and Financial Functions in Ms-Excel.

**Unit-III**

**PowerPoint Presentation**

- Working with PowerPoint Window, Standard Toolbar, Formatting Toolbar, Drawing Toolbar, Moving the Frame, Inserting Clip Art, Picture, Slide; Text Styling, Send to Back, Entering Data to Graph, Organization Chart, Table, Design Template, Master Slide, Animation Setting, Saving and Presentation, Auto Content Wizard, Package for CD (Pack & Go Feature).

**Unit-IV**

**MS-Access**

- Introduction to database management system, DBMS vs RDBMS, Database Administrator (DBA) and its role.
- Introduction to Microsoft Access, creating a database in access, using database wizards and blank database, creating table, database view and design view, creating queries, forms, reports and macros in ms-access.

**Unit-V**

**MIS**

- Systems Concepts - Systems approach, characteristics, Types of Systems; Elements – input, Output, environment, Boundary Interface, Feedback & Control; Systems Life Cycle; MIS, TPS, OAS,DSS,KWS, Value of information, information life cycle, data Vs information, Components of MIS, characteristics of MIS.
- System Analysis : System development life cycle.
- Modeling the required system, E-R diagrams, ELHs, ECDs, user view of processing, modeling input output data.

**Recommended books:**

- ✓ Microsoft Office –2000 – Gini Courter , Annelte Marquis BPB
- ✓ It Today (Encyclopaedia) – S.Jaiswal
- ✓ A First Course In Computers – Sanjay Saxena
- ✓ First Text Book On Information Technology – Srikant Patnaik
- ✓ Guide To Microsoft Access – Carl Townsand
- ✓ An Introduction To Database Management System – Bipin C. Desai (Galgotia Pub.)
- ✓ Database Management Design – CSV Murthy ( Himalaya)
- ✓ Management Information System - Goyal
- ✓ Management Information System : Jawadekar (TMH)

**Practical: (30 Marks)**

The practical's shall be evaluated by Internal & External examiner appointed by university.

The practical's shall be based on following:

**Practical assignments in MS WORD, MS EXCEL & MS POWER POINT  
(MS OFFICE 2007)**

Practical marks shall be awarded as below :

a) Record of Practical Assignments	05 marks
b) Writing & execution of two practical assignments	15 marks
c) External Viva-Voce	10 marks
-----	
Total -	30 marks

**B.Com. Part-II**

**Visual Basic & DBMS (VB & DBMS)**

**Full Marks : 70**

**Time : 3 Hours**

**Practical : 30**

**Unit –I**

- Introduction to Visual Basic, Event driven programming, **Programming constructs** - Variables, Types of Variables, Data Types, Scope of Variables, Constants, system defined functions, Operators (Precedence and Associatively), Creating User Interface, **VB Controls** (Label, Text box, Command button, Frame, Check box, Option button, List box, Combo box, Timer, Drive list box, Directory list box, File list box, Horizontal and vertical scroll bars, Image, Picture box, Shape, Line, Data, OLE container)

**Unit –II**

- Working with Procedure, Function and Modules (Form, Class, Standard Modules) Scope of Procedures, Calling Procedures, Calling Functions, Passing Arguments,
- **Control Structures** : If-Then, If-Then-Else, Select Case, **Loops Structures** : Do-While, While -Wend, For-Next, For-Each, With-End With.
- **Arrays** : Declaring an Array, Types of Array (Fixed arrays, Single-dimensional arrays, Multidimensional arrays, Dynamic arrays), Control Array.

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

### Unit – III

- **Menus** : Creating Menus, Adding Menu Items, Adding Code for the Menus, Modifying menus at run time, Creating Pop-Up Menus.
- Use of data control, creating database using Visual data manager
- Data Reports, Data Environment designer adding connection & commands Data report controls creating & printing reports.
- **Error handling** : Types of errors, Debugging , tools for debugging, break mode, break points, watch window, immediate window. Handling runtime errors.

### Unit –IV

- Database environment, Data processing, Traditional and DBMS environment, Database system, Introduction to DBMS, Database Approach - Objectives, benefits, characteristics, Advantages of DBMS, data abstraction, data models, logical model physical models, E-R relationship model, relational model, network model, hierarchical model, DBMS Languages, Database Administrator.
- Relational data base management system (RDBMS)
- Structure of relational database, relational algebra tuple relational calculus, domain relational calculus.
- Relational database design : normalization using functional dependencies.

### Unit – V

#### ORACLE

- Introduction to Oracle as RDBMS, Oracle as a multi-user system, logging in and logging out of Oracle, database administrator (DBA) and its role, creation of user and passwords.
- SQL ; STRUCTURED QUERY LANGUAGE
- History and Standardization of SQL, benefits of SQL, elements of SQL, languages : Database objects, reserve words, key words, literals, variables, data type : number, date, long, raw and long raw, var, varchar data types.
- COMMANDS TO BE COVERED - Create table, drop table, modify, alter table, Insert, update, delete, select

#### Recommended books:

- ✓ Paul Sheriff Teaches VB-6 : Sheriff (PHI)
- ✓ Learn VB6 : Halvarson ( Microsoft/PHI)
- ✓ VB Programming for a Absolute Beginner – Michael Vine (PHI)
- ✓ Visual Basic: Stephen Solosky (PHI)
- ✓ Complete Reference Visual Basic – Tata McGraw Hill
- ✓ DBMS : Korth and Sudarshan
- ✓ DBMS : Desai
- ✓ Database Management System : R. Panneerselvam (phi)
- ✓ Oracle : IT Today (encyclopedia)

#### Practical: (30 Marks)

The practical's shall be evaluated by Internal & External examiner appointed by university.

The practical's shall be based on following:

The Practical should be based on the Visual Basic 6 and Oracle 8i



Practical marks shall be awarded as below :

a) Record of Practical Assignments	05 marks
b) Writing & execution of two practical assignments	15 marks
c) External Viva-Voce	10 marks
	-----
Total -	30 marks

## B.Com. Part-III

### E-Commerce & Web Development (EWD)

**Full Marks : 70**

**Time : 3 Hours**

**Practical : 30**

#### Unit –I

- Introduction to Internet, History & Development of Internet, WWW, Information retrieval on the web, Client, Server, URL, ISP,
- E-Mail, e-learning, e-book, e-advertisement, e-governance, E-Banking
- Introduction, Different forms of E-banking, Global scenario of e-banking, e-banking in India, security issues, benefits of e-banking.
- **E-Commerce** : Introduction, Definition, Benefits of E-Commerce, Impact of E-Commerce on business models, Traditional Commerce Vs E-Commerce, Advantages and Disadvantages of E-Commerce, Electronic Commerce and the Trade Cycle.

#### Unit-II

- **Electronic Market** : Usage, Advantages and Disadvantages and its future.
- **Electronic Data Interchange (EDI)** : Introduction, Benefits, Trade Cycle and Example.
- **Internet Commerce** : Introduction, Internet Trade Cycle and example, **Internet Security** : Secure Transaction, Privacy issues, computer crimes and its type, **Security Issues** : Security threats like damage to data, loss of data and unauthorized use of data, **Security Procedure** : Firewall, Encryption, Password, Access Control List, Digital Certificate.

#### Unit –III

- 
- **HTML** : Introduction, Designing web site, Advantages and Disadvantages of HTML, Flow of Web Information, Role of Web Browser and Web Server, Process of Web Publishing,
- **Creating a Simple Static Web Page** : About HTML, Basic elements : <html>, <head>, <title>, <p>, <br>, <h1> to <h6>, <ol>, <ul>, <li>, <dl>, <pre>, <marquee>, <hr>, Physical and Logical tags **Path** : Relative and Absolute path, Comments, Special Characters, Text Formatting tags, <center>

**Unit –IV**

- Hyperlinks <a href ...>, Creating links to web pages and URLs, Creating links within the same page, various types of URLs that can be used in links, Image tag and their related attributes, Inline images, Links to (external) images, Using Inline images, Using images as hyperlinks, Popular images formats for internet and HTML.
- **Tables** : Basic table tags and their related attributes.

**Unit –V**

- **Frames, Image Map and Web Font Creator** : Frames and their creation, the <Frame> and <Frameset> tags, Frame linking, Floating or Inline Frames, Image Maps <map> and <area> tags, Client – Side and Server – Side image maps.
- **Embedding Multimedia** : Introduction, Embedding Multimedia, Inserting sound/audio formats, video file formats. Introduction to CSS.

**Recommended books:**

- ✓ Electronic Commerce : Greenstein and Feinman (TMH)
- ✓ E-Commerce : Bhushan Dean – S. Chand
- ✓ Web Publishing : Monic D’souza and J D’souza
- ✓ Complete HTML : BPB
- ✓ E-Commerce : Bhushan Dean – S. Chand

**Practical: (30 Marks)**

The practical’s shall be evaluated by Internal & External examiner appointed by university.

The practical’s shall be based on following:

**Practical assignments in HTML & Ecommerce.**

Practical marks shall be awarded as below :

a) Record of Practical Assignments	05 marks
b) Writing & execution of two practical assignments	15 marks
c) External Viva-Voce	10 marks
	-----
Total -	30 marks

**QUESTION PAPER PATTERN FOR  
COMPUTER APPLICATIONS SUBJECTS OF  
BCom – I , BCom –II, BCom – III**

**Total Marks : 70**

- N.B.) a) All questions are compulsory  
 b) All Questions carry equal marks. (Fourteen marks each)

**Q. 1 : EITHER**

*Handwritten signature*  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

	[a] Unit-I	7 Marks
	[b] Unit-I	7 Marks
	<b>OR</b>	
	[c] Unit-I	14 Marks
<b>Q. 2 : EITHER</b>		
	[a] Unit-II	7 Marks
	[b] Unit-II	7 Marks
	<b>OR</b>	
	[c] Unit-II	14 Marks
<b>Q. 3 : EITHER</b>		
	[a] Unit-III	7 Marks
	[b] Unit-III	7 Marks
	<b>OR</b>	
	[c] Unit-III	14 Marks
<b>Q. 4 : EITHER</b>		
	[a] Unit-IV	7 Marks
	[b] Unit-IV	7 Marks
	<b>OR</b>	
	[c] Unit-IV	14 Marks
<b>Q. 5 :</b>		
	[a] Unit-V	7 Marks
	[b] Unit-V	7 Marks
	<b>OR</b>	
	[c] Unit-V	14 Marks

## Vocational Group V

### Principles & Practice of Insurance

#### B.COM. – I

### Principles & Practice of Insurance - I

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

**Level of knowledge - Basic knowledge.**

**Objective -** To create awareness regarding basic knowledge about Principles & Practice of Insurance.

#### **Unit – I**

- Concept of Risk, meaning, definition, classification of Risk.

- Risk management : Meaning and definition, features of Risk management, importance of Risk Management, objectives of Risk Management, Principles of risk Insurance Management, Process of Risk Insurance Management.

## Unit – II

- Insurance Basics : Definition of Insurance, Kinds of insurance, functions, importance / role / benefits of insurance.
- Essentials of Contract of Insurance : Principles of contract of insurance.
- Reinsurance : Important concepts, characteristics, types of reinsurance, double cover, external and internal insurance.

## Unit – III

- Privatization of Insurance Business in India: meaning, background of privatization performance of public sector.
- Contribution of private sector, liberalization required for privatization, effect of globalization on insurance sector.
- General Insurance Corporation of India : Background main provisions of General Insurance Act, GIC of India, Establishment & objects, functions of subsidiary company.

## Unit – IV

- Insurance document – Proposal form, policy form, cover note, certificate of Insurance, endorsement, co-insurance and renewal receipt.
- Insurance Laws – Insurance Act, 1938, Life Insurance Corporation Act, 1956, General Insurance Business (Nationalization) Act, 1972, Definitions only.

## Unit – V

- Role of Insurance Agent – Meaning and definition of agents, recruitment, training, duties, rights, code of conduct for agents, essential qualities for a successful agent.
- Role of IRDA – Insurance regulatory and development authority – Constitution, objectives, duties and powers, Role of IRDA in appointing agents.

### Recommended books:

- ✓ Fundamental Of Insurance, R.K. Gupta, Himalaya Publishing House.
- ✓ Principles & Practice of Insurance, Dr. P. Periasamy, Himalaya Publishing House
- ✓ chek ds fl/nkar ,oa O;ogkj & Hkxorh izdk”k “kekZ] jktho tSu] iq:’kksRre n;ky& fgeky;k ifCyf”kax gkAl

**B.COM. – I**  
**QUESTION PAPER PATTERN FOR**  
**Principles & Practice of Insurance - I**

**Full Marks : 70**

**Time : 3 Hours**

- N. B. :-**
- 1] *All questions are compulsory.*
  - 2] *All questions are carry equal marks.*

**Q. 1 : EITHER**

- [a] Unit-I 7 Marks  
[b] Unit-I 7 Marks

OR

- [c] Unit-I 7 Marks  
[d] Unit-I 7 Marks

**Q.2 : EITHER**

- [a] Unit-II 7 Marks  
[b] Unit-II 7 Marks

OR

- [c] Unit-II 7 Marks  
[d] Unit-II 7 Marks

**Q.3 : EITHER**

- [a] Unit-III 7 Marks  
[b] Unit-III 7 Marks

OR

- [c] Unit-III 7 Marks  
[d] Unit-III 7 Marks

**Q. 4 : EITHER**

- [a] Unit-IV 7 Marks  
[b] Unit-IV 7 Marks

OR

- [c] Unit-IV 7 Marks  
[d] Unit-IV 7 Marks

**Q. 5 : EITHER**

- [a] Unit-V 7 Marks  
[b] Unit-V 7 Marks

OR

- [c] Unit-V 7 Marks  
[d] Unit-V 7 Marks

## B.COM. – II

### Principles & Practice of Insurance - II

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

*Level of knowledge - Basic knowledge.*

*Objective - To create awareness regarding basic knowledge about Principles & Practice of Insurance.*

#### **Unit – I**

##### **Life Insurance**

- Organization, management, regulation, role and functions of life insurance, incorporation, essential features of life insurance.
- Marketing of life insurance product, insurance funds, investment of life, insurance funds, classification of life insurance policies.

#### **Unit – II**

- Concept of trust in life insurance policy, settlement of life insurance claims on the maturity of policy.
- Accounting procedure in life insurance business, analysis and interpretation of financial statement of life insurance organization.

#### **Unit – III**

##### **Marine Insurance**

- Nature of Marine Insurance, Marine insurance contract, Marine insurance policies, policy conditions premium calculation, kinds of Marine insurance policies.
- Marine losses, payment of claims, proximity clause, voyage warranties, progress of Marine insurance, business in India.

#### **Unit – IV**

##### **Fire Insurance**

- Nature of fire insurance, fire insurance policies, policy conditions, premium calculation, fire insurance contracts.
- Policies, rate of fixation in fire insurance, kinds of fire insurance, payment of claims, reinsurance, progress of fire insurance.

#### **Unit – V**

##### **Miscellaneous Insurance**

- Introduction to miscellaneous insurance, nature and utility of miscellaneous insurance, progress of miscellaneous insurance, general insurance business in India.
- Introduction to National Agricultural Insurance Scheme, property, motor vehicle, health, cattle and engineering insurance, public liability insurance.

**Recommended books:**

- Fundamental Of Insurance, R.K. Gupta, Himalaya Publishing House.
- Principles & Practice of Insurance, Dr. P. Periasamy, Himalaya Publishing House
- chek ds fl/nkar ,oa O;ogkj & Hkxorh izdk”k “kekZ] jktho tSu] iq:’kksRre n;ky& fgeky;k ifCyf”kax gkÅI

**B.COM. – II**  
**QUESTION PAPER PATTERN FOR**  
**Principles & Practice of Insurance - II**

**Full Marks : 70**

**Time : 3 Hours**

*N. B. :- 1] All questions are compulsory.*

*2] All questions are carry equal marks.*

**Q. 1 : EITHER**

[a] Unit-I 7 Marks

[b] Unit-I 7 Marks

OR

[c] Unit-I 7 Marks

[d] Unit-I 7 Marks

**Q.2 : EITHER**

[a] Unit-II 7 Marks

[b] Unit-II 7 Marks

OR

[c] Unit-II 7 Marks

[d] Unit-II 7 Marks

**Q.3 : EITHER**

[a] Unit-III 7 Marks

[b] Unit-III 7 Marks

OR

[c] Unit-III 7 Marks

[d] Unit-III 7 Marks

*Off. Principal,*  
*20/03/2021*  
**Off. Principal,**  
**S.S. Maniar College, Nagpur**

**Q. 4 : EITHER**

[a] Unit-IV 7 Marks  
[b] Unit-IV 7 Marks

OR

[c] Unit-IV 7 Marks  
[d] Unit-IV 7 Marks

**Q. 5 : EITHER**

[a] Unit-V 7 Marks  
[b] Unit-V 7 Marks

OR

[c] Unit-V 7 Marks  
[d] Unit-V 7 Marks

**B.COM. – III**

**Principles & Practice of Insurance - III**

**Full Marks : 70**

**Time : 3 Hours**

**Internal Assessment : 30**

Level of knowledge - Basic knowledge.

Objective - To create awareness regarding basic knowledge about Principles & Practice of Insurance.

**Unit – I**

- Mathematical application of insurance – probability and its use in insurance pooling in insurance.
- Morality Table – various columns of life table, ultimate, aggregate, truncated aggregate tables, calculation of life insurance premium.
- Theory of Indices, Arithmetic's and Geometric Progress, Binomical Expansion, contracted method of multiplication and division.

**Unit – II**

- Compound Interest – Accumulated value and present value, nominal and effective rates of interest, discount and discounted value, nominal and effective rates of discount, equation of value equated time.
- Annuities – Deferred annuities, perpetuities, immediate annuities, annuities due, redemption of loans, sinking funds, capital redemption assurance.

**Unit – III**

- Methods of payment of amount insured, premium as consideration for insurance benefits, equation of values of insured benefits and premiums in consideration, nature of installment premiums.

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



- Probability – Two important theorems of probability.

#### **Unit – IV**

- Nature of insurance benefits, insurers liability, resources to life and general table, value of benefits, basic plan of assurance.
- Temporary assurance and pure endowment.

#### **Unit – V**

Meaning of policy values, retrospective policy value, prospective policy value, symbols of policy value, calculation of policy value, progress of policy value, equality of prospective and retrospective values.

- Treatment of incidence in premium income, outstanding premium claim, acceleration reserve, reserve of laps' policy.

#### **Recommended books:**

- ✓ Fundamental Of Insurance, R.K. Gupta, Himalaya Publishing House.
- ✓ Principles & Practice of Insurance, Dr. P. Periasamy, Himalaya Publishing House
- ✓ चेक दस फल/नकार ,oa O;ogkj & Hkxorh izdk”k “kekZ] jktho tSu] iq:’kksRre n;ky& fgeky;k ifCyf”kax gkAl

### **B.COM. – III QUESTION PAPER PATTERN FOR**

## Principles & Practice of Insurance - III

**Full Marks : 70**

**Time : 3 Hours**

*N. B. :- 1] All questions are compulsory.  
2] All questions are carry equal marks.*

**Q. 1 : EITHER**

[a] Unit-I 7 Marks  
[b] Unit-I 7 Marks

OR

[c] Unit-I 7 Marks  
[d] Unit-I 7 Marks

**Q.2 : EITHER**

[a] Unit-II 7 Marks  
[b] Unit-II 7 Marks

OR

[c] Unit-II 7 Marks  
[d] Unit-II 7 Marks

**Q.3 : EITHER**

[a] Unit-III 7 Marks  
[b] Unit-III 7 Marks

OR

[c] Unit-III 7 Marks  
[d] Unit-III 7 Marks

**Q. 4 : EITHER**

[a] Unit-IV 7 Marks  
[b] Unit-IV 7 Marks

OR

[c] Unit-IV 7 Marks  
[d] Unit-IV 7 Marks

**Q. 5 : EITHER**

[a] Unit-V 7 Marks  
[b] Unit-V 7 Marks

OR

[c] Unit-V 7 Marks  
[d] Unit-V 7 Marks

### **Absorption Scheme Bachelor of Commerce (B.Com)**

It is notified for general information of all concerned that the failure students of **Bachelor of Commerce (B.Com) OLD course** shall be absorbed in the **New course** introduced from the session 2014-2015 examination with the following scheme.

1. Those who have completed & passed **B.Com Part - I as per Old course** are eligible for admission in the **B.Com Part - II New course**.
2. Failure students of **B.Com Part - I old course** and having ATKT as per rules are eligible to take admission in **B.Com Part-II New course**.

*[Signature]*  
20/03/2015  
Off. Principal,  
S.S. Maniar College, Nagpur

They should clear their **B.Com Part - I old course backlog** papers in next **three attempts (Last Chance Winter 2016)**. If they fail to pass in **Winter-2016** attempt they will have to appear in parallel papers of **New course scheme** as per absorption scheme indicated in Appendix- I. **Note:** The students who will appear in parallel papers of **New course scheme** paper with maximum theory marks 80, will get proportional marks out of 100 updated in **old course marksheet** of **B.Com Part - I**.

**3. Those who have completed & passed B.Com Part - I & B.Com Part - II as per Old course are eligible for admission in the B.Com Part - III New course.**

**4. Failure students of B.Com Part - II old course and having ATKT as per rules are eligible to take admission in B.Com Part-III New course.**

They should clear their **B.Com Part - II old course backlog** papers in next **three attempts (Last Chance Winter 2017)**. If they fail to pass in **Winter-2017** attempt they will have to appear in parallel papers of **New course scheme** as per absorption scheme indicated in Appendix- II. **Note:** The students who will appear in parallel papers of **New course scheme** paper with maximum theory marks 80, will get proportional marks out of 100 updated in **old course marksheet** of **B.Com Part - II**.

**5. Failure students of B.Com Part-III old course are having chances upto Winter 2018 examination (Last Chance). So they should appear B.Com Part-III old course examination & are required to clear their backlog.**

After that those who will have backlog in the **B.Com Part-III old course** will have to appear in parallel papers of **New course scheme** as per the absorption scheme indicated in Appendix- III. **Note:** The students who will appear in parallel papers of **New course scheme** paper with maximum theory marks 80, will get proportional marks out of 100 updated in old course marksheet of **B.Com Part-III**.

**6. The students opted for UGC vocational subjects in B.Com (old course) & failed will have to appear in respective vocational paper of B.Com (new course) as indicated in Appendix – IV.**

## Appendix- I B.Com Part- I

Sr.No.	Old course	Max. Marks	Sr.No.	New Course	Max. Marks
	Theory			Theory	
1	Compulsory English	100	1	Compulsory English	100
2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi,	100	2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi,	100

*[Signature]*  
20/03/2017  
Off. Principal,  
S.S. Maniar College, Nagpur

	Marathi, etc.)			etc.)	
3	Financial Accounting – I	100	3	Financial Accounting – I	100
4	Basics of Computer & Statistical Techniques	100	4	Fundamentals of Statistics & Computer	100
5	Principles of business Management	100	5	Principles of Management	100
6	Business Economics	100	6	Business Economics	100
7	Optional Paper - I (Any Group)	100	7	Company Law & Secretarial Practice (CLSP)	100

## Appendix- II B.Com Part-II

Sr.No.	Old course	Max. Marks	Sr.No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	Compulsory English	100	1	Compulsory English	100
2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi, etc.)	100	2	II <sup>nd</sup> Language (Other Indian language as per syllabus) (Hindi, Marathi, etc.)	100
3	Financial Accounting - II	100	3	Financial Accounting – II	100
4	Cost & Management Accounting	100	4	Cost & Management Accounting	100
5	Company Law & Secretarial Practice	100	5	Business and Industrial Law	100
6	Monetary Economics	100	6	Monetary Economics	100
7	Optional Paper – II (Any Group)	100	7	Business Communication	80

## Appendix- III B.Com Part-III

Sr.No.	Old course	Max. Marks	Sr.No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	Financial Accounts & Auditing - III	100	1	Financial Accounting – III	100
2	Income Tax	100	2	Income Tax & Auditing	100
3	Business Law	100	3	Business Finance	100

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

4	Business Communication & Management	100	4	Functional Management	100
5	Indian Economics	100	5	Indian Economy	100
6	Optional Paper – III (Any Group)	100	6	Computerized Accounting	80

### Appendix- IV

### B.Com Part- I ( Vocational Subjects )

Sr No.	Old course	Max. Marks	Sr No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	<i>Group I. Tax Procedures &amp; Practice</i> Tax Procedures & Practice - I	70	1	<i>Group I. Tax Procedures &amp; Practice</i> Tax Procedures & Practice - I	70
2	<i>Group II. Office management and Secretarial Practice</i> Office Management & Secretarial Practice- I	70	2	<i>Group II. Office management and Secretarial Practice</i> Office Management & Secretarial Practice- I	70
3	<i>Group III. Advertising, Sales Promotion and Sales Management.</i> Advertising, Sales Promotion and Sales Management - I	70	3	<i>Group III. Advertising, Sales Promotion and Sales Management.</i> Advertising, Sales Promotion and Sales Management - I	70
4	<i>Group IV. Computer Applications</i> MIS & IT - I	70	4	<i>Group IV. Computer Applications</i> Information Technology & MIS (IT & MIS)	70
5	<i>Group V. Principles and Practice of Insurance</i> Principles and Practice of Insurance - I	70	5	<i>Group V. Principles and Practice of Insurance</i> Principles and Practice of Insurance - I	70
6	Entrepreneurship Development - I	70	6	Entrepreneurship Development - I	70

### B.Com Part- II ( Vocational Subjects )

Sr No.	Old course	Max. Marks	Sr No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	<i>Group I. Tax Procedures &amp; Practice</i> Tax Procedures & Practice - II	70	1	<i>Group I. Tax Procedures &amp; Practice</i> Tax Procedures & Practice - II	70
2	<i>Group II. Office management and Secretarial Practice</i> Office Management & Secretarial Practice- II	70	2	<i>Group II. Office management and Secretarial Practice</i> Office Management & Secretarial Practice- II	70
3	<i>Group III. Advertising, Sales Promotion and Sales</i>	70	3	<i>Group III. Advertising, Sales Promotion and Sales</i>	70

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

	<b>Management.</b> Advertising, Sales Promotion and Sales Management - II			<b>Management.</b> Advertising, Sales Promotion and Sales Management - II	
4	<b>Group IV. Computer Applications</b> MIS & IT - II	70	4	<b>Group IV. Computer Applications</b> Visual Basic & DBMS (VB & DBMS)	70
5	<b>Group V. Principles and Practice of Insurance</b> Principles and Practice of Insurance - II	70	5	<b>Group V. Principles and Practice of Insurance</b> Principles and Practice of Insurance - II	70
6	Entrepreneurship Development - II	70	6	Entrepreneurship Development - II	70

### **B.Com Part- III ( Vocational Subjects )**

Sr No.	Old course	Max. Marks	Sr No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	<b>Group I. Tax Procedures &amp; Practice</b> Tax Procedures & Practice - III	70	1	<b>Group I. Tax Procedures &amp; Practice</b> Tax Procedures & Practice - III	70
2	<b>Group II. Office management and Secretarial Practice</b> Office Management & Secretarial Practice- III	70	2	<b>Group II. Office management and Secretarial Practice</b> Office Management & Secretarial Practice- III	70
3	<b>Group III. Advertising, Sales Promotion and Sales Management.</b> Advertising, Sales Promotion and Sales Management - III	70	3	<b>Group III. Advertising, Sales Promotion and Sales Management.</b> Advertising, Sales Promotion and Sales Management - III	70
4	<b>Group IV. Computer Applications</b> MIS & IT - III	70	4	<b>Group IV. Computer Applications</b> E-Commerce & Web Development (EWD)	70
5	<b>Group V. Principles and Practice of Insurance</b> Principles and Practice of Insurance - III	70	5	<b>Group V. Principles and Practice of Insurance</b> Principles and Practice of Insurance - III	70
6	Entrepreneurship Development - III	70	6	Entrepreneurship Development - III	70

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

**NOTIFICATION**

No. Acad/138.

Date :4<sup>th</sup> June, 2014

To,

The Principal  
of all the affiliated Science Colleges  
of Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur

**Subject:- Direction No. 2 of 2014.**

**Sir/Madam,**

I am forwarding herewith a copy of the Direction No. 2 of 2014 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 **'Direction governing examination leading to the Bachelor of Science (Information Technology) (Three Years Degree Course – Semester Pattern)'** and Examination Scheme to be implemented from Academic Session 2014-2015.

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Yours faithfully,

Encl: As above.

Sd/-

**(Dr. A.V. Gomashe)**

Registrar,

Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

No. Acad/138

Nagpur dated the 4<sup>th</sup> June, 2

  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

**Copy for information and necessary action along with the Direction and Scheme as mentioned above to :-**

1. The Dean, Faculty of Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
2. The Chairman, Board of Studies in Computer Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
3. The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
4. The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
5. The Deputy Registrar (Examinations) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
6. The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
7. The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
8. The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
9. The Asstt. Registrar (Exams & Enquiry.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
10. The Asstt. Registrar University's Sub-Centre at Gadchiroli, R.T.M. Nagpur University, Nagpur.
11. The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
12. The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur
13. The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
14. The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
15. The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
16. Mrs. Veena Prakash, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-

**(Puran Meshram)**

Deputy Registrar(Acad.)

Rashtrasant Tukadoji Maharaj

Nagpur University, Nagpur.

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKDOJI MAHARAJ  
NAGPUR UNIVERSITY,  
NAGPUR**

**FACULTY OF SCIENCE**

**BOARD OF STUDIES IN COMPUTER SCIENCE**

**SYLLABUS FOR**

**Bachelor of Science (Information Technology) [B.Sc. (IT) ]**

**Three Years (SIX SEMESTERS) DEGREE COURSE**

**(FROM SESSION 2014-15)**

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY,  
NAGPUR**

**FACULTY OF SCIENCE**

**DIRECTION NO. 2 OF 2014**

**DIRECTION GOVERNING THE EXAMINATION LEADING TO THE  
DEGREE OF BACHELOR OF SCIENCE (INFORMATION  
TECHNOLOGY)**

**(THREE YEARS DEGREE COURSE – SEMESTER PATTERN)**

**(Issued under Section 14(8) of the Maharashtra Universities Act, 1994)**

**Whereas**, Maharashtra Universities Act No. XXXV has come into force with effect from 22<sup>nd</sup> July, 1994 and further amended by Maharashtra Universities (Amendment and Continuance) Act, 2003, hereinafter referred as 'Act' has come into force from 8<sup>th</sup> August 2003.

AND

**Whereas**, the University Grants Commission, New Delhi vide letter No.D.O.No.F 1-2/2008/(XI Plan), dated.31 Jan.2008 regarding new initiatives under the XIth Plan – Academic Reforms in the University has suggested for improving quality of higher education and to initiate the Academic Reforms at the earliest.

AND

**Whereas**, the Board of Studies in all the Science subjects in their meeting held during 28/06/2013 prepared the syllabi and scheme of examination for the B.Sc. (I T) degree course and recommended for starting of the semester pattern in Faculty of Science from the academic session 2014-15,

AND

**Whereas**, the recommendations of various Board of Studies in the faculty of Science regarding Up-gradation and Revision of various syllabi and introduction and implementation of Semester Pattern Examination System at under graduate level was considered by the faculty of Science in its meeting held on 9/07/2013 and constituted a Committee to decide the policy decision regarding semester pattern examination system.

AND

**Whereas**, the Dean, Faculty of Science has consented to the syllabi and the scheme of examination for the award of B.Sc. (I T) degree in Faculty of Science,

AND

**Whereas**, the faculty of Science in its meeting held on 9/07/2013 vide item No. 35, has considered, accepted and recommended to Academic Council, the policy decision regarding introduction of Semester pattern and the draft syllabi of B.Sc. (I T) Semester-I & VI along with draft direction and other details.

AND

**Whereas**, the new scheme of examination as per semester pattern is to be implemented from Session 2014-15 for B.Sc. (I T) First Year & onwards which is to be regulated by this direction.

*(Signature)*  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

there is no direction issued and in existence and framing of an Ordinance for the above examination is a time consuming process.

2

AND

**Whereas**, the admission of students in the semester pattern at B.Sc. (I T) First Year are to be made in the Academic Session 2014-15.

Now, therefore, I, Anoop Kumar, Vice Chancellor of Rashtrasant Tukadoji Maharaj Nagpur University, in exercise of powers conferred upon me under sub-section (8) of section 14 of the Maharashtra Universities Act., 1994, do hereby direct as under:

1. This Direction may be called, "**Examination leading to the Degree of BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY) (Three Year Degree Course-Semester Pattern).**"
2. This direction shall come into force with effect from the date of its issuance.
3. (i) The following shall be the examination leading to the Degree of BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY) in the faculty of Science namely:
  - a. The B.Sc. (I T) Semester-I Examination;
  - b. The B.Sc. (I T) Semester-II Examination;
  - c. The B.Sc. (I T) Semester-III Examination;
  - d. The B.Sc. (I T) Semester-IV Examination;
  - e. The B.Sc. (I T) Semester-V Examination; and
  - f. The B.Sc. (I T) Semester-VI Examination.(ii) The period of Academic Session shall be such, as may be notified by the University.
4. The theory examination of Semester-I, II, III, IV, V and VI shall be conducted by the University and shall be held separately at the end of each semester at such places and dates as may be decided by the University and shall be held as per the schedule given in Table 1.

<b>Table 1</b>			
Sr. No	Name of the Examination	Main Examination	Supplementary Examination
1	Semester I, III and V	Winter	Summer
2	Semester II, IV, and VI	Summer	Winter

5. Subject to compliance with the provisions of this Direction and of other Ordinances in-force from time to time, the following persons shall be eligible for admission to the examinations:-

- (a) A student who has prosecuted a regular course of study for not less than one academic year prior to that examination;
- (b) A teacher in an Educational Institution eligible under the provisions of Ordinance No. 18, and
- (c) A women candidate who has not pursued a regular course of study.

Provided that in the case of the persons eligible under clauses (b) and (c), an applicant to the examination shall have attended a full course of laboratory instructions in a College in the subject in which laboratory work is prescribed. The candidate shall submit a Certificate to that effect signed by the Principal of the college.

6. Eligibility of every applicant for admission to B.Sc. (I T) Semester course shall:-

**A)In case of the B.Sc. (I T) Semester I examination:-**

The candidate should have passed the 12th Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education with English and other Modern Indian Language;

State Board of  
20/03/2014  
Off. Principal,  
S.S. Manjar College, Nagpur

mathematics or an examination recognized as equivalent thereto in such subjects and with such standards of attainments as may be prescribed.

Provided that students passing the 12<sup>th</sup> Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education and offering Vocational Stream with mathematics shall be eligible for admission to the B.Sc. (I T) Semester I course.

**B) In case of the B.Sc. (I T) Semester II, III, IV, V and VI Examinations:-** The student should have attended a minimum of 90 days in the respective semester and passed the previous semester examination as per the rules of ATKT as mentioned in Para 7 of this direction.

7) The ATKT rules for admission for the B.Sc. (I T) Course (**Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored**) shall be as given in the following Table- 2.

**Table 2**

Admission to Semester	The student should have attended the Session / term satisfactorily	Candidates should have passed at least one half of the passing heads of the following examinations (Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored)
1	2	3
B.Sc. (I T) Semester I	Semester I and admitted As per para 6 of this Direction	-----
B.Sc. (I T) Semester II	Semester II	-----
B.Sc. (I T) Semester III	Semester III	One half of the total head prescribed for Sem I and Sem II examination
B.Sc. (I T) Semester IV	Semester IV	-----
B.Sc. (I T) Semester V	Semester V	a) Passed Sem I & II examination and b) One half of the total head prescribed for Sem III & IV examination
B.Sc. (I T) Semester VI	Semester VI	-----

8. a) Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraph 5, 8, 10 and 31 of the said ordinance shall apply to every candidate.

b) The students admitted to this Degree course shall be governed by the general Ordinances / Directions of the University which are applicable to all the regular or ex-students. These Ordinances includes complete as well as relevant provision of Ordinance No. 1, 2, 6, 7-A, 9, 10, 19, 109, Ordinance No. 30 of 2006, (amended Ordinance No. 4 of 2006), Direction 9 of 2008, Direction 5 of 2004 wherever applicable accordingly AND Direction / Ordinance of ATKT as well as reassessment / provisional admission as issued from time to time.

9. The fee for each Semester examination shall be as prescribed by the University from time to time.

10. Every examinee for the B.Sc. (I T) Semester I & II examination shall be examined in:

i) Compulsory English

ii) Any one of the following Languages

Marathi, Hindi, Urdu, Supplementary English, Gujarati, Bengali, Telugu, Sanskrit, French, German, Russian, Persian, Arabic, Pali and Prakrit or Latin

iii) six papers and three practicals at respective semester.

11. The Scope of the subjects of all semesters of B.Sc. (I T) examination shall be as indicated in the respective syllabi in force from time to time. The medium of instruction and examination shall be English, except for the courses in Languages.

12. The maximum marks allotted to each subject and the minimum marks which an examinee must obtain in order to pass the examination shall be as per the Appendix A appended to this Direction.

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

13. The practical examination of all semesters shall be conducted at the end of each semester as indicated in Table 3 given below.

**Table 3**

S. No	Name of the Examination	Main Examination	Supplementary Examination
1	Semester I, III and V	Winter	Summer
2	Semester II, IV, and VI	Summer	Winter

14. The scheme of awarding internal marks shall be as per Appendix- **B** appended with this Direction.

15. Successful examinees at the B.Sc. (I T) Sem-VI Examination who obtained not less than 60% marks (aggregate of Sem-I, II, III, IV, V & VI Examinations taken together, excluding Languages) shall be placed in First Division, those obtaining less than 60% but not less than 45% in Second Division, and all other successful examinees in the Third Division.

**Explanation :**

Division at the B.Sc. (I T) Examination shall be declared on the basis of the marks obtained only in the Subjects other than languages at the Sem-I, II, III, IV, V & VI Examinations taken together.

16. There shall be no classification of successful examinees at the Sem-I to Sem-V Examinations.

17. An examinee successful in the minimum period prescribed for the examination, obtaining not less than 75% of the maximum marks prescribed in the subject shall be declared to have passed the examination with Distinction in that subject.

**Explanation :**

(1) Distinction shall be awarded only in the Science Subjects.

(2) Distinction at the B.Sc. (I T) Examination shall be awarded on the basis of the marks obtained at the B.Sc. (I T) Semester - I, II, III, IV, V and Semester VI Examination taken together.

(3) Distinction shall not be awarded to an examinee availing of the provision of the exemptions and compartments at any of the examination.

**18.** Provisions of Ordinance No 7-A relating to the Condonation of Deficiency of Marks for passing an examination and compartment as amended up-to-date vide ordinance No. 45 of 1983 shall apply to the examinations under this Direction.

19. As soon as possible after the examinations, the Board of Examinations shall publish a list of successful examinees at the B.Sc. (I T) Sem-I & II; B.Sc. (I T) Sem-III & IV and B.Sc. (I T) Sem-V & VI Examinations. Such list at the B.Sc. (I T) Semester VI Examination shall be arranged in three Divisions. The names of the examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in First or Second Division shall be arranged in Order of Merit as provided in the Examinations in General Ordinance No. 6. While preparing the Merit list for the B.Sc. (I T) Examination the marks secured by the candidate in the compulsory languages at their Semester I & II Examination will be taken into consideration in addition to the marks scored by them in their optional subjects.

20. No Person shall be admitted to B.Sc. (I T) Sem-I, II, III, IV, V and VI Examinations, if he/she has already passed the corresponding or an equivalent examination of any other Statutory University.

21. Successful examinees at the B.Sc. (I T) Sem I, II, III, IV, and V Examinations shall be entitled to receive a **Certificate** signed by the **Registrar** and successful examinees at the end of B.Sc. (I T) Sem VI examination shall, on payment of prescribed fees, receive a Degree in the prescribed format, signed by the Vice-Chancellor.

22. The provisions of direction no. 3 of 2007 for the award of grace marks for passing an examination, securing higher grade in subject(s) as updated from time to time shall apply to the examination under this direction.

**23. Absorption Scheme:**

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

- a) While switching over to semester pattern, the failure students of annual pattern will be given three chances to clear the examination.
- b) The candidates who have cleared first year annual pattern examination in the subject shall get admission to third semester directly by matchable scheme. However, candidates who are allowed to keep term will not be eligible for admission to third semester unless they clear all the papers and practicals of first year annual pattern examination.
- c) The candidates who have cleared second year annual pattern examination in the subject shall get admission to fifth semester directly by matchable scheme.. However, candidates who are allowed to keep term will not be eligible for admission to fifth semester unless they clear all the papers and practicals of second year annual pattern examination.
- d) The unsuccessful students of old course (Yearly pattern) shall be permitted to appear for higher class as per the new course (Semester Pattern) examination of the BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY) programme (Semester Pattern) provided that they submit a certificate from the Head of the Department/Principal of the College stating that they have satisfactorily undergone a course of study in all the subjects of the new course.
- e) The absorption scheme of the BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY) programme (Semester Pattern) will be effective till the introduction of new syllabus with the new absorption scheme.
- f) For other Statutory University candidates with similar yearly pattern program point No. 23 'a', 'b' and 'c' shall be applicable.
- g) For other Statutory University candidates with Semester pattern BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY) program the Candidates shall be admitted to next higher semester provided that he/she shall have cleared previous semester and a R.T.M. Nagpur University Committee constituted form time to time for the purpose shall scrutinize and clear the case on the basis of subject and syllabus contents of his / her previous semester exam of the other Statutory University.

Nagpur

Date : 16.5.2014.

Sd/-  
(Anoop Kumar)

Vice-Chancellor

  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

**Appendix - B:**  
**Guidelines for Internal Assessment, Theory paper pattern and Practical**

1. Each semester shall comprise of minimum 90 teaching days.
2. Each semester will comprise
  - a. six theory papers – 50 Marks each
  - b. internal assessment for each paper - 10 Marks each.
  - c. three practicals –30 marks each
3. In addition to the above, Semester I and II will have
  - a. One compulsory English paper of 60 marks with 15 marks internal assessment, Total 75 marks.
  - b. One second language paper (Marathi, Hindi, Urdu, Supplementary English, Gujarati, Bengali, Telugu, Sanskrit, French, German, Russian, Persian, Arabic, Pali and Prakrit or Latin) of 60 Marks with 15 marks internal assessment, Total 75 marks.

**Internal Assessment:**

4. The internal assessment shall be done by the College at least 15 days prior to the final examination of each semester. The Marks shall be sent to the University immediately after the Assessment in the prescribed format.
5. Guidelines for Internal Assessment are appended herewith.
  - a) The internal assessment marks assigned to each theory paper as mentioned in Appendix - A shall be awarded on the basis of assignments like class test, attendance, project assignments, seminar, study tour, industrial visits, visit to educational institutions and research organizations, field work, group discussions or any other innovative practice / activity.
  - b) There shall be one / two assignments (as described above) per Theory paper.
  - c) There shall be no separate / extra allotment of work load to the teacher concerned. He/ She shall conduct the Internal assessment activity during the regular teaching days / periods as a part of regular teaching activity.
  - d) The concerned teacher / department / college shall have to keep the record of all the above activities until six months after the declaration of the results of that semester.
  - e) At the beginning of each semester, every teacher shall inform his / her students unambiguously the method he / she proposes to adopt and the scheme of marking for internal assessment.
  - f) Teacher shall announce the schedule of activity for internal assessment in advance in consultation with HOD / principal.
  - g) Final submission of internal marks to the University shall be before the commencement of the University Theory examinations.

**Theory Papers:**

6. All Theory papers shall be divided into four units.
7. The theory question papers shall be of 3 hours duration and comprise of 5 questions with equal weightage to all units.
8. The pattern of question papers is appended herewith.

Each theory paper will be of 50 marks each. All questions are compulsory and will carry equal marks. Question paper for any theory paper will comprise of five questions of 10 marks each. Question No. 1 to 4 will be from four units each with an internal choice. The questions can be asked in the form of long answer type for 10 marks.

Question No. 5 shall be compulsory with three questions / notes of very short answer type from each of the four units having 1 mark each. The student shall have an option of answering any 10 questions out of the 12 questions.

**Practical:**

9. Practical exam shall be of 4 hours duration.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

10. The Practical Record of every student shall carry a certificate as shown below, duly signed by the teacher-in-charge and the Head of the Department.

11. If the student fails to submit his / her certified Practical Record duly signed by the Teacher-In-Charge and the Head of the Department, he / she shall not be allowed to appear for the Practical Examination and no Marks shall be allotted to the student.

12. The certificate template shall be as follows:

### CERTIFICATE

Name of the college / institution \_\_\_\_\_

Name of the Department: \_\_\_\_\_

This is to certify that this Practical Record contains the bonafide record of the Practical work of Shri / Kumari /

Shrimati \_\_\_\_\_ of \_\_\_\_\_ Semester \_\_\_\_\_  
\_\_\_\_\_ during the academic year \_\_\_\_\_. The candidate has satisfactorily completed the experiments prescribed by Rashtrasant Tukdoji Maharaj Nagpur University for the subject \_\_\_\_\_

Dated \_\_\_ / \_\_\_ / \_\_\_\_\_

Signature of the teacher who taught the examinee

1. \_\_\_\_\_

2. \_\_\_\_\_

Head of the Department

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



Appendix-A  
Teaching & Examination Scheme  
Bachelor of Science ( Information Technology) [ B.Sc. (IT) ]  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.Sc. (IT) Part I (Semester I)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,AI)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	-	English	4+1	-	4+1	3	60	15	75	30	-	-	-	75
2.	-	Marathi/Hindi/Urdu/Gujarati/Sanskrit / Suppl. English	3	-	3	3	60	15	75	30	-	-	-	75
3.	Paper-I	Fundamentals of Information Technology	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-II	Programing Methodology in 'C'	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-III	System Analysis And Design	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-IV	Web Technologies	3	-	3	3	50	10	60	24	-	-	-	60
7.	Paper-V	Multimedia Application Development	3	-	3	3	50	10	60	24	-	-	-	60
8.	Paper-VI	Applied Mathematics-I	3	-	3	3	50	10	60	24	-	-	-	60
9.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
10.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
11.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

**Note:**

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**Grand Total of Semester I: 450 + 150 = TOTAL = 600 Marks.**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.
- Details of Course of Languages shall be as per B.Sc. I

Teaching & Examination Scheme  
Bachelor of Science ( Information Technology ) [ B.Sc. (IT) ]  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.Sc. (IT) Part I (Semester II)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory				Practical			Total (Th,Pr,Al)	
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical		Min Passing Marks
1.	-	English	4+1	-	4+1	3	60	15	75	30	-	-	-	75
2.	-	Marathi/Hindi/Urdu, Gujarati, Sanskrit / Suppl. English	3	-	3	3	60	15	75	30	-	-	-	75
3.	Paper-I	Fundamentals of Digital Electronics	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-II	Object Oriented Programming using 'C++'	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-III	Operating Systems	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-IV	Web Programming	3	-	3	3	50	10	60	24	-	-	-	60
7.	Paper-V	Database Management System	3	-	3	3	50	10	60	24	-	-	-	60
8.	Paper-VI	Applied Mathematics-II	3	-	3	3	50	10	60	24	-	-	-	60
9.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
10.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
11.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**Grand Total of Semester II : 450 + 150 = TOTAL = 600 Marks.**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.
- Details of Course of Languages shall be as per B.Sc. I

Teaching & Examination Scheme  
Bachelor of Science ( Information Technology) [ B.Sc. (IT) ]  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.Sc. (IT) Part II (Semester III)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,Al)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Microprocessor & ALP	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Data Structures	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	Data Communication & Network - I	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Linux Operating System	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	E-Commerce	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Statistical Methods	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

**Note:**

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester III: 450**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Science ( Information Technology) [ B.Sc. (IT) ]  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.Sc. (IT) Part II (Semester IV)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,AI)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Software Engineering	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Java Programming	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	Data Communication & Network - II	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Oracle	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	Compiler Construction	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Numerical Methods	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

**Note:**

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester IV: 450**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Science ( Information Technology) [ B.Sc. (IT) ]  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.Sc. (IT) Final (Semester V)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,AI)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Software Project Management	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Dot Net Framework and C#	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	Network Security	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Data Warehousing	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	VB Programming	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Graph Theory	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

**Note:**

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester V: 450**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Science ( Information Technology) [ B.Sc. (IT) ]  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.Sc. (IT) Final (Semester VI)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,Al)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Enterprise Resource Planning	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Advanced Java Programming	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	Cloud Computing	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Data Mining	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	Animation Techniques	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Operation Research	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester VI: 450.**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

**Valuation Pattern for practical examination:-**

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

The valuation scheme of practical examination will be as under.

Record	-	06
Viva	-	06
Writing	-	09
Execution	-	09
<b>TOTAL</b>	-	<b>30</b>

---

**B. Sc. (IT) Part I Semester-I**  
**Paper I**  
**Fundamentals of Information Technology**

**UNIT - I :**

**Basic Components of Digital Computers:** Block Diagram. **CPU:** Functions of Each Unit: Primary Memory, ALU and CU, Instruction format. **Bus:** Data, Control and Address Bus **Number Systems:** Binary, Octal, Decimal, HexaDecimal, Their Conversions, Binary Arithmetic. ASCII, BCD, EBCDIC.

**Language Evolution :** Generation of Languages : Machine, Assembly, High Level Languages. Characteristics of Good Language **Translators :** Compiler, Interpreter and Assembler. Source and Object Program.

**UNIT - II :**

**Memory:** Static & dynamic, RAM, ROM, PROM, EPROM, EEPROM, flash and Cache.

**Storage Devices:** Hard Disk, Zip Disk and Optical Disk. Pen Drive, Blue Ray

**UNIT - III :**

**Input Devices:** Keyboard, Mouse, Light Pen, Touch Screen, Voice Input , MICR, OCR, OMR, Barcode Reader and Flatbed Scanner.

**Output Devices:** VDU, Printers: Dot Matrix, Laser and Inkjet.

Plotters: Drum, Flat-Bed and Inkjet.

**UNIT - IV :**

**Network:** Network terminology, Topologies : Linear, Circular, Tree and Mesh. Types of Networks: LAN, WAN, MAN. Repeaters, Bridge, Routers, Brouters and Gateway. Modem for Communication between pc's, wi-fi network, Introduction of Bluetooth and Infrared devices. Network protocols. Architecture : Peer-to-Peer, Client/Server.

**Reference Books:**

1. Information technology concepts by Dr. Madhulika Jain, Shashank & Satish Jain, [BPB Publication, New Delhi.]
2. Fundamentals of Information Technology By Alexis And Mathews Leon [Leon Press, Chennai & Vikas Publishing House Pvt Ltd, New Delhi]

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part I Semester-I**  
**Paper II**  
**Programming Methodology in C**

**UNIT- I :**

**Programming Structure :** Sequence, Selection, Iteration and Modular. **Problem Solving techniques:** Development Tools: Algorithm, Flowcharts and Pseudo code (Definition and its characteristics) **Developing Algorithm and Drawing flowcharts**

**UNIT- II :**

C Character set, Tokens, Identifier, Keywords, Variables, Data types, Qualifiers. Operators and Expressions: Arithmetic, Relational, Logical, Bit-Wise, Increment, Decrement, Conditional and Special operators. typedef, Type Conversion, Constants, Declaring Symbolic Constants, Character Strings, Enumerated Data Types, Operator Precedence and Associativity. Library functions. : Maths, string handling Functions. Control Structure: Compound Statement, Selection Statement: if, if-else, Nested if, switch. Iteration statement: for, while, do..while, Nested loops, Jump statement: break, continue, goto. (Special emphasis on problem solving)

**UNIT- III :**

**Arrays:** Need, Types: Single and Two Dimensional Array. **Strings:** Strings Manipulation, Arrays of Strings, Evaluation order **Function:** Function Components, Return Data type, Parameter Passing, Return by Reference, Default Arguments, Recursive Functions, Arrays with Functions, Storage Classes. (Special emphasis on problem Solving )

**UNIT- IV:**

**Structure:** Declaration, Definition, Accessing structure members, Initialization, Nesting of Structures. **Union:** Unions, Differences between Structure and Union **Pointer:** Introduction, Address Operator (&), Pointer variables, Void pointers, Pointer Arithmetic, Pointers to Pointers.

**File handling:** Hierarchy of File Stream Classes, Opening & closing a file, Testing for errors, File Modes, File pointers and their manipulations, Sequential Access, Random Access, Command Line arguments.

**Reference Books:**

1. The Art of programming through flowcharts & algorithm by Anil B. Chaudhari  
Firewall Media, Laxmi publication, New Publication.
2. Programming in C by E. Balagurusamy TMH Publications.
3. C Programming - Kernighen Ritche
4. Programming with C – Y. Kanetkar.
5. C Programming – Holzner, PHI Publication.
6. Programming in C – Ravichandran.



**B. Sc. (IT) Part I Semester-I**  
**Paper III**  
**System Analysis and Design**

**UNIT - I :**

**Introduction :** System, Subsystems, Components of Computerized Information System, Systems Analysts, SDLC, Prototyping. **Feasibility Study and Analysis:** Identifying Problems, Organizing Feasibility Analysis: Economic, Financial, Organizational and Technological. Feasibility Decision, Choice of a solution. **Data Collection:** Interviews, Brain Storming, Questionnaires, Document Search, Observation.

**UNIT - II :**

**Structured tools and techniques of Data analysis :** Structured English, Process Charts, SOP, Decision Tables and Decision Trees, Data Flow Diagram, Data Dictionary.

(Special emphasis on problem solving )

**System Design :** Input design: Input Validation, Human factor Consideration, Messages, System Tolerance. Output design: Categories of output, Design Principles, Control of Output. Forms: Principles of Form Design, Ways to ensure Quality Forms.

**Codes:** Types, Physical Representation of Codes, Principle of Code Design.

**UNIT - III :**

**Implementation:** Training, Operational Training and Related Activities, Planning to Implement Change, Change Strategies.

**Testing:** Preparation for Testing, Test Execution: Levels of Testing, Component, Function, Subsystem, System, Test Evaluation, Acceptance.

**Conversion:** Cold Turkey, Parallel, Pilot, Modular and Sequential Methods. Conversion Period Length. **System Evaluation.**

**UNIT - IV :**

Project Planning, Metrics for Project Size Estimation, Project Estimation Techniques, **Scheduling:** Work Breakdown Structure, Activity Networks and CPM, Gantt Charts, PERT Charts, Project Monitoring and Control. Risk Management, Software Configuration Management: Necessity, Configuring Management Activities

**Software Reliability and Quality Management:** Software Reliability, Software Quality, ISO 9000. Software Maintenance: Characteristics of Software Maintenance, Maintenance Process Models, Estimation of Maintenance Cost.

**Software Reuse:** What can be reused, Why no reuse so far, Basic Issues.

**Reference Books:**

1. Information Systems Analysis, Design and Implementation By K. M. Hussain Donna Hussain [Tata McGraw-Hill Publishing Company Ltd, New Delhi]
2. Fundamentals of Software Engineering by Rajib Mall [PHI Publication]
3. Workbook on Systems Analysis & Design by V. Garg [PHI Publication]
4. System Analysis and Design- Don Yeates, shiebls, Helmy (M).
5. System Analysis & Design - Edward –TMH
6. System Analysis and Design – Satzinger, Robert Jackson and Stephen Burd, Thomson Learning
7. Introduction to Systems Analysis Design, Igor Hawryszkiewicz, PHI

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part I Semester-I**  
**Paper IV**  
**Web Technologies**

**UNIT I**

**Introduction to Internet**, Requirement for connecting to internet, Basic internet term, Introduction to World Wide Web (WWW), Evaluation of world wide web, basic features of www, web browsers, web server. **Internet Security**: Secure Transaction, Privacy issues, computer crimes and its type. **Security Issues**: Security threats like damage to data, loss of data and unauthorized use of data. **Security Procedure**: Firewall, Encryption, Password, Access Control List, Digital Certificate.

**UNIT – II**

Introduction to HTML, Features of HTML , Advantage and Disadvantage of HTML, Basic structure of HTML documents. **Creating web pages with HTML Tags** : <HTML>, <HEAD>, <TITLE>, <BODY>, Heading tags, Paragraph tags, Alignment, Font tag and its attributes, line break, Pre-formatted text tag, list element (Unordered lists, ordered list, Definition list, Marquee tags and its attribute. **Character formatting tags**: Logical verses physical style, logical and physical tags. Changing the colors of the fonts. **Linking** :Relative pathnames verses absolute pathnames, URLs, Linking within a web page, linking to a different web page, linking to external web page, linking to an image by image, linking to document located in different directory, types of URLs .

**UNIT – III**

**Images**: IMG element and its attributes, Images as a Hyperlink, Image map, Image Formats, Frames. **Tables**: TABLE element and its attributes, Creating simple tables, Row element, Data element, Spanning rows and columns. **Form designs**: Form Controls, Text controls, password fields, radio buttons, checkboxes, reset and submit buttons, select element, option , Image and textarea. **Embedding Multimedia**: Introduction, Embedding Multimedia, Inserting sound/audio formats, video file formats. **DHTML**: using DHTML in internet explorer, heading and horizontal line, hidden message, the message at the center of the page, moving boxes , changeable box.

**UNIT – IV**

**Cascading Style Sheets (CSS)**: advantage of CSS, Disadvantage of CSS, Defining a Style, Inline style sheet, Embedded Style sheet, External style sheets. **Style sheet Properties**: Font, color, background, creating group, text, Box properties, span tag.

**Scripting Language**: JAVA SCRIPT – Introduction, Advantages, Disadvantages, Working of JavaScript, Structure of JavaScript program, Variable, Data types, Operators & Expression, Decision Making- if—else, switch, loops(for, for...in, while, do...while), break & continue, , Arrays

**BOOKS:**

1. Complete HTML by BPB
2. HTML – 4 Unleashed (SAMS)
1. Dynamic HTML by O'RELLY (SPD)
2. Java Script Programming for the absolute beginner by Harris (PHI)

**B. Sc. (IT) Part I Semester-I**  
**Paper V**  
**Multimedia Application Development**

**Unit I**

Fundamental concepts in Text and Image: Multimedia and hypermedia, world wide web, overview of multimedia software tools. Graphics and image data representation graphics/image data types, file formats, Color in image and video: color science, color models in images, color models in video.

**Unit II**

Fundamental concepts in video and digital audio: Types of video signals, analog video, digital video, digitization of sound, MIDI, quantization and transmission of audio.

**Unit III**

Action Script I: ActionScript Features, Object-Oriented ActionScript, Datatypes and Type Checking, Classes, Authoring an ActionScript Class.  
Action Script II: Inheritance, Authoring an ActionScript 2.0 Subclass, Interfaces, Packages, Exceptions.

**Unit IV**

Application Development: Application Frame work, Using Components with ActionScript MovieClip Subclasses.

Multimedia data compression: Lossless compression algorithm: Run-Length Coding, Variable Length Coding, Dictionary Based Coding, Arithmetic Coding, Lossless Image Compression, Lossy compression algorithm: Quantization, Transform Coding, Wavelet-Based Coding, Embedded Zerotree of Wavelet Coefficients Set Partitioning in Hierarchical Trees (SPIHT).

**Text Books:**

1. Fundamentals of Multimedia by Ze-Nian Li and Mark S. Drew PHI/Pearson Education.
2. Essentials Action Script 2.0, Colin Moock, SPD O,REILLY

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part I Semester-I**  
**Paper VI**  
**Applied Mathematics-I**

**UNIT- I:**

Propositional Calculus:

Connectives, Negation, conjunction, Disjunction, statement formulas and truth tables, conditional and Bi-conditional, well formed formulas, Tautologies, Equivalence of formulas, duality law, Tautologies implications, Functionally complete set of, other connectives,

**UNIT- II:**

Disjunctive normal forms, connective normal forms, Principal disjunctive normal form, Principal conjunctive normal form.

**UNIT- III:**

Predicate Calculus:

The theory of Inference for statement Calculus, validity using truth tables, Rules of inference, consistency of premises and indirect method of Proof

**UNIT- IV:**

The statement function, variables and quantifier, Predicate formulas, Free and Bound variables, The universe of Discourse, Theory of inference for predicate calculus.

**Reference Books:**

1. Discrete Mathematical Structures with applications to computer Science By J.P.Tremblay & R. Manohar, (TMH)
2. Discrete Mathematical Structures by Kolman Busby and Ross (pearson)
3. Discrete Mathematics By Norman Biggs. (Oxford).
4. Logic and Discrete Mathematics : Grassmann, Tremblay (Pearson)
5. Introduction to Automata Theory, Languages, and computation :Hopcroft, Motwani and Ullman(Pearson)
6. An introduction to the theory of computer science , languages and machines : Sudkamp
7. Kenneth H Rosen Discrete Mathematics & it's Applications TMH

**B. Sc. (IT) Part I Semester-II**  
**Paper I**  
**Fundamentals of Digital Electronics**

Unit – I

Data and Information: Features of Digital Systems, Number Systems: Decimal, Binary, Octal, Hexadecimal & their inter conversions, Representation of Data: Signed Magnitude, one's complement & two's complement, Binary Arithmetic, Fixed point representation and Floating point representation of numbers.

Codes: BCD, XS-3, Gray code, hamming code, alphanumeric codes (ASCII, EBCDIC, UNICODE), Error detecting and error correcting codes.

Unit- II

Boolean Algebra: Basic gates (AND, OR, NOT gates), Universal gates (NAND and NOR gates), other gates (XOR, XNOR gates). Boolean identities, De Morgan Laws. Karnaugh maps: SOP and POS forms, Quine McClusky method.

Unit –III

Combinational Circuits: Half adder, full adder, code converters, combinational circuit design, Multiplexers and demultiplexers, encoders, decoders, Combinational design using mux and demux.

Sequential Circuit Design:  
Flip flops (RS, Clocked RS, D, JK, JK Master Slave, T, Counters, Shift registers and their types, Counters: Synchronous and Asynchronous counters.

Unit- IV

Computers: Basic Organization, Memory: ROM, RAM, PROM, EPROM, EEPROM, Secondary Memory: Hard Disk & optical Disk, Cache Memory, I/O devices

Books:

1. Modern Digital Electronics by R. P. Jain, 3rd Edition, McGraw Hill
2. Digital Design and Computer Organisation by Dr. N. S. Gill and J. B. Dixit, University Science Press

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part I Semester-II**  
**Paper II**  
**Object Oriented Programming Using 'C++'**

**UNIT - I :**

**Object Oriented Methodology:** Elements of Object Oriented programming, Objects, Classes, OOPs features. **Classes & Objects:** Specifying a Class, Creating Objects, Accessing Class members, Defining member function, Outside Member Functions as inline, Accessing Member Functions within the class, Static data member, Access Specifiers: Private, Protected and Public Members.

**UNIT - II :**

**CONSTRUCTORS & DESTRUCTORS:** Introduction, Parameterized Constructors, Constructor Overloading, Constructors with Default Arguments, Copy Constructor, Destructor, Order of Construction and Destruction, Static data members with Constructor and Destructors. **OPERATOR OVERLOADING:** Definition, Overloadable Operators, Unary Operator Overloading, Unary & Binary overloading, Rules for Operators Overloading.

**UNIT - III :**

**DYNAMIC OBJECTS:** Pointers to Objects, Creating and Deleting Dynamic Objects: New and Delete operators, Array of Objects, Array of Pointers to Objects, Pointers to Object Members, this Pointer. **INHERITANCE:** Defining, Abstract classes, Single, Multilevel, Multiple, Hierarchical, Hybrid Inheritance, Constructor and Destructor in Derived Classes.

**UNIT - IV :**

**VIRTUAL FUNCTIONS:** Need for Virtual Functions, definition, Pure Virtual Functions, Abstract Classes, Rules for Virtual Functions. **EXCEPTION HANDLING:** Exception Handling Model, List of Exceptions, Handling Uncaught Exceptions, Fault Tolerant Design Techniques, Memory Allocation Failure Exception, Rules for Handling Exception Successfully.

**Reference Books:**

1. Mastering C++ by K R Venugopal Tata McGraw-Hill , New Delhi.
2. The C++ Programming Language –Bjarne Stroustrup
3. Programming with C++ - Ravichandran
4. Programming with C++ - Robert Lafore
5. Object Oriented Programming with C++ by E. Balagurusamy, McGraw Hill

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part I Semester-II**  
**Paper III**  
**Operating System**

**UNIT - I:**

Structure of Operating System, Operating System functions, Characteristics of Modern OS. **Process Management:** Process states, Creation, Termination, Operations on Process, Concurrent process, Processes Threads, Multithreading, Micro Kernels **CPU Scheduling:** Schedulers, Scheduling Methodology, CPU Scheduling Algorithm: FCFS, SJF, RR, Priority Scheduling.

**UNIT – II:**

Performance comparison : Deterministic Modeling , Queuing analysis, Simulators. **Deadlock and Starvation:** Resource Allocation Graph, Conditions for Dead Lock, Dead Lock Prevention, Dead Lock Detection, Recovery from Deadlock.

**UNIT - III:**

**Memory Management:** Logical Vs. Physical Address Space, Swapping, Memory Management Requirement, Dynamic Loading and Dynamic Linking, Memory Allocation Method: Single Partition allocation, Multiple Partitions, Compaction, paging, segmentation, Segmentation with paging. Protection.

**UNIT - IV:**

**I/O Management:** I/O hardware, I/O Buffering, Disk I/O, Raid, Disk Cache. **File Management:** File Management system, File Accessing Methods, File Directories, File Allocation Methods, File Space Management, Disk Space Management, Record blocking. **Protection Mechanisms:** Cryptography, Digital Signature, User Authentication.

**Reference Books:**

1. Operating Systems by P. Balakrishna Prasad [Scitech Publication]
2. Operating System Concept : Silbershaz (Addision Education)
3. Operating Systems - H.M. Deitel - Addision Wesley.
4. Operating Systems- John J. Donoven.
5. Operating System : A.S.Godbole (TMH)
6. Modern Operating Systems : Tenenenbaum (Pearson Education)
7. Operating System : Peterson.

**B. Sc. (IT) Part I Semester-II**  
**Paper IV**  
**Web Programming**

**Unit I**

Internet, Internet users and working, Information on Internet, Requirements for connecting to Internet, Basic Internet Terms, Introduction to world wide web, Evaluation of world wide web, basic features, web browsers, popular web browsers, web servers, HTTP, URL, Search Engines, Search Engines categories, how to use Search Engines, Searching criterion, Introduction to browsers, Working with e-mail, Parts of e-mail text, working with messages.

**Unit II**

Java Script -Introduction , values and variables, operators, loops and various statements in java script, Date object, Math object, string object, window events, working with forms, document object, screen object, navigator object, images and animation, java script objects

Declaration, definition, and referencing. Identifiers scope rules. Recursion. Arrays; declaration, allocation & accessing, sorting of arrays, JavaScript objects : Math, String, Date, Number and Boolean.

Documents, forms, Statements, Functions, Objects in Java scripts, events and event handling, arrays, FORMS, Buttons, Checkboxes, Text fields and text areas.

**Unit-III**

Introduction to active server pages (ASP) : working of ASP, setup, ASP objects, file system object, session tracking & cookies. Accessing databases using ASP.

XML: Introduction, Document type definition, XML Schemas, Document Object model, Presenting XML, Using XML Processors: DOM and SAX

**Unit IV**

XML displaying an XML Document, Data interchange with an XML Document, advantages of integrating ASP & XML. Introduction to Java Server Pages (JSP): scripting standard actions, Directives. Custom tag libraries. JSP & XML case study: advantages of integrating JSP & XML.

**References:**

1. Deitel, Deitel & Nieto, Internet and Worldwide Web how to Program, Pearson Education
2. Techmedia : The Complete Java Script
3. Eddy et. al. : "Teach Yourself Active Server Pages" (IDG)
4. R Bangia, Second edition Internet and web design, firewall media
5. R Bangia Multimedia and Wed technology
6. Internet and web designing, Macmillan
7. Ivan Bayross Web Enabled Commercial Application Development Using HTML, DHTML, JS, Perl
8. Kathhleen Kalata, Internmet Programming with VBScript and Java Script. Thomson Publication
9. Robert W. Sebesta, Programming the World Wide Web Pearson
10. Pekowsky : "Java Server Pages" (Pearson Education)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**B. Sc. (IT) Part I Semester-II**  
**Paper V**  
**Database Management System**

**UNIT- I :**

**DBMS :** Definition: Databases, DBMS, Problems with traditional file processing system, Objectives of the database systems, Three level architectures of DBMS, Component of DBMS, Database Administrator, Database Users, Data model, Different types of data models, Concepts of Hierarchical, Network Models.

**UNIT-II :**

**E-R Models :** Basic Concepts, Entity, Attributes, Relation Ship, Mapping, Keys, Weak and Strong Entity Set, Problems on E-R Diagrams, Extended E-R Features: Specialization, Generalization, Aggregation, Problems on Reduction of an E-R Schema to Tables, Tabular representation of Strong, Weak entity Sets and Relationship Sets.

**UNIT-III :**

**Relational Model:** Structure, Relational Algebra, Fundamental Operations, Set –Intersection, Natural Join, Division and Assignment Operation. Extended Relational Algebra Operations, Aggregate Functions.

**UNIT-IV :**

**Functional Dependency:** Functional Dependency, Fully Functional Dependency, Partial Dependency, Transitive Dependency, Multi Valued Dependency. Normalization, Normal Forms ( 1NF, 2NF, 3NF, BCNF, 4NF, 5NF). Problems on Normal forms.

**Reference Books:**

1. Data Base System Concepts By A SilbersChatz By Henry Korth And S.Sudarshan [Mcgraw-Hill ltd. New Delhi] 3<sup>rd</sup> Edition.
2. Introduction to Data Base Management by NAVEEN PRAKASH [Tata McGrawHill ltd.]
3. Bipin C. Desai, An Introduction to Database Systems, Galgotia Publications.
4. Raghuram Ramakrishnan & Johannes Gerhrke, "Data Base Management Systems", Mc Graw Hill International Edition, 2000
5. Muzumdar, Introduction to Database Management Systems. TMH

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part I Semester-II**  
**Paper VI**  
**Applied Mathematics-II**

**UNIT - I :**

Set Theory: Set, Subsets operations on set, Venn diagram, algebra on sets, Cartesian product of sets, Binary relations, Properties of binary relation, Relation matrix and the graph of relation, Partial order relations, Equivalence relations, Equivalence Classes, Composition of relations.

**UNIT - II :**

Functions - definition, types of function, Invertible functions composition of functions.

Counting - Permutation, Combinations, The pigeonhole principle, recurrence relation, Mathematical Induction.

**UNIT - III :**

Algebraic Structures Semi groups & groups: Binary operations, Semi groups, isomorphism and Homomorphism, Product and Quotient of semi groups, Groups, subgroups, products and Quotient of groups.

Lattices: - Lattice concepts, isomorphic Lattices, Properties of lattices, Finite Boolean algebras.

**UNIT - IV :**

Graph Theory: Basic concepts, types of graphs, Representation of graph in memory, Euler path and circuits, Hamiltonian Path and circuits.

Trees:- Basic concepts, Libeled trees, Undirected trees.

**Reference Books:**

1. Discrete Mathematical Structures with applications to computer Science By J,P.Tremblay & R. Manohar, (TMH)
2. Discrete Mathematical Structures by Kolman Busby and Ross (pearson)
3. Discrete Mathematics By Norman Biggs. (Oxford).
4. Logic and Discrete Mathematics : Grassmann, Tremblay (Pearson)
5. Introduction to Automata Theory, Languages, and computation :Hopcroft, Motwani and Ullman(Pearson)
6. An introduction to the theory of computer science , languages and machines : Sudkamp
7. Kenneth H Rosen Discrete Mathematics & it's Applications TMH

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part II Semester -III**  
**Paper I**  
**Microprocessor and ALP**

**UNIT-I**

An over view of 8085, Architecture of 8086 Microprocessor. Special functions of General purpose registers. 8086 flag register and function of 8086 Flags. Addressing modes of 8086. Instruction set of 8086. Assembler directives, simple programs, procedures, and macros.

Assembly language programs involving logical, Branch & Call instructions, sorting, evaluation of arithmetic expressions, string manipulation.

**UNIT-II**

Pin diagram of 8086-Minimum mode and maximum mode of operation. Timing diagram. Memory interfacing to 8086 (Static RAM & EPROM). Need for DMA. DMA data transfer Method. Interfacing with 8237/8257.

8255 PPI – various modes of operation and interfacing to 8086. Interfacing Keyboard, Displays, 8279 Stepper Motor and actuators. D/A and A/D converter interfacing.

**UNIT-III**

Interrupt structure of 8086. Vector interrupt table. Interrupt service routines. Introduction to DOS and BIOS interrupts. 8259 PIC Architecture and interfacing cascading of interrupt controller and its importance.

Serial data transfer schemes. Asynchronous and Synchronous data transfer schemes. 8251 USART architecture and interfacing. TTL to RS 232C and RS232C to TTL conversion. Sample program of serial data transfer. Introduction to High-speed serial communications standards, USB.

**UNIT-IV**

**Advanced Micro Processors** - Introduction to 80286, Salient Features of 80386, Real and Protected Mode Segmentation & Paging, Salient Features of Pentium, Branch Prediction, Overview of RISC Processors.

**TEXT BOOKS :**

1. Advanced microprocessor and Peripherals - A.K.Ray and K.M.Bhurchandi, TMH, 2000.
2. Micro Controllers – Deshmukh, Tata McGraw Hill Edition.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part II Semester -III**  
**Paper II**  
**Data Structures**

**UNIT - I :**

**LINKED LIST :** Linked List, Representation of Single, Double, Header, Circular Single and Double Linked list, All possible operations on Single and Double linked List using Dynamic representation, Polynomial Representation and its Manipulation.

**UNIT - II :**

**STACKS :** Stacks terminology, Representation of Stacks in Memory, Operation on Stacks, Polish Notations, Translation of infix to postfix & prefix expression, Infix to Postfix Conversion, Evaluation of Postfix Expression, Recursion, Problems on Recursion, Quick Sort and Tower of Hanoi Problem.

**UNIT - III :**

**QUEUE :** Representation of Queues in Memory, Circular Queue. Dequeue and Priority Queue. Operations of above Structure using Array and Linked Representation.

**SORTING AND SEARCHING:** Selection Sort, Insertion Sort, Merge Sort, Efficiency of Sorting Methods, Big-O Notations.

Hash Tables, Hashing Technique, Collision Resolution Technique.

**UNIT - IV :**

**TREES :** Basic Terminologies, Representation of Binary Trees in Memory, Traversing of Binary tree, Binary Search Tree, Operation on Binary Search Tree, Heap Tree, Operation on Heap Tree, Heap Sort Method

**GRAPHS :** Basic Terminologies, Definition and Representation of Graphs in Memory: Linked List and Matrix Representation. Traversing graphs : BSF, DFS Method.

**Reference Books:**

1. Classical Data Structures : D. Samanta. PHI, New Delhi.
2. DATA STRUCTURE : LIPSCTUZ SCHUM OUTLINE SERIES
3. Data structure Using C++ : Y. Kanetkar
4. Data Structures Using C++: Tennenbaum
5. Data structures by Tremblay Sorenson
6. Data structures by Bhagat singh Naps

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part II Semester -III**  
**Paper III**  
**Data Communication & Network-I**

**Unit-I:-**

Introduction to data communications and Networking:- Introduction, history, data communication and network architecture, protocols and standards, standards organization , layered network architecture, open systems interconnection , data communications circuits, serial and parallel data transmission, circuit arrangements and data communication networks , alternate protocol suite. Signal , Noise , Modulation and Demodulation:- Introduction, signal analysis, Electrical Noise and Signal to Noise ratio, analog modulation systems , Information capacity, bits, Bit rate, Baud and M-ary Encoding , digital modulation.

**Unit –II:**

Transmission Media:- Introduction , Metallic cable Metallic transmission lines, transverse electromagnetic waves, characteristics , transmission line classifications, M.T line types, M.T. line equivalent circuit , Wave propagation on metallic transmission lines , metallic transmission line losses. Optical fiber Transmission media:- Introduction, Advantages and Disadvantages of optical fiber cables , Electromagnetic spectrum , O.F. Communication system block diagram, Optical fiber Construction , the physics of light, velocity of propagation, propagation of light through an Optical fiber cable, Optical fiber modes and classifications , O.F. Comparison , losses in optical fiber cables, light sources, light detectors , lasers Digital transmission:- Introduction, Pulse modulation, pulse code modulation, dynamic range, Signal Voltage-to-quantization Noise Voltage Ratio, Linear Versus Nonlinear PCM Codes, Companding, PCM Line Speed, Delta Modulation PCM & Differential PCM.

**Unit –III**

Wireless Communication Systems:- Introduction, Electromagnetic Polarization, Rays & Wavefronts, Electromagnetic Radiation, Spherical wavefronts & the Inverse Square law, Wave Attenuation & Absorption, Optical Properties of Radio Waves, Terrestrial Propagation of Electromagnetic Waves, Skip Distance, free-Space Pathloss, Microwave Communication Systems, Satellite Communication Systems. Data Communication Codes, Error Control & data Formats:- Introduction, Data Communication Character Codes, Barcodes, Error Control, Error Detection, Error Correction, Character Synchronization. Data Communication Hardware, Data Communications Circuit, Line Control Unit, serial Interfaces.

**Unit – IV**

Network Topologies & Connectivity Devices:- Introduction, Transmission Formats, Topologies, Collision & Broadcast Domains, Connectivity Devices, Standard Connectivity Device Logic Symbols Local Area Networks:- Introduction, IEEE Project 802, Access Control Methodologies, Medium access Control, LAN Data Link Layer, Logic Link Control Sublayer, MAC Sublayer, Ethernet.

References:

1. Godbole Data Communication and Networking .- (TMH)
2. P.C. Gupta – Data Communications and Computer Networks, PHI, New Delhi 2006
3. Comer Internetworking with TCP/IP Vol-1, PHI Publication.
4. Wayne Tomasi Introduction to Data Communications & Networking ( Pearson Education)
5. Kenneth C. Mansfield, Jr; James L.Antonakos An Introduction to Computer Networking (Pearson Education)
6. W. Stallings - Data and Computer Communications, 7th Edn., Pearson Edn./ PHI, New Delhi,
7. Forouzan Data Communication and Networks, Tata McGraw Hill.
8. Tanenbum Computer Networks, 3ed edition, PHI Publication.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## B. Sc. (IT) Part II Semester -III

### Paper IV Linux Operating System

#### UNIT - I :

Logging In and Logging Out, Anatomy of Linux OS, Directory Structure, /usr Directory, File Types: User datafiles, System data files, Executable files. Naming files and directories, Spawning Processes. **Shell:** Creating User Account, Shell Program, bash shell, Changing shell prompt. **Commands:** Basic Syntax for a command, Exploring the Home Directory, ls, mkdir, rmdir, stat, cat, rm, mv, cp

#### UNIT - II :

**Editor:** Vi editor. **Hooking up Hardware Devices:** Formatting a Floppy Disk, Gathering important system information. Backing Up and restoring the File **System:** Simple Backup, gzip, gunzip, tar. **Printing files:** Print Spool directory, Sending files to Printer.

#### UNIT - III :

**Sharing Files with other Users:** Maintaining User Accounts, Changing Password, Creating Group Accounts, Granting Access to files, Changing File Ownership, Protecting Files, Making a File Read-Only. Working with Processes: Types of processes, ps Command, Creating process, killing process, free command and top utility.

#### UNIT - IV :

**Managing Disk Space:** df, du commands, Creating Additional Free Disk Space, Locating Unused Files, Setting System Clock. Communication Utilities: who, who am i, finger, mesg, write, wall, talk, Creating a message of the day. X Window System, Graphical User Interfaces: KDE and GNOME Desktop Environment.

#### Reference Books:

1. SAMS Teach Yourself Linux by Craig and Coletta Witherspoon [Techmedia]
2. LINUX complete reference by Richard Peterson

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part II Semester -III**  
**Paper V**  
**E-Commerce**

**UNIT - I :**

Introduction to e-Commerce, Scope of electronic commerce, definition, e-Commerce and Trade Cycle, e- Markets, Internet e-Commerce in perspective. Value chain, Supply chain, Porters value chain model, Inter organizational value chains.

**UNIT - II :**

Business strategy in electronic age: Competitive advantages, Strategy, Porters model, First Movers advantages, Advantages using e-Commerce. Introduction to business strategy, Strategic implications of IT, Technology, Business environment, Business capability, Existing business strategy, Strategy formulation and implementation planning, e-Commerce implementation, e-Commerce evaluation.

**UNIT - III :**

Business to Business e-Commerce: Inter organizational transactions, The credit transaction trade cycle, A variety of transaction, Pens and things, Electronics Market, Usage of e-Market, Advantages and disadvantages of e-Market, Future of e-Market, EDI, introduction, EDI and Business.

**UNIT - IV :**

Business to Consumer Electronic Commerce: Consumer trade transaction, Internet e-Commerce, e-Shop, Other e-Commerce technologies, Advantages and disadvantages of consumer e-Commerce. Elements of e-Commerce: elements, e-Visibility, e-Shop, Online payments, Internet e-Commerce security.

**Reference Books:**

01. E-Commerce, Strategy, Technologies and Applications By: David Whiteley Tata McGraw-Hill Edition.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## **B. Sc. (IT) Part II Semester -III**

### **Paper VI**

### **Statistical Methods**

#### **UNIT- I:**

Introduction - Definition of Statistics, Importance and scope of Statistics, Limitations of statistics, Distrust of Statistics. Statistical Data Collection - Primary and Secondary data, Methods of Collecting Primary data, Sources and Secondary Data, Census and Sample Investigation. Presentation of statistical Data - Classification, Tabulation, Frequency Distribution, Diagrams and Graphs. Frequency Distributions and

#### **UNIT- II :**

Measures of Central Tendency - Frequency Distribution, Continuous Frequency Distribution, Graphic Representation of a Frequency Distribution Average or Measures of Central Tendency or Measures of Locations, Requisites for an ideal Measure of Central Tendency Arithmetic: Mean Median, Mode, Geometric Mean and Harmonic Mean, Weighted Average, Relationship amongst different Averages.

#### **UNIT- III:**

Measures of Dispersion, Skewness and Kurtosis - Meaning and Significance of Dispersion, Methods of Measuring Dispersion - Range, Quartile, Mean Deviation, Standard Deviation, Coefficient of Skewness, Kurtosis, Coefficient of Dispersion, Coefficient of Variation.

#### **UNIT- IV:**

Correlation and Regression - Definition of Correlation, . Scatter Diagram, Karl Pearson Coefficient of Correlation, Limits for Correlation Coefficient, Definition of Regression, Lines of Regression, Regression Curves, Regression coefficients, properties of Regression coefficients, Correlation Analysis vs. Regression Analysis.

#### **Reference Books:**

- 1.S Sastry Introduction to Numerical Analysis
- 2.Y. Rajaraman, Computer Oriented Numerical Methods - Prentice Hall Publication
- 3.Gupta and Kapoor Fundamental of Mathematical Statistics
- 4.Brian Flowers Introduction to Numerical Methods in C++ By. (Oxford)
- 5.E. Balaguruswamy, Numerical Methods - Tata McGraw Hill Publication
- 6.Srimanta Pal Numerical Methods (Oxford)
- 7.K Sankara Rao Numerical Methods for Scientists & Engineers [PIII].
- 8.Manish Goyal Computer Based Numerical And Statistical Techniques (Laxmi)



**B. Sc. (IT) Part II Semester -IV**  
**Paper I**  
**Software Engineering**

**Unit I**

**Introduction to Software Engineering :** The evolving role of software, Changing Nature of Software, Software myths.

**A Generic view of process :** Software engineering- A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models.

**Unit II**

**Process models :** The waterfall model, Incremental process models, Evolutionary process models, The Unified process. **Software Requirements :** Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document.

**Unit III**

**Requirements engineering process :** Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management.

**System models :** Context Models, Behavioral models, Data models, Object models, structured methods.

**Unit IV**

**Design Engineering :** Design process and Design quality, Design concepts, the design model.

**BOOKS :**

1. Software Engineering, A practitioner's Approach- Roger S. Pressman, 6th edition. McGrawHill International Edition.
2. Software Engineering- Sommerville, 7th edition, Pearson education.
3. Software Engineering- K.K. Agarwal & Yogesh Singh, New Age International Publishers
4. Software Engineering, an Engineering approach- James F. Peters, Witold Pedrycz, John Wiley.
5. Systems Analysis and Design- Shely Cashman Rosenblatt, Thomson Publications.
6. Software Engineering principles and practice- Waman S Jawadekar, The McGraw-Hill Companies.

**B. Sc. (IT) Part II Semester -IV**  
**Paper II**  
**Java Programming**

**UNIT - I :**

**Introduction to Java:** -History of Java, features of Java, getting started with Java. **Java programs:-** Introduction of Application & Applets. **Variables:** -Variable naming, variable initialization, assign values, Rules of variables, Scope of variable. **Operators:** -Arithmetic, Assignment, Unary, Comparison, Shift, Bit-Wise, Logical, Conditional, New, Special, Relational. Data types:-Integers, Char, String, Float etc. Typecasting: **Tokens:** -Java tokens Order of precedence of operators Streams: - Input and output.

**UNIT - II :**

**Creating a class & subclass:** -Declaring a class, Naming class, Rules to assign Class & Subclass, Creating a new object, Class of an object. **Data members:** -Declaring data member, Naming variables, using class members. **Methods:** -Using data members, Invoke a method, passing arguments to a method, calling method. **Access Specifier & Modifiers:** -Public, Private, Protected, Static & Final. **Overloading:** -Method overloading, Constructor overloading. **Java class library:** - Different types of classes. **Decision making & loops:-**If-then-else, Switch,? : operator, While-loop, do-while loop, for. **Array:** -Creating an array, one-dimensional array, two-dimensional array. **String:** -String array, string methods. **Inheritance:** -Single & multiple inheritances **Interfaces:** -Defining interfaces, extending interfaces, implementing interfaces.

**UNIT - III :**

**Packages:** -Java API packages, creating packages, accessing packages, adding a class to packages. **Import statement:** - Introduction & implementation of import statement. **Applets:-**Introduction to Applets & Application, how applets application are different creating An applet. Applets life cycle, designing a web page, creating an executable applet, running the applet, applet tags, passing a parameter to applet, HTML tag, Converting applet to application. **Threads:-**Overview of threads, single & multiple threads, lift cycle of threads, stopping & blocking threads, working with threads, priority to thread, synchronization. **Exceptions & Errors:-**Introduction, types of error, exception, syntax of exception, handling techniques, exception for Debugging.

**UNIT - IV :**

**Event:** -Event driven programming, handling an (AWT) events. **Graphic class:-**Introduction, the graphic classes, drawing & filling of lines, rectangle, circle & ellipse, arcs, polygons, text & fonts, creating a font class, font objects, text, coloring object. **Streams:-**Introduction, Abstract stream classes, file input & output. **AWI Applications:** -Creating a GUI using AWT toolkit, using component class, frames. **Components & Control:** -Textfield, textarea class, label, button, choice, list, checkbox, class, and combo. **Menus:** -Creating a popup menus. **Image:** - Type of image, Properties of an image, Displaying an image. **Layouts:** -Using Window Listener interface, Different types of Layout, Layout manager, Flow manager, Grid manager. **Container:** -Different types of container (Frame, Dialog, Panel)

**Reference Books:**

1. Programming with Java a primer II edition:-E Balaguruswamy(Tata McGraw-Hill)
2. Java Programming (For absolute beginners) Russell PHI
3. Black Book on Java
4. Java-Complete References

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part II Semester -IV**  
**Paper III**  
**Data Communication & Network-II**

**Unit-I**

Communication Architecture, Protocols & Architecture: Protocols, The Layers Approach, OSI Model, TCP/IP protocol suite, System Network Architecture.

Internetworking: Principles of Internetworking, Bridges, Routers, Repeaters, Gateways, Connection Oriented Internetworking, Connectionless Internetworking, Connectionless Internetwork Protocol, Router-level protocol.

**Unit II**

Transport Protocols- Transport services, Protocol Mechanism, Network services, ISO Transport Standards, TCP, UDP, TCP and UDP Packet format, Lightweight Transport Protocol.

**Unit III**

Session Services & Protocols- Session Characteristics, OSI Session Services, Definition, OSI Session Protocol definition. DNS, FTP, HTTP.

**Unit IV**

Digital Network, ISDN & Broadband ISDN : Overview of ISDN, Architecture and Interfaces of ISDN, Transmission structure, User Access, ISDN protocols, Broadband ISDN(B-ISDN).

**Books**

1. William Stalling, Data and Computer Communication, PHI Publication.
2. Forouzan, Data Communication and Networks, Tata McGraw Hill.
3. Godbole, Data Communication and Network, TMH
4. Tanenbum, Computer Networks , ,PHI Publication.
5. Comer Internetworking with TCP/IP Vol-1, PHI Publication
6. Data and Computer Communication by William Stalling, PHI Publication.
7. Data Communication and Network by Forouzan, Tata McGraw Hill.

**B. Sc. (IT) Part II Semester -IV**  
**Paper IV**  
**Oracle**

Unit I

**Introduction to Oracle** - Relational database management system (RDBMS), Codd's Rules for RDBMS, Oracle as multiuser system, Logging and Logging out of Oracle, Database Administrator (DBA) and its Role, Creation of user and Password.

**Introduction to Structured Query language (SQL)** – History and standardization of SQL, benefits of SQL, elements of SQL, Languages, Database objects, Reserve words, Keywords.

**Data types** – Char, Varchar, Date, Number, Long, Raw and Long raw.

Unit II

**SQL Command** – DDL command, DML command, DRL command, Aggregate function, Clauses, Set operator, Predicates, Join, Sub queries, Views. Simple reports commands.

**PL/SQL** - Introduction to PL/SQL, Advantages of PL/SQL, PL/SQL block structure, Character Set, Literals, PL/SQL data type, Variables, Control and loop statements, Loops and Labels.

Unit III

**Cursor** – PL/SQL Cursor, Explicit Cursors, Implicit Cursors. **Exception Management** - User defined, predefined exceptions, subprograms and packages - procedures, functions, package specification, body, calling sub programs, advantages of packages, cursors in packages.

Unit IV

**Database Triggers & Built in Packages** - Database triggers-syntax, parts, statement, body, restriction, types. **Built in packages** – DBMS standard. **DBMS OUTPUT** - Collection, member functions and procedures, PL/SQL table and records, declaration, referring, maintaining row count, insertions, deletions, nested tables, varying, arrays, initialization, declaration, varrays, member functions and procedures.

**Books:-**

1. ORACLE 9i PL/SQL PROGRAMMING, SCOTT URMAN, : ORACLE PRESS
2. ORACLE PL/SQL : PL/SQL IN 21 DAYS (TECHMEDIA) SAMS
3. ORACLE 9i THE COMPLETE REFERENCE
4. ORACLE : I.T. TODAY (ENCYCLOPEDIA)
5. Database System Using Oracle: A Simplified Guide to SQL & PL-SQL: Nilesh Shah, PHI Publication.
6. Database Management Systems (Complete practical approach) by Sharad Maheshwari & Ruchin Jain, Firewall media
7. Dr. P.S.Deshpande SQL & PL/SQL for Oracle 10g Black Book

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Part II Semester -IV**  
**Paper V**  
**Compiler Construction**

**UNIT - I :**

Compilers and translators, need, the structure of a compiler, Lexical Analysis, Syntax analysis, Intermediate code Generation, Optimization, Code Generation, Book keeping, Error Handling

**UNIT - II :**

High Level programming languages, Definitions of programming languages, The lexical and syntactic structure of a language, Data elements, structures, Operators, Assignment Statements, Data Environments, Parameter transmission, Storage management.

**UNIT - III :**

The role of the lexical analyzer, Approach to the design of lexical analyzer, Implementation of lexical analyzer, Context free grammars, Derivations and parse trees, Ambiguous grammar.

**UNIT - IV :**

Parsers, Shift-reduce parsing, Operator precedence parsing, Top-down parsing, predictive parsers, Symbol Table , Code Optimization: The principal source optimization, Loop optimization, The DAG representation of basic blocks, Code Generation : A machine model, a simple code generator, Register Allocation and assignment.

**Reference Books:**

1. Principles of Compiler Design - A.V. Aho, J. D.Ullman : Pearson Education.
2. Modern Compiler Design- Dick Grune, Henry E. Bal, Criel T. H. Jacobs, Wiley dreamtech.
3. Engineering a Compiler-Cooper & Linda, Elsevier.
4. Compiler Construction, Louden, Thomson.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## B. Sc. (IT) Part II Semester -IV

### Paper VI

### Numerical Methods

#### UNIT - I :

Roots of Non-Linear Equations : Algebraic equation, Polynomial equation, Transcendental equation, Iterative method, Starting & Stopping Iterative method, Bisection Method, False Position method, Newton Raphson Method: Secant Method, Determining all possible roots, Multiple roots of polynomial, Complex Roots using Muller's Method.

#### UNIT - II :

Solution to Linear Equations Existence of solution, Gauss Elimination Method, Gauss elimination with pivoting, Gauss Jordan Method, Round off errors and refinement, m Conditioned system, Matrix inversion method.

#### UNIT - III :

Linear interpolation, Lagrange Interpolation, Spline Interpolation, Interpolation with equidistant points, Least Square regression Fitting, Transcendental equations, Multiple linear regression, m conditioning in Least square

#### UNIT - IV :

Integration & Differentiation : Trapezoidal Rule, Simpson 1/3 Rule, Simpson 3/8 rule, Gaussian Integration, Solution to differential equation (using Runge-Kutta second and fourth order methods, Multistep method for differential equations (Milne-Simpson method, Adams-bashforth-

#### Reference Books:

- 1.S Sastry Introduction to Numerical Analysis
- 2.Y. Rajaraman, Computer Oriented Numerical Methods - Prentice Hall Publication
- 3.Gupta and Kapoor Fundamental of Mathematical Statistics
- 4.Brian Flowers Introduction to Numerical Methods in C++ By. (Oxford)
- 5.E. Balaguruswamy, Numerical Methods - Tata McGraw Hill Publication
- 6.Srimanta Pal Numerical Methods (Oxford)
- 7.K Sankara Rao Numerical Methods for Scientists & Engineers [PIII].
- 8.Manish Goyal Computer Based Numerical And Statistical Techniques (Laxmi)

**B. Sc. (IT) Final Semester -V**  
**Paper I**  
**Software Project Management**

**Unit I**

Managing Software Project: Process & Project Management, Project Management and the CMM, Project Management at Infosys, Introduction to CMMI, PCMM, The Project Planning Infrastructure: The process data base, process capability Baseline, Process Assets and the Body of Knowledge System.

**Unit II**

Process Planning: The Information System Development Process, Requirement Analysis, Requirement Change Management, Effort Estimation & Scheduling: Estimation and Scheduling Concepts, Effort – Estimation, Scheduling.

**Unit III**

Quality Planning: Quality Concepts, Quantitative quality Management Planning, Defect Prevention Planning. Risk Management: Concepts of Risks and Risk Management, Risk Assessment, Risk Control.

**Unit IV**

Measurement and Planning: Concepts in measurement, Measurements, Project tracking. Project Management Plan: Team Management, Customer Communication and Issue Resolution, Structure of the Project Management Plan.

**Text Book:**

1. Pankaj Jalote – Software Project Management in Practice, Pearson Education, New Delhi
2. B.Huges and M.Cotterell – Software Project Management, 3/e, TMH, New Delhi
3. Pankaj Jalote – CMM in Practice, Pearson Education, New Delhi
4. W. Humphrey – Managing the Software Process, Addison – Wesley
5. R. T. Futrell, D. F. Shafer, L. I. Safer, “Quality Software Project Management”, Pearson Education

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Final Semester -V**  
**Paper II**  
**Dot Net Framework and C#**

**Unit-1**

The .Net framework: Introduction, The Origin of .Net Technology, Common Language Runtime (CLR), Common Type System (CTS), Common Language Specification (CLS), Microsoft Intermediate Language (MSIL), Just-In –Time Compilation, Framework Base Classes.

**Unit-II**

C -Sharp Language (C#): Introduction, Data Types, Identifiers, Variables, Constants, Literals, Array and Strings, Object and Classes, Inheritance and Polymorphism, Operator Overloading, Interfaces, Delegates and Events. Type conversion.

**Unit-III**

C# Using Libraries: Namespace- System, Input-Output, Multi-Threading, Networking and sockets, Managing Console I/O Operations, Windows Forms, Error Handling.

**Unit-IV**

Advanced Features Using C#: Web Services, Window Services, Asp.net Web Form Controls, ADO.Net. Distributed Application in C#, Unsafe Mode, Graphical Device interface with C#. .Net Assemblies and Attribute: .Net Assemblies features and structure, private and share assemblies, Built-In attribute and custom attribute. Introduction about generic.

**Books:-**

1. Wiley, "Beginning Visual C# 2008", Wrox
2. Fergal Grimes, "Microsoft .Net for Programmers". (SPI)
3. Balagurusamy, "Programming with C#", (TMH)
4. Mark Michaelis, "Essential C# 3.0: For .NET Framework 3.5, 2/e, Pearson Education
5. Shibi Parikkar, "C# with .Net Frame Work" , Firewall Media.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**B. Sc. (IT) Final Semester -V**  
**Paper III**  
**Network Security**

**Unit I**

Introduction, Security Concepts, Threats and Risks, Attacks – Passive and Active, Security Services, Confidentiality, Authentication, Non-Repudiation, Integrity, Access Control, Availability, Model for Internetwork Security, Internet Standards and RFCs Access Control Mechanisms ,Access Matrix, HRU, TAM, ACL and capabilities

**Unit II**

Access Control Models, Chinese Wall, Clark-Wilson, Bell-LaPadula, Non- Interference and Role Base Model. Cryptography, Secret Key and Public Key Cryptosystems, Symmetric Ciphers, Block Ciphers and Stream Ciphers, DES, IDEA and Key Escrow, RSA and ElGamal.

**Unit III**

Secure Hash and Key management, Digital Signature and Non-repudiation, cryptanalysis. Network Security, Objectives and Architectures, Internet Security Protocols, IP encapsulating Security Protocol, Network and Transport Layer Security.

**Unit IV**

Network Security Applications, Authentication Mechanisms: a) Passwords, b) Cryptographic authentication protocol, c) Smart Card, d) Biometrics,e) Digital Signatures and seals, f) Kerberos, g) X.509 LDAP Directory. Web Security : a) SSL Encryption b) TLS, SET, E-mail Security, PGP's / MIME, IP Security, Access and System Security , Intruders, Intrusion Detection and Prevention , Firewall a) Hardware Firewall b) Software Firewall c) Application Firewall d) Packet Filtering. e). Packet Analysis, Proxy Servers, Firewall setting in Proxy, ACL in Proxy

**BOOKS**

1. William Stallings, "Network Security Essentials", Prentice-Hall.
2. Edward Amoroso, "Fundamentals of Computer Security Technology", Prentice-Hall.

**References :**

1. 3 Dorothy E. Denning, "Cryptography and Data Security", Addison-Wesley.
2. 4 Peter J. Denning, "Computers under Attack", Addison-Wesley.
3. 5 Douglas R. Stinson, "Cryptography: Theory and Practice", CRC Press.
4. 6 D. Brent Chapman and Elizabeth D. Zwicky, "Building Internet Firewalls",
5. O'Reilly and Associates

**B. Sc. (IT) Final Semester -V**  
**Paper IV**  
**Data Warehousing**

**Unit I**

Introduction, Definition, Components, Warehousing databases, Users, Advantages, Features, Data Granularity, Information Flow Mechanism, Metadata, Classes of Data, Lifecycle of Data, Data Flow. Architecture of Data Warehouse, characteristics, Goals, Data Marts, Building Data Marts, Pushing and Pulling Data,

**Unit II**

Data Warehousing Schema, Dimensional Modeling, Star Schema, Snowflake Schema, Aggregate Tables, Fact Constellation Schema, Data Modeling, Dimensional Modeling: Dimension Table, Fact Tables, Fatless Fact Tables, Updates to Dimension Tables, other types of dimension table, Performance of Data Warehouse. ELT Process: Data Extraction, Data Transformation, Data Loading, Data Quality

**Unit III**

Data warehousing design Review, Developing data warehouse, Testing, Monitoring, Tuning, Feedback Loops. OLAP in Data warehouse: OLAP, ROLAP, HOLAP, Multidimensional Analysis, OLAP Functions, OLAP Application's, OLAP Models, OLAP Considerations, Tools and Products, Data Design, Administration and Performance, OLAP Platforms

**Unit IV**

Building Data Warehouse: Problem Definition, Success Factors, Requirement Analysis, Planning, Design Stage, Building and Implementation of Data Marts, Building Data Warehousing, Backup and Recovery, quality Frameworks, Operating warehouse, Recipe for Successful Warehouse, Pitfalls, factor,

**Text Books**

1. Rema Thareja Data Warehousing Oxford University Press
2. Alex Berson, S. J. Smith, Data Warehousing, Data Mining & OLAP, TMH
3. George M Marakas, Modern Data Warehousing, Mining and Visualization, Pearson Education

**B. Sc. (IT) Final Semester -V**  
**Paper V**  
**VB Programming**

**UNIT-I :**

**Working with Visual Basic Window Components:** Menu Bar, Tool Bar, Project Explorer Window, Form Layout Window, properties Window, Toolbox, Code Editor Window **Working with Forms:** Properties, Events, Methods Working with Basic Controls: Label, CommandButton, TextBox, OptionButton, Frame, CheckBox, ListBox, ComboBox, Image, Scroll, Picture, Timer, DriveListBox, DirListBox, FileListBox and Shape Controls. **Basic Programming Fundamentals:** Variables, Data types, Constant, Conversion Function. Scope of Variable: Public, Private Static. Operators: Logical, Arithmetic, Concatenation, Comparison. Decision Structure: If.. Then, If..Then..Else, Select Case.. End Case. Loop Structure: Do..While, While.. Wend, For.. Next, With..EndWith. DoEvents()

**UNIT-II :**

**Arrays:** Dynamic Array, Preserve and Control arrays. **Procedure:** General procedure, General Methods for Passing Arguments to a Procedure, **Functions:** User-Interaction, String, Math, Date, Conversion Functions. **Modules:** Form, Standard.

**UNIT-III :**

**Menus:** Creating, Adding Menu Items, Creating Shortcut, Adding Separators Bars, Submenus, Code for Menus. Creating Popup Menu: System, Custom. **Database Handling:** Database Concepts, Creating and Accessing Database, Using Data Control. **Using DAO:** Creating Search Programs, Numeric Search and Complex Search Programs.

**UNIT-IV :**

**Using ADO Data Control,** Data Link, ODBC Data Source name, Using Connection String, Creating Navigating buttons. Working with Advanced Data Controls : DataList Control, DataCombo Control, DataGrid Control and Msflexgrid Control. **Handling Errors :** Run Time, Trapping and Handling Error, ERR Object. Data Environment and Data Reports.

**Reference Books:**

1. VISUAL BASIC – to Advance by Soma Dasgupta [BPB Publication]
2. Evangelos Petroustos, Mastering Visual Basic 6.0 BPB Publication.
3. VISUAL BASIC 6 COMPLETE REFERENCE (TMH PUB)
4. Visual Basic 6 Deitel & Deitel (Pearson Education)
5. Mastering VB 6.0 Black Book -Peter - Norton-Techmedia.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Final Semester -V**  
**Paper VI**  
**Graph Theory**

**Unit 1 : Graphs and operations on graphs**

Definition and elementary results, Types of graphs, Isomorphism, Matrix representation of graphs: Adjacency matrix and incidence matrix, Subgraphs and induced graphs, Complement of a graph, Self complementary graphs, Union, intersection of graphs, Ring sum of two graphs.

**Unit 2 Connected Graphs**

Definitions: walk, trail, tour, path and circuit, Definitions of connected, disconnected graphs, Dijkstra's shortest path algorithm, Connectivity: cut-vertex, vertex connectivity.

**Unit 3 : Tree Graphs**

Tree : Definition, Theorem : A tree with  $n$  vertices has  $n - 1$  edges, Theorem : A connected graph  $G$  with  $n$  vertices and  $n - 1$  edges is a tree, Theorem : A graph with  $n$  vertices is a tree if and only if it is circuit free and has  $n - 1$  edges, Theorem : A graph  $G$  is a tree if and only if it is minimally connected, Center of a tree, Spanning tree: Definition and examples, Fundamental circuit and cut – set : Definition, Binary trees and elementary results, Kruskal's algorithm.

**Unit 4 : Directed Graphs**

Definition, types of directed graphs, Directed (rooted) trees, arborescence and Polish notation, Isomorphism of digraphs, Connectedness in digraphs, Euler digraph, Network and flows: Definition, examples, Maximal flow algorithm.

**Reference Books:**

1. Elements of Discrete Mathematics by C.L. Liu
2. Discrete Mathematics by Olympia Nicodemi
3. Discrete Mathematical Structure for Computer Science by Alan Doer and K. Levasicur.
4. Discrete and Combinatorial Mathematics by R.M. Grassl
5. Discrete Mathematics by Kenneth Rosen, Tata McGraw Hill
6. Graph Theory with Applications to Computer Science and Engineering by
7. Narsing Deo, Prentice Hall, India.
8. A First Step in Graph Theory by Raghunathan, Nimkar and Solapurkar
9. Discrete mathematics by S.R.Patil and others, NIRALI Prakashan.
10. Discrete mathematics by Bhopatkar, Nimbkar, Joglekar, VISION
11. Publication.
12. Discrete mathematics by Naik and Patil, PHADAKE Prakashan.

**B. Sc. (IT) Final Semester -VI**  
**Paper I**  
**Enterprise Resource Planning**

**Unit I**

INTRODUCTION Business needs and ERP, ERP as an overview, entries as an overview, Benefits of ERP, ERP and related technologies, ERP architecture, business process reengineering, data warehousing, data mining, on line analytical processing supply choice management.

**Unit II**

ERP: Client server architecture and ERP, ERP implementation life cycle, implementation methodologies, ERP implementation – The hidden cost, organizing implementations, vendors, consultants and users, contracts with vendors, consultants and employees, project management and monitoring. After ERP implementation.

**Unit III**

THE BUSINESS MODULE : Business models in an ERP package, finance, manufacturing human resource, plant maintenance, materials management, quality management sales and distribution.

**Unit IV**

Selection of ERP, SWOT analysis of various ERP products supply chain enabled ERP. ERP and Electronic Data Interchange (EDI) integration, ERP in manufacturing and non manufacturing industries.

**BOOKS:**

1. ERP Demystified by Aleris Leon (TMH Pub.)
2. Enterprise Resource Planning by Parag Diwan and Sunil Sharma (Pentageon Pren.)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Final Semester -VI**  
**Paper II**  
**Advance Java Programming**

**Unit I**

Core Java: Introduction, Operators, Data types, Variables, Arrays, Control Statements, Methods & Classes, Inheritance, Package and Interface, Applets

Java swing: Creating a swing Applet and Application, Programming using Panes, Pluggable Look and feel, Labels, Text fields, Buttons, Toggle Buttons, Checkboxes, Radio Buttons, View Ports, Scroll Panes, Scroll Bars, List, Combo Box, Progress bars, Menus and Toolbars, Layered Panes, Tabbed Panes, Split Panes, Layouts, Windows, Dialog Boxes, Inner frame.

**Unit II**

JDBC: The connectivity Model, JDBC/ODBC Bridge, Java.sql package, connectivity to remote database, navigating through multiple rows retrieved from a database.

**Unit III**

Java Beans: Application Builder tools, The bean developer kit(BDK), JAR files, Introduction, Developing a simple bean, using bound properties, The java Beans API, Session Beans, Entity Beans, Introduction to Enterprise Java Beans(EJB), Introduction to RMI(Remote Method Invocation): A simple client-server application using RMI.

**Unit IV**

Java Servlets: Servlet basic, Servlet API basic, Life cycle of a Servlet, Running Servlet, Debugging Servlet, Thread-safe Servlet, HTTP Redirects, Cookies, Introduction to Java server pages(JSP).

**References:**

1. Margaret Levine Young, "The Complete Reference Internet", TMH.
2. Naughton, Schidt, "The Complete Reference JAVA2", TMH.
3. Balagurusamy E., "Programming in Java", TMH.
4. Dustin R. Callway, "Inside Servlets", Addison Wesley.
5. Mark Wutica, "Java Enterprise Edition", QUE.
6. Setven Holzner, "Java2 Black Book", dreamtech.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Final Semester -VI**  
**Paper III**  
**Cloud Computing**

**Unit I**

Introduction to Cloud Computing, The Evolution of Cloud Computing, Hardware Evolution, Internet Software Evolution, Server Virtualization, Web Services Deliver from the Cloud, Communication-as-a-Service, Infrastructure-as-a-Service, Monitoring-as-aService, Platform-as-a-Service, Software-as-aService, Building Cloud Network

**Unit II**

Federation in the Cloud, Presence in the Cloud, Privacy and its Relation to Cloud-Based Information Systems, Security in the Cloud, Common Standards in the Cloud, End-User Access to the Cloud Computing

**Unit III**

Introduction, Advancing towards a Utility Model, Evolving IT infrastructure, Evolving Software Applications, Continuum of Utilities, Standards and Working Groups, Standards Bodies and Working Groups, Service Oriented Architecture, Business Process Execution Language, Interoperability Standards for Data Center Management, Utility Computing Technology, Virtualization, Hyper Threading, Blade Servers, Automated Provisioning, Policy Based Automation, Application Management, Evaluating Utility Management Technology, Virtual Test and development Environment, Data Center Challenges and Solutions, Automating the Data Center

**Unit IV**

Software Utility Application Architecture, Characteristics of an SaaS, Software Utility Applications, Cost Versus Value, Software Application Services Framework, Common Enablers, Conceptual view to Reality, Business Profits, - Implementing Database Systems for Multitenant Architecture

**Books:**

1. John W. Rittinghouse and James F. Ransome, "Cloud Computing Implementation, Management and Security", 2010, CRC Press, Taylor & Francis Group, Boca Raton London New York
2. Alfredo Mendoza, "Utility Computing Technologies, Standards, and Strategies", Artech House INC,
3. 2007. [Unit -III to Unit V]
4. Bunker and Darren Thomson, "Delivering Utility Computing", 2006, John Wiley & Sons Ltd.
5. George Reese, "Cloud Application Architectures", O'Reilly Publications, 2009.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Final Semester -VI**  
**Paper IV**  
**Data Mining**

**Unit I**

Data Mining: Introduction, Definitions, KDD Vs Data Mining, DBMA Vs Data Mining, Data Mining Problems, Data Models, OLAP, User Perspectives, Issues, Challenges, Trends, Application Areas and Applications

Frequent Pattern Mining: Basic Problem Definition, Association Rule, Mining Association Rule, Applications, Variations, Interestingness, Methods of Discovering Association Rule, Priori Algorithm, Frequent Itemset Mining (FIM) Algorithm, Comparison of FIM Algorithm, Optimal FIM Algorithm, Incremental Mining, Conciseness of Results, Sequential Rule

**Unit II**

Classification, Definition, Applications, Evaluations of Classifiers, Issues, Classification Techniques, Optimal Classification Algorithm, Regression

Decision Tree, Tree Construction Principal, Best Split, Splitting Indices, Splitting Criteria, Decision Tree Construction Algorithm

**Unit III**

Clustering, Definition, Applications, Measurement of Simplicity, Evaluation of Clustering Algorithm, Classification of Clustering Algorithm, Partition Method, Hierarchical Method, Density Base Method, Grid Base Method, Outlier Detection,

**Unit IV**

Partition Discovery, Relational Data, Transactional Data, Distributed Data, Spatial Data, Data Stream, Time Series Data, Text and Web Data, Multidimensional Data

**Books**

1. Vikram Pudi, Data Mining Oxford University Press
2. Arun K Pujari Data Mining Technique, University Press (India) Private Limited
3. Alex Berson, S. J. Smith, Data Warehousing, Data Mining & OLAP, TMH

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**B. Sc. (IT) Final Semester -VI**  
**Paper V**  
**Animation Techniques**

**Unit I**

What is mean by Animation, Why we need Animation, of Animation, Uses of Animation, Types of Animation, Principles of Animation, Some Techniques of Animation, Animation on the WEB, 3D Animation, Special Effects, Creating Animation.

**Unit II**

Creating Animation in Flash: Introduction to Flash Animation, Introduction to Flash, Working with the Timeline and Frame-based Animation, Working with the Timeline and Tween-based Animation, Understanding Layers, Actionsript.

**Unit III**

3D Animation & its Concepts, Types of 3D Animation, Skeleton & Kinetic 3D Animation – Texturing & Lighting of 3D Animation, 3D Camera Tracking, Applications & Software of 3D Animation.

**Unit IV**

Motion Caption, Formats, Methods, Usages, Expression, Motion Capture software's, Script Animation Usage – Different Language of Script Animation Among the Software. Concept Development, Story Developing, Audio & Video, Color Model, Device Independent Color Model, Gamma and Gamma Correction, Production Budgets, 3D Animated Movies.

**TEXT BOOK:**

1. Ranjan Parekh, PRINCIPLES OF MULTIMEDIA, TMH
2. Ashok Banerji, Ananda Mohan Ghosh, Multimedia Technologies, McGraw Hill Publication

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B. Sc. (IT) Final Semester -VI**  
**Paper VI**  
**Operation Research**

**Unit 1**

**Overview of operations Research:** OR models, OR Techniques

**Linear Programming :** Introduction, Graphical solution; Graphical sensitivity analysis, The standard form of linear programming problems, Basic feasible solutions, unrestricted variables, simplex algorithm , artificial variables, Big M and two phase method, Degeneracy, alternative optima, unbounded solutions, infeasible solutions.

**Unit 2**

**Dual problems:** Relation between primal and dual problems – Dual simplex method

**Transportation model:** starting solutions. North West corner Rule, lowest cost method, Vogels approximation method – Transportation algorithms – Assignment problem – Hungarian Method.

**Unit 3**

**Network Models:** Definitions, CPM and PERT, Their Algorithms Integer Programming : Branch and Bound Algorithms cutting plan algorithm.

**Dynamic Programming:** Recursive nature of dynamic programming, Forward and Backward Recursion.

**Unit 4**

Assignment Problem – Zero-One Programming Model for Assignment Problem, Types of Assignment Problem, Hungarian Method, Branch and Bound Technique for Assignment Problem.

**Text Books:**

1. Operation Research by Kanti Swarup, P. K. Gupta, Man Mohan [Sultan]
2. Operation Research by R. Panneerselvam [PHI}
3. Introduction to Operation Research by Billy E. Gillet [TMH]
4. Operation Research by Hira Gupta
5. Operation Research Problems and Solutions by Sharma J. K. [MacMillan]
6. Operation Research Theory and Application by Sharma J. K., [MacMillan]



## RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

### NOTIFICATION

No. Acad/171.

Date :12<sup>th</sup> June, 2014

To,

The Principal  
of all the affiliated Commerce Colleges  
of Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur

**Subject:- Direction No. 15 of 2014.**

Sir/Madam,

I am forwarding herewith a copy of the Direction No. 15 of 2014 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 "**Direction Governing The Examinations Leading To The Degree of Bachelor of Business Administration (BBA) (Credit Based Semester Pattern) In The Faculty Of Commerce**" along with the scheme to be implemented from Academic Session 2014-2015.

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Yours faithfully,

Encl: As above.

Sd/-

(Dr. A.V. Gomashe)

Registrar,

Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

No. Acad/171.

Nagpur dated the 12<sup>th</sup> June, 2014

**Copy for information and necessary action along with the Direction and Scheme as mentioned above to :-**

- 1) The Dean, Faculty of Commerce, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 2) The Chairman, All Board of Studies in Commerce Faculty, R.T.M. Nagpur University.
- 3) The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 4) The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 5) The Deputy Registrar (Exam.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 6) The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 7) The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 8) The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 9) The Asstt. Registrar (Exams & Enquiry.), R.T.M. Nagpur University, Nagpur
- 10) The Asstt. Registrar University's Sub-Centre at Gadchiroli, R.T.M. Nagpur University, Nagpur.
- 11) The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
- 12) The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur

  
20/03/2014  
Off. Principal,  
S.S. Manjar College, Nagpur

- 13) The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 14) The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 15) The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
- 16) Mrs. Veena Prakashe, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-  
**(Puran Meshram)**  
Deputy Registrar(Acad.)  
Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.



# **RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY**

“(Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Universities Act, 1994.)”

Directions, Subject Scheme and Syllabus  
For  
**Bachelor of Business Administration (BBA) Examinations**

**FACULTY OF  
COMMERCE  
Bachelor of Business Administration (BBA) Examinations  
2014-15 and Onwards  
(Three Years Degree Course)**



**RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

**Direction No. 15 of 2014**

**DIRECTIONS GOVERNING THE EXAMINATION LEADING TO THE  
DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION (BBA)**

**WHEREAS** the Maharashtra Universities Act No. XXXV of 1994 has come into force with effect from 22nd July, 1994.

**AND**

**WHEREAS** the amendment to the said Act came to be effected from 12th May, 2000.  
**WHEREAS** the Board of Studies in Business Administration & Business Management in its meeting held on 20-05-2013 restructured the existing syllabi and recommended the new scheme of examination.

**AND**

**WHEREAS** the Faculty of Commerce at its meeting held on 01-07-2013 have decided to restructure the syllabus for the award of the degree of Bachelor of Business Administration commensurate with the curricula existing in the various Universities in India and with a view to include the latest trends in the commerce stream as well as to design it to suit to the needs of the industries and corporate houses as provided under Section 38(a) of the Act.

**AND**

**WHEREAS** the recommendations made by the Board of studies in Business Administration and Business Management and Faculty of Commerce were approved by the Academic Council, in its meeting held on \_\_\_\_\_.

**AND**

**WHEREAS** it is expedient to provide and Amend Ordinance for the purpose of prescribing examinations leading to the degree of Bachelor of Business Administration in the Faculty of Commerce.

Now, therefore, I, Anoop Kumar, Vice-Chancellor, Rastrasant Tukdoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section 14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction.

## **Scheme of Examination**

1. This Ordinance may be called 'Examination leading to the degree of Bachelor of Business Administration( B.B.A.) in the Faculty of Commerce (Amendment) Ordinance, 2010'
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. There shall be three examinations leading to the degree of Bachelor of Business Administration namely :
  - (1) **The Bachelor of Business Administration Part - I Examination,**
  - (2) **The Bachelor of Business Administration Part - II Examination and**
  - (3) **The Bachelor of Business Administration Final Examination.**
4. The duration of the Degree Course under this shall be of three academic years with the BBA Part - I Examination at the end of the first academic year, the BBA Part - II Examination at the end of the second year and the BBA Final Examination at the end of the third year.
5. The Examinations Specified in paragraph 3 above shall be held twice a year at such places and on such dates as may be fixed by the University.
6. The details of the procedure for admission as well as eligibility for examination of :
  - (A) For the Bachelor of Business Administration Part - I Examination shall have Passed the 12<sup>th</sup> Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education, with English at Higher or Lower level and Modern Indian Language at higher or lower level with any combination of optional subjects;

**OR**

XII Standard Examination of Maharashtra State Board of Secondary and Higher Secondary Education in Vocational Stream with one language only; OR any other examination

recognized as equivalent thereto; in such subjects and with such standards of attainments as may be prescribed Minimum Competition vocation course (MCVC).

(B) For the Bachelor of Business Administration Part – II Examination the student shall have Passed Bachelor of Business Administration Part – I Examination of the University.

(C) For the Bachelor of Business Administration Final Examination shall have Passed Bachelor of Business Administration Part – II Examination of the University.

7. A collegiate candidate shall have pursued a regular course of study for not less than one academic year before being admitted to Bachelor of Business Administration Part – I or the Bachelor of Business Administration Part – II or the Bachelor of Business Administration Final Examination in any recognized institution and or college affiliated to Rashtrasant Tukdoji Maharaj Nagpur University where the course is conducted.

8. An applicant for the Bachelor of Business Administration Part – I or the Bachelor of Business Administration Part – II or the Bachelor of Business Administration Final Examination shall have passed an examination specified in Clauses ( A ), ( B ) and ( C ) of paragraph 6 respectively, not less than one academic year prior to his admission to the respective examination.

9. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said Ordinance shall apply to every collegiate candidate.

10. The fees for the examination shall be as prescribed by the University from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.



11. (A) An examinee for the Bachelor of Business Administration Part – I Examination shall be examined in the following subjects, namely

1. **Principles of Management**
2. **English and Business Communication**
3. **Business Economics**
4. **Foundation course in Organization Behavior**
5. **Financial & Cost Accounting**
6. **Computer Applications for Business**
7. **Business Organization & Systems**

(B) An examinee for the Bachelor of Business Administration Part – II Examination shall be examined in the following subjects:

1. **Principles of Marketing Management**
2. **Human Resource Management**
3. **Management Accounting & Financial Management**
4. **Business and Industrial Laws**
5. **Statistical Methods for Business**
6. **Research Methodology**
7. **Environmental Management**

(C) An Examinee for Bachelor of Business Administration Final Examination shall be examined in the following subjects:

1. **Entrepreneurship Development**
2. **Production & Operations Management**
3. **Office Management**
4. **Business Ethics**
5. **Elective I - Paper I**
6. **Elective II - Paper II**

**Elective Subject (Any One of Following)**

- (a) Financial Management,**
- (b) Human Resource Management,**
- (c) Marketing Management,**
- (d) Service Sector Management**

**AND**

**7. Project Work.**

**Project shall carry 100 marks as follows-**

	Marks
# Project work (Evaluation by external And internal examiner)	50
# Presentation and Open Defence by external and internal examiner	50
	-----
	100

12. Each paper B.B.A. Part - I, II and Final Examination shall carry 100 marks and shall be distributed as under:

	Marks
<b>a. Written Examination</b>	<b>80</b>
<b>b. Internal Assessment</b>	<b>20</b>

Internal Assessment marks shall be awarded by the Head of the Institution / Principal in consultation with the faculty members subject to moderation by H.O.D./Director and shall be based on:

- a. Participation in seminars, case discussions & group work activities: 5 marks**
- b. Class tests, quizzes, individual and group oral presentations: 5 marks**
- c. Submission of written assignments, term papers and viva-voce: 5 marks**
- d. Class-room participation and attendance: 5 marks**

The weightage given to each of these factors shall be decided and announced at the beginning of the session by individual faculty member responsible for the paper.

The result for these examinations should be declared within time limit as per University norms and communicated to the University within stipulated time.

The record of conduct of such examination, evaluation and results should be maintained for a period of at least One year by the respective Institute / Department for the verification by the competent authority.

13. (A) The scope of the subjects and pattern of examination shall be as indicated in Syllabi.

(B) The Medium of instructions and examinations shall be in **ENGLISH** only. The Maximum and Minimum marks which each subject carries in Bachelor of Business Administration Part- I, Part- II and Final Examination shall be as indicated in Appendices "A", "B", and "C" respectively.

C) All subjects of BBA Part - I, II & Final (other than Project work) should have 4 periods a week of 45 minutes duration each.

**14. Project Work compulsory for each student appearing at the Final Examination.**

(i) The Project work (Printed or Type Written) shall be made available to external examiner for evaluation purpose at the time of Presentation and open Defense."

(ii) A Candidate shall submit with his/her project work, a certificate from the Supervisor to the effect -

(a) that the candidate has satisfactorily completed the Project work for not less than one session and

(b) that the Project work is the result of the candidate's own work and is of sufficiently high standard to warrant its presentation for examination.

(iii) Candidate shall submit his/her declaration that the Project is the result of his own research work and the same has not been previously submitted to any examination of this University or any other University. The Project shall be liable to be rejected and / or cancelled if found otherwise.

(iv) The evaluation of Project work shall be done jointly by internal and external examiners during Presentation and open Defence before/after the theory examination.

(v) A student appearing for final examination will have to pay an additional fee as prescribed for project in addition to usual examination fees. The fees may be revised by the university from time to time.

**15. The scope of the subject, percentage of passing in Theory and Project and Internal Assessment will be governed as per following rules:**

(i) In order to pass at the Bachelor of Business Administration (B.B.A.) Part - I, II and Final Examinations an examinee shall obtain not less than 40 % marks in each paper, that is to say combined in the written Examination and in internal assessment and in two heads of passing of project Work.

(ii) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.

(iii) An examinee who has failed at the Sessional examination only shall be required to register himself afresh for doing the sessional work again in the Department / College in the subject/subjects/project work in which he has failed on payment of fresh annual sessional fee of Rs. 50/- per paper. Such registration shall be done on or before the beginning of the respective Session. The Director / Principal shall on being satisfied about the completion of the sessional work of such a candidate send the fresh sessional marks to the University and these fresh sessional marks shall be taken into consideration for computing his / her result at the examination.

16 (a) There shall be no classification of examinees successful at the Bachelor of Business Administration Part- I and Bachelor of Business Administration Part- II Examinations. Division at the Bachelor of Business Administration Final Examination shall be declared on the basis of the aggregate marks at the Bachelor of Business Administration Part-I Examination , the Bachelor of Business Administration Part- II Examination and the Bachelor of Business Administration Final Examination taken together.

(b) Successful examinees at the Bachelor of Business Administration Part - I, Bachelor of Business Administration Part - II and the Bachelor of Business Administration Final Examinations taken together and obtaining 75% or more in the aggregate shall be placed in the distinction, 60 % or more in the aggregate shall be placed in the first division, those obtaining less than 60 % but not less than 45 % in the Second Division.

c) Successful examinees in the Bachelor of Business Administration Part - I , Bachelor of Business Administration Part - II and Bachelor of Business Administration Final Examination shall be awarded Distinction in each subject of the respective group in which examinees obtain 75 % or more marks in that subject at the respective Examination.

17. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.

18. Provisions of Ordinance No. 3 of 2007 relating to the award of Grace Marks for passing an examination, securing higher division / class and for securing distinction in subject(s).

19. Notwithstanding anything to the contrary in this Direction, no person shall be admitted to an examination under this Ordinance, if he/ she has already passed the same examination or an equivalent examination of any other University.

20. Examinees passing the Bachelor of Business Administration Examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.

21. The aforesaid Amendment shall come into force from the date of its issuance and shall remain in force till the relevant Ordinance come into being in accordance with the provisions of the Maharashtra University Act, 1994.

22. The A.T.K.T. rules shall be as under (Theory and Internal assessment shall be considered as separate passing heads)

<b>Admission to Next academic year</b>	<b>Candidate should have passed in following examinations of RTM Nagpur University</b>	<b>Candidate should have passed in all heads except FOUR or less number of passing heads of the following examination</b>
I Year	H.S.S.C	-----
II Year	-	I <sup>st</sup> year
Final Year*	I <sup>st</sup> year	II <sup>nd</sup> year

Note: (\*) A candidate admitted to Final Year can appear for Final year examination however the result of the Final year examination will be withheld unless the candidate clears all the lower examinations of the BBA program.

**23. Pattern of Question Papers of BBA year end Examination:**

- The question paper should be set in such a manner so as to cover the complete syllabus as prescribed by the University.
- The Year wise End examination shall be held as per the schedule notified by the University.

- c. The question paper shall be of 80 marks & the time duration of the Year End examination would be 3 hours.
- d. The question paper shall have **6 long answers** questions corresponding to Six Units of each course. Each long answer question shall carry 10 marks. There will be internal choice for each question for these long answer questions which means that the student has to mandatorily attempt one question from each unit of the syllabus. **Hence there would be 12 questions in the question paper but the student has to attempt 6 questions with an internal choice for each question from each unit of the syllabus.** The students shall get due credit for precise answers as per Marking Scheme given by the paper setters/ moderators.
- e. Question **no. seven** shall include **Four** compulsory questions from any of the six units carrying **5 marks each**.

Nagpur:  
Dated : 4.6.2014

Sd/-  
( Anoop Kumar )  
Vice-Chancellor

**Format of Question Paper for BBA program:**

<b>Question from Units</b>	<b>Internal Choice questions(A or B)</b>	<b>Max.Marks</b>
Q1. From Unit I	A or B	10 marks
Q2. From Unit II	A or B	10 marks
Q3. From Unit III	A or B	10 marks
Q4. From Unit IV	A or B	10 marks
Q5. From Unit V	A or B	10 marks
Q6. From Unit VI	A or B	10 marks
Q7. From any of the six unit	Four questions are compulsory of 5 marks each from any of the six units.	20 marks ( 4 questions x 5 marks )
<b>Total Marks</b>		<b>80 marks</b>

## Bachelor of Business Administration Subjects for three years

Note: Each paper shall carry 100 marks; 80 marks shall be for written university examination and 20 marks shall be internal assessment by respective College.

<b>First Year</b>	<b>Paper I</b>	<b>Principles of Management</b>
	<b>Paper II</b>	<b>English and Business Communication</b>
	<b>Paper III</b>	<b>Business Economics</b>
	<b>Paper IV</b>	<b>Foundation course in Organization behavior</b>
	<b>Paper V</b>	<b>Financial &amp; Cost Accounting</b>
	<b>Paper VI</b>	<b>Computer Applications for Business</b>
	<b>Paper VII</b>	<b>Business Organization &amp; Systems</b>
<b>Second Year</b>	<b>Paper I</b>	<b>Principles of Marketing Management</b>
	<b>Paper II</b>	<b>Human Resource Management</b>
	<b>Paper III</b>	<b>Management Accounting &amp; Financial Management</b>
	<b>Paper IV</b>	<b>Business and Industrial Laws</b>
	<b>Paper V</b>	<b>Statistical Methods for Business</b>
	<b>Paper VI</b>	<b>Research Methodology</b>
	<b>Paper VII</b>	<b>Environmental Management</b>
<b>Third Year</b>	<b>Paper I</b>	<b>Entrepreneurship Development</b>
	<b>Paper II</b>	<b>Production &amp; Operations Management</b>
	<b>Paper III</b>	<b>Office Management</b>
	<b>Paper IV</b>	<b>Business Ethics</b>
	<b>Paper V</b>	<b>Elective I - Paper I</b>
	<b>Paper VI</b>	<b>Elective I - Paper II</b>
	<b>Paper VII</b>	<b>Project Work</b>

Elective subjects available:

- 1) Financial Management
- 2) Marketing Management
- 3) Human Resource Management
- 4) Service Sector Management



## APPENDIX - A

### Bachelor of Business Administration Part - I Examination

Subject	Paper	Maximum Marks	Minimum Marks
<b>(1) Principles of Management</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40
<b>(2) English and Business Communication</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40
<b>(3) Business Economics</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40
<b>(4) Foundation course in Organization behavior</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40
<b>(5) Financial &amp; Cost Accounting</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40
<b>(6) Computer Application for Business</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40
<b>(7) Business Organization &amp; Systems</b>	Paper	80	32
	Internal Assessment	20	08
		} 100	} 40

**APPENDIX – B**  
**Bachelor of Business Administration Part – II Examination**

Subject	Paper	Maximum Marks	Minimum Marks
<b>(1) Principles of Marketing Management</b>	Paper	80	32
	Internal Assessment	20	08
<b>(2) Human Resource Management</b>	Paper	80	32
	Internal Assessment	20	08
<b>(3) Cost &amp; Management Accounting</b>	Paper	80	32
	Internal Assessment	20	08
<b>(4) Business and Industrial Laws</b>	Paper	80	32
	Internal Assessment	20	08
<b>(5) Statistical Methods for Business</b>	Paper	80	32
	Internal Assessment	20	08
<b>(6) Research Methodology</b>	Paper	80	32
	Internal Assessment	20	08
<b>(7) Environmental Management</b>	Paper	80	32
	Internal Assessment	20	08

## APPENDIX - C

### Bachelor of Business Administration Part - III Examination

Subject	Paper	Maximum Marks	Minimum Marks
<b>(1) Entrepreneurship Development</b>	Paper	80	32
	Internal	100	40
	Assessment	20	08
<b>(2) Production &amp; Operations Management</b>	Paper	80	32
	Internal	100	40
	Assessment	20	08
<b>(3) Management Accounting &amp; Financial Management</b>	Paper	80	32
	Internal	100	40
	Assessment	20	08
<b>(4) Business Ethics</b>	Paper	80	32
	Internal	100	40
	Assessment	20	08
<b>(5) Elective I - Paper I</b>	Paper	80	32
	Internal	100	40
	Assessment	20	08
<b>(6) Elective I - Paper II</b>	Paper	80	32
	Internal	100	40
	Assessment	20	08
<b>(7) Final Project (From the Elective Subject offered)</b>	<b>Project Work</b>	50	20
	<b>(Assessment)</b>	100	40
	<b>Presentation &amp; Open Defense</b>	50	20

# BBA FIRST YEAR

## Paper I

### Principles of Management

**Unit I: Introduction** - Nature, function, definition and importance of management, Definition, nature, purpose and scope of management, Functions of a manager, an overview of planning, organizing and controlling, is management a science or art?

**Unit II: Development of Management Thought** - Scientific management; Contribution of Taylor, Fayol, Mary Follet, Elton Mayo; Hawthorne experiments, Contingency approach, Indian heritage in production and consumption.

**Unit III: Management and Administration** - Management and administration, Management as a profession, Professionalism of management in India, Management ethics and management culture, Skills required of manager, Classification of skills, Methods of skills development.

**Unit IV: Management Planning** - Concept of planning, objectives, Nature, Types of plan, Stages involved in planning, Characteristics of a good plan, Importance, Limitations of planning, Making planning effective, Strategic planning in Indian Industry.

**Unit V: Decision Making** - Concept, characteristics of decisions, Types of decisions, Steps Involved in decision making, Importance of decision making, Methods of decision making, Committee Decision Making.

**Unit VI: Organisation** - Concepts, Principle of organization, Importance, Features of good organization structure, Types of Organisation structure.

#### Reference Books:

1. Essential of Business Administration - K.Aswathapa Himalaya Publishing House
2. Management: Concept and Strategies By J. S. Chandan, Vikas Publishing
3. Principles of Management, By Tripathi, Reddy Tata McGraw Hill
4. Principles of Management By Ramasamy T, Himalaya Publishing House
5. Principles of Business management By Sherlekar, Himalaya Publishing House

## Paper II

### English and Business Communication

**Unit I:** Comprehension, Enriching Vocabulary, Single Word For a Group of Words, Words Frequently Misspell.

**Unit II:** Business Letter Writing, Getting to the point, Choice of Words, Punctuation, E-mail etiquette. Enquiries and replies - Placing and fulfilling orders - Complaints and follow-up - Sales letters - Circular letters - Application for employment and resume.

**Unit III:** Nature, Scope, and Functions of Communication: Definition, Objectives, Purpose of Communication, Communication Process, Sender's Thoughts, Encoding, Decoding, Feedback Loop, Noise Channels of Communication, Informal Channels Of Communication, Barriers to Effective communication.

**Unit IV, V, VI:** Textbook entitled 'Prism: Spoken and Written Communication, Prose & Poetry' published by Orient Longman

- 1) The Bet - Anton Chekov
- 2) Socrates and the Schoolmaster - F. L. Brayne
- 3) An Astrologer's Day - R. K. Narayan
- 4) The Gift of the Magi - O' Henry
- 5) With the Photographer - Stephen Leacock

#### **Reference Books:**

1. Oxford Practice Grammar - John Eastwood (Oxford)
3. Basic Business Communications - Rober M. Archer
4. English Grammar - Wren in & Martin
5. Effective Business Communication - Herta Murphy Chorles Perk (Tata McGraw Hill)
6. Business Communication: Urmila Rai, S.M. Rai- (Himalaya Publishing House)
7. Business Correspondence & Communication Skill- Kapur (S. Chand Co.)
8. A Guide to Business Correspondence - Kapoor A. (S. Chand & Co.)

## Paper III

### Business Economics

**Unit I: Nature and fundamental concepts and basis techniques of Business economics** - Analysis of Demand, Significance, estimation of demand; Elasticity of Demand, Techniques and Importance of Demand forecasting; Basic Mathematical Problems related to demand estimation and elasticity of demand.

**Unit II: Production & Cost Analysis** - Production & Production Function: Concept, Forms of production function, Law of variable Proportions, Returns to scale. Cost concept, Short term and long term cost output relationship, Cost curves, Economies of scale.

**Unit III: Objectives & Equilibrium of the Firm** - Market Structures- Perfect Competition, Monopoly, Monopolistic Competition & Oligopoly - kinked demand curve and cartels, Mathematical Problems on profit maximization and Price & Output determination under various market structures.

**Unit IV: National Income Accounting** - Concept & measurement; Determination of Income & Employment; Concept of multiplier; Inflation and Deflation, types, causes and control of inflation.

**Unit V: Macroeconomic policy** - Monetary and fiscal- objectives and Instruments; Effectiveness of Monetary & Fiscal Policy with respect to Indian Economy.

**Unit VI: Business cycles** - Concept, Causes & Impact, Measures to control Business cycles.

#### Reference Books:

1. Managerial Economics, P. L. Mehta, Sultan Chand & Sons, New Delhi
2. Managerial Economics, Dwidevi, TMH
3. Managerial economics in a Global economy, Dominick Salvatore, 2006, Thomson learning Press
4. Managerial Economics, Suma Damodran, 2006, Oxford University Press, New Delhi
5. Indian Economy, Mishra & Puri, 2007, Himalaya Publishing House

## Paper IV

### Foundation Course in Organization behavior

**Unit I: Organizational Behaviour** - The nature of organisations: Why do organisations exist? Components of organisations; Organisations as open systems, Managers in organisations, Productivity and managerial performance, Value-added managers, The manager's challenge, Organisational behaviour and the new workplace.

**Unit II: Foundations of Individual Behaviour** - biographical characteristics, ability, and learning, **Perception:** Introduction, Halo effect, Stereotyping, pigeonholing and compartmentalisation; Self-fulfilling prophecy; Perceptual mythology; other influences on perception.

**Unit III: Attitudes and values** - Attitudes, Components of attitudes, Attitudes and behaviour, Attitudes and cognitive consistency, Job satisfaction as an attitude; development Values, Sources and types of values, Patterns and trends in values, Managing values and attitudes.

**Unit IV: Motivation-** Concepts, Theories of Maslow, Herzberg, McClelland, Porter & Lawler Model, Application of Motivation concept, Individual motivation and motivation in the organization, Cultural Differences in Motivation, Intrinsic and Extrinsic Motivation, Role of motivation in human behaviour.

**Unit V: Foundations of group behaviour** - The nature of groups: groups and teams, informal and formal groups, purpose of teams, Teams and team building: selecting team members, team roles, stages in team development, team building, team identity, team loyalty, commitment to shared beliefs, multi-disciplinary teams.

**Unit VI: Organizational Development** - Goals of organisational development: Principles underlying organisational development, Ethical aspects of organisational development, The process of organisational development.

#### Reference Books:

1. Organisation Behaviour, Luthans 8th Tata McGraw Hill
2. Organisation Behaviour, Robbins, 9th Pearson Education Asia
3. Principal of Organizational Behaviour 4th Ed. By R. Fincham -Oxford
4. Prentice Hall India Organisational Behaviour: Human Behaviour at Work Newstrom & Davis, 10th, Tata McGraw Hill
5. Brooks I – Organisational Behaviour: Individuals, Groups and Organisation Second Edition (Prentice Hall, 2002)

## Paper V

### Financial & Cost Accounting

**Unit -I: Introduction** - Meaning, Scope and importance of Financial Accounting. Financial Accounting - concepts and conventions, classification of accounts, Rules and principles governing Double Entry Book-keeping system. Accounting Books & Record - Meaning, Preparation of Journal, Ledger & Trial balance. Accounting Standards - introduction, Need & Objectives, AS 1 to AS 10, Accounting Policies and their Discloser.

**Unit II: Final Account of Joint Stock Companies** - Final Accounts of Joint Stock Companies - contents, and preparation of Trading and Profit and Loss Account, Profit and Loss Appropriation Account and Balance sheet with adjustment, Closing Entries (Simple entries).

**Unit III: Accounting for Non-profit making institutions:** Introduction for non-profit making institutions, receipt and payment account, income and expenditure account, preparation of final accounts of non-profit making institutions.

**Unit IV: Issue of Shares:** Entries for issue of shares, Issue of shares at discount and premium, forfeiture and re-issue of forfeited shares.

**Unit V: Meaning, Definition, Scope, and Importance of Cost Accounting** - Elements of Cost, Cost Classification, Preparation of Cost Sheets, Tenders, and Quotations. Methods of Cost Allocation and Absorption (Simple Problems on Operating Costing - Transportation only).

**Unit VI: Reconciliation of Profits Shown by Cost and Financial books. Marginal Costing** - Break Even Analysis, Concept and Applications. Process Costing (Up to Abnormal Loss and Abnormal Effectiveness).

**Simple Numerical will be based on all Units.**

#### Reference Books:

- 1) S. N. Maheshwar :- Financial Accounting - Vikas Publishing House, New Delhi
- 2) Gupta R. L. - Advanced Financial Accounting - S. Chand & Sons
- 3) Kumar, Anil S. - Advanced Financial Accounting - Himalaya Publication House
- 4) Shukla and Grewal : Advanced Accounts (S. Chand & Ltd. New Delhi)
- 5) Jain and Narang : Advanced Accounts (Kalyani Publishers, Ludhiana)
- 6) Sr. K. Paul : Accountancy, Volume -I and II (New Central Book Agency, Kolkata)
- 7) R. K.. Lele and Jawaharlal : Accounting Theory (Himalaya Publishers)
- 8) M. A. Arulnandam :- Advance Accounting - Himalay Publication
- 9) S. N Maheshwari : Cost Accounting Theory and problems -Shri Mahavir Book Depot, New Delhi
- 10) V.K. Saxena : Cost Accounting Text Book- Sultan Chand and Sons New Delhi
- 11) M.C. Shukls - T.S. - Grewal, M.P. Gupta - Cost Accounting - S. Chand , New Delhi
- 12) R. S. N. Pallai, V Bhagavathi - Cost Accounting - S. Chand, New Delhi
- 13) S. M. Shukla :- Cost Accounts (Hindi)
- 14) Nigam R. S. - Advanced Cost Accounting , S. Chand & Company
- 15) Jain S. P. - Advanced Cost Accounting - Kalyani Publication



## Paper VI

### Computer Application for Business

**Unit I: Introduction to Computers** - Generation of Computers, Block Diagram, Working of Computer, Hardware and Software, Programming and Flow Charts concepts, Operating systems (MSDOS, Windows, UNIX, Linux), Networking concepts.

**Unit II: Working with Computers** - Introduction to Word, Excel, PowerPoint, Internet and Web (Working with Google, Yahoo, Rediff, Amazon, e-bay etc.), e-Commerce, e-Learning and e-Business.

**Unit III: Multimedia** - Introduction, Components of Multimedia: Graphics, Audio & Animation, Using Multimedia at Home, Business, Education and Entertainment, Applications in Games and Animation Industry.

**Unit IV: Introduction to HTML** - Basics, Text, Lists, Images, Links, Backgrounds, Tables, Frames, Forms, Meta-tags and Hexa-colors, Preparing simple web pages.

**Unit V: IT Consulting** - Basic concepts of business, strategy and operation; Business / Strategic Consulting: Reengineering, BPR; Operations Consulting: domain knowledge concept, domain-consulting.

**Unit VI: IT Enabled Services (ITES)** - Processes, Outsourcing Function, Call Centers; BPO's: Captive BPO's (GE and Dell) and Third Party BPO's (Infosys BPO, Wipro BOP, Mphasis, Daksh and EXL etc).

**Lab Activity would be based on the following topics:**

- a. MS Word
- b. MS Excel
- c. MS PowerPoint

**Reference Books:**

1. Management Information systems. By M. Jaiswal - (Oxford)
2. Oz- Management Information Systems 3rd Edn. ( Thomson Learning Books)
3. Harry - Information & Management Systems (A.H. Wheeler)
4. A.K. Gupta - Management Information System (S. Chand & Col)
5. D. Yeats - System Analysis and Design ( Macmillan)
6. E-Commerce- Parag Dewan (Excel Books)

## Paper VII

### Business Organization & Systems

**Unit I: Introduction:** Meaning, scope & Evolution of Commerce & Industry, Concept Of Business As a System; Alternative Business Objectives. Small Business Organization: Scope and Role Government Policies.

**Unit II: Forms of Business Organization: Business Sectors & Forms of Business Organizations-** Private sectors, cooperative sectors, Public sectors, Joint sectors, service sectors, various forms of Business Organizations- Sole Proprietorship, Partnership Firms, Joint Stock Companies-Their Feature, Relative Merits, Demerits and Suitability.

**Unit III: Multinationals-** Concept and Role of MNCs, Transactional corporations (TNCs); International Business Risks, Emergence of Indian MNCs & Transactional corporation- Globalization & Challenges for Indian Business in New Millennium.

**Unit IV: Organization of Wholesale & Retail Trade-**Recent Trends in Wholesale & Retailing, Malls and Supermarkets-Their Effect of Economy- Organization of Finance, Transport, Insurance Communication & Other Utilities (services) to Trade.

**Unit V: Business Combinations:** Concept and causes of business combinations, Government and Business Interface: Rationale, Forms of Government and Business Interface, Chambers of Commerce and Industry in India; FICCI, CII.

**Unit VI: Business and Society:** Changing Concepts and Objectives of Business, Business and Culture, Technological Development and Social Change, Social Responsibility of Business, Social Audit.

#### Reference Books -

1. Business Organization and Management - Dr. C. B. Gupta (Publisher Sultan Chand & Co.)
2. Modern Business Organization - Gupta, C. B. (Mayoor Paper Works, 2001)
3. Modern Business Administration - Robert (McMillan India, 1999)
4. Business Organization and Management - Basu C. R. (Tata McGraw Hill, 1998)
5. Modern Business Organization Management - S. A. Sherlekar (Himalaya Publishing House)

# BBA SECOND YEAR

## Paper I

### Principles of Marketing Management

**Unit-I: Concepts & Application** - Core Concepts of Marketing, Company Orientation towards Market place, New Concepts - E Business, Relationship Marketing; Database Marketing, Functional areas of Marketing.

**Unit-II: Marketing Plan** - Steps in the Marketing Process, Nature and contents of a marketing plan, marketing mix.

**Unit-III: Product Management** - Meaning of product, product classification, product levels, product policies, Product life cycle and new product development, Branding & packaging.

**Unit-IV: Pricing Strategies** - Pricing objectives, methods and pricing policies; adopting the price; Initiating and responding to price changes.

**Unit-V: Distribution Strategies** - Channel design and management, Channel dynamics and market logistics, Channels of distribution, Types of channels, Importance of Retailing and wholesaling.

**Unit-VI: Promotion Strategies**- Promotion decisions and promotion mix, advertising, sales promotion, public relations personal selling, Channel management- selection, Emergence of new channels.

Case studies on the topics on unit III, IV, V and VI shall constitute an important part of internal assessment.

#### Reference Books:

1. Marketing Management By Philip Kotler
2. Marketing Management BY Sherlekar, Himalaya Publishing House
3. Marketing Management: Text & Cases, By Rajagopal, Vikas Publishing House
4. Marketing Management: Czinkota, Cengage Learning
5. Marketing Management: Text & Cases by Chandrashekar, McGraw Hill

## Paper II

### Human Resource Management

**Unit I: The Strategic Role of HRM** - Nature, scope, objectives, importance and functions, Human resource as an asset in organization, Evolution of the concept of HRM, Human resource management in India

**Unit II: Job Analysis & Design** - Job Analysis – Meaning, Uses, Process and methods of collecting data for job analysis, Competency approach to job analysis, Job Description, Job Specifications & Role Analysis, Factors affecting Job Design, Techniques of Job Design, Cases and Exercises in understanding Job Analysis.

**Unit III: Human Resources Planning & Recruitment Policy** - Human Resources Planning; Need for Human Resources Planning; Process of Human Resources Planning; Human Resource Planning System; Responsibility for Human Resource Planning.

**Unit IV: Selection, Induction & Placement** - Selection Process, New tools /Methods of selection – Interviews, Tests and assessment of effectiveness of selection tools. Induction Programme, Problems in Induction, Requisites of effective Induction, Typical Induction Programme – Do's & Don'ts,.

**Unit V: Employee Growth & Development Training** - Introduction of Training; Objectives and Importance of Training; Training Needs Identification, Organization Analysis; Task Analysis; Man Analysis; Training Areas Identified by Trainers; Responsibility for Training; Types and Techniques of Training and Development.

**Unit VI: Performance Appraisal** - Nature, Objectives, limitations-various methods – Modern & Traditional, Multiple Person Evaluation Methods; Performance Tests & Field Review Techniques; Appraisal, Praise and Recognition; Rewards and Incentives; Promotions. HR Records, MIS HR Reports, HR Formats – Personnel Files, Attendance, Leave, Medical Records.

#### Reference Books:

1. A Text book of Human Resource Management – C. B. Mamoria & S. V. Gankar. Publication - Himalaya Publishing House
2. Personnel and human Resource management - Text & cases, P Subba Rao, Publication - Himalaya Publishing House
3. Human resource Management – P. Jyothi, Publication – Oxford University Press.
4. Human Resource Management , Ninth Edition, R.Wayne Mondy, Robert M, Noe, Publication- Pearson Education
5. Human Resource and Personnel Management – Text and cases, K. Aswathappa, Publication - McGraw-Hill Publishing co. ltd.

## Paper III

### Management Accounting & Financial Management

**Unit I: Introduction - Management Accounting** - Meaning, Scope, Importance, and Limitations of Management Accounting, Difference between Cost Accounting and Management Accounting, Role of Management Accountant.

**Unit II: Sources of financing** - LONG TERM: shares, debentures, term loans, lease & hire purchase, retained earnings, public deposits, bonds (Types, features & utility). (a) SHORT TERM: bank finance, commercial paper & trade credit & bills discounting. (b) INTERNAL: Retained earnings, Depreciation policies.

**Unit III: Dividend policies** - Concept, determinants and factors affecting, relevance and irrelevance concept, dividend valuation models - Gordon, Walter and Modigliani-Miller models.

**Unit IV: Working capital** - Concept, significance, types. Adequacy of working capital, Factors affecting working capital needs, Financing approaches for working capital, Methods of forecasting working capital requirements.

**Unit V: Ratio Analysis** - Introduction, Meaning of Ratio, Importance of Ratio Analysis, Limitations of Ratio analysis, Classification of Ratios: Ratios related to Trading and Profit and Loss Account, Current Ratio, Liquid Ratio, debtors Turnover Ratio, Creditors Turnover Ratio, Working Capital Turnover Ratio.

**Unit VI: Financial Analysis** - Statement of Changes in Working Capital, Preparation of Funds Flow Statement.

**Numericals will be based on Unit III, V and VI**

#### Reference Books:

1. Gawada, J Made - Advanced Cost Accounting - Himalaya Publication House
2. Pillai R. S. N. - Management Accounting - S. Chand & Co. Pvt. Ltd.
3. Agrawal N. K. - Managements Accounting - Galgotia Publication
4. Singh, Jagwant - Managements Accountings - Kitab Mahal
5. Rathnam P. V. - Managements Accountings - Kitab Mahal
6. Sharma R. K. - Managements Accountings - Kalyani Publication
7. Financial Management Problems & Solutions: - Kishore Ravi M (Taxman Allied Service (p) Ltd.)
8. Fundamentals of Financial Management: - Chandra Prasanna (Tata McGraw Hill Publishing Co. Ltd.)
9. Management Accounting & Financial Management: - Arora M N (Himalaya Publishing House Pvt. Ltd.)
10. Financial Management :- M R Agrawal (Garima Publication, Jaipur)
11. Financial Management :- P V Kulkarni , B G Sathyaprasad (Himalaya Publishing House)
12. Financial Management :- Dr. R. S. Kulshrestha, Prof. Sanjaykumar Shrivastava, Dr. Ghanshyam Mishra (S B P D Publishing House)

## Paper IV

### Business and Industrial Laws

**Unit I: Administration of law & legal system in India** - Introduction to legal aspects of Business in general; Freedom of Trade, Profession and Occupation (Constitutional Provisions).

**Unit II: The Companies Act (1956)** - Definition & characteristics of a company, Company distinguished from partnership, Kinds of Companies, Provisions relating to incorporation, lifting the Corporate Veil.

**Unit III:** Memorandum of Association, Doctrine of ultra-vires, Articles of Association, Doctrine of indoor management & constructive notice, Concept of Prospectus.

**Unit IV: Indian Contract Act (1872)** - a) Definition (Sec.2) b) Essential elements of a valid contract c) Competency to enter in contracts (Sec. 11 & 12).d) Consent - Free consent, Coercion, undue influence, fraud, misrepresentation, mistake (sec 13-23).Void Agreement (sec 24-30) f) Consequences of breach of contract (sec73-75).

**Unit V: Labour Legislations & ILO** - Nature, Scope, character growth & development of labour legislation In India, Legislation & the constitution of India; Constitution, working & impact of ILO on Labour Legislations in India, ILO convention & recommendations

**Unit VI: Normative Labour Legislations** - Factories Act, 1948, Bombay shop & Establishment Act 1948, Wage Legislation - Minimum wages Act, Industrial Relations Legislations - Trade Union Act 1926, Industrial Dispute Act 1947.

#### Suggested Readings

1. Bare Acts- Govt. or Private publication
2. Mercantile Law - Shukla - 30<sup>th</sup> Ed. - S. Chand & Co.
3. Business Law- N. D. Kapoor - S. Chand & Co.
4. Company Law - Singh Avtar, 11<sup>th</sup> Ed., Estern Book Co., Lukhnow
5. Business Law - M. C. Kuchhal, 2<sup>nd</sup> Ed., Vikas Publication House, New Delhi
6. Industrial Jurisprudence & Labour Legislation by A.M. Sarma, 9<sup>th</sup> revised edition - Publisher: Himalaya Publishing House
7. Labour Laws --- Taxman's

**Paper V**  
**Statistical Methods for Business**

**Unit I: Descriptive statistics** - Definition, functions, scope and role of statistics in business, Importance of statistics, distrust and limitations of statistics.

**Unit II: Presentation of statistical data** - classification; tabulation; frequency distribution; diagrams & graphs.

**Unit III: Statistical average** - importance and requisites of a good statistical average; types of averages - arithmetic mean, median, mode, geometric mean and harmonic mean, weighted average, relationship amongst different averages.

**Unit IV: Dispersion** - meaning and significance of dispersion; methods of measuring dispersion - range, quartile; mean deviation, standard deviation, Co-efficient of Skewness, Lorenz Curve.

**Unit V: Correlation and Regression (Simple)**- Types of correlation, Calculation of Co-efficient of Correlation for Simple Series, Calculation of Co-efficient of Correlation for Continuous Series; Regression Equation of X on Y, Regression Equation of Y on X

**Unit VI: Quantitative Techniques** - An introduction: Classifications of quantitative techniques; applications of quantitative techniques to business and industry; limitations of quantitative techniques.

**Numerical shall be based on Unit II, Unit III, Unit IV and V.**

**Reference Books:**

1. Fundamentals of statistics : D. V. Elhance & Veena Elhance
2. Statistics : V. K. Kapoor - S. Chand & Sons
3. Statistics : B. New Gupta - Sahitya Bhavan Agra
4. Statistics Methods : S.P. Gupta - S. Chand & Sons
5. Fundamental of Statistics : S. C. Gupta - Himalaya Publishing House
6. Business Mathematics & Statistics : NEWK Nag & S.C. Chanda - Kalyani Publishers

## Paper VI

### Research Methodology

**Unit I: Introduction** - Meaning, Objectives and Types of research, Research Approach, Research Process, Relevance & scope of research in management.

**Unit II: Research Design** - Features of good Design, Types of Research Design, **Sampling Design** - Steps in sample Design, Characteristics of a good sample Design, Probability & Non Probability sampling.

**Unit III: Measurement & scaling techniques** - Errors in measurement. Test of sound measurement, Scaling and scale construction technique.

**Unit IV: Methods of data collection** - Primary data - questionnaire and interviews; Collection of secondary data;

**Unit V: Processing of data** - Data coding; Editing and Tabulation. Use of computer and Information technology in data collection,

**Unit VI: Interpretation of data** - Techniques of Interpretation, Report writing, Layout of a project report, preparing research reports.

#### **Suggested Readings:**

1. Zikmund : Business Research Methods, (Thomson Learning Books)
2. Marketing Research, G C Beri third edition (McGraw Hill)
3. Dwivedi - Research Methods in Behaviourial Science (Macmillan)
4. Bennet, Roger : Management Research, ILO, 1993
5. Salkind, Neil J. : Exploring Research, (Prentice - Hall, 1997)



*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper VII

### Environmental Management

**Unit I: Introduction to Environment Management** - Definition, Scope & importance, Need for public awareness- institution in environment, People in environment, Fundamentals- sustainable development, Unsustainable to sustainable development.

**Unit II: Natural resources** - Renewable and non renewable resources, and associated problems, Role of an individual in conservation of natural resources; equitable use of resources for sustainable life cycles; Preserving resources for future generation, the rights of animals.

**Unit III: Air Pollution:-** Definition Air pollution, causes, effects & control, Green house effect, pollution: Vehicles, Industry households, Global warming, Ozone layer depletion, effects & remedies, Role of individual and institution in preventions of Air pollution.

**Unit IV: Water and marine Pollution** - Definition water pollution, causes, effects & control; Management of water: Hard & Soft water, contaminants, Acid Rains; Pollution by sewerage, industry runoff degradation due to biological changes; Sea water pollution & degradation of Marine; Role of individual and institution in preventions of water & marine pollution.

**Unit V: Human population & environment** - Global population growth, variations among nations. Population explosion, Family welfare Programmes-methods of sterilization; Urbanization, Environment & human health-climate and human health, infectious diseases, water related diseases, risk due to chemicals in food, Cancer and environment.

**Unit VI: Social issues and environment** - Construction of dams: problems and concerns of resettlement, rehabilitation of affected people; Conservation: energy, water, forest, soil, strategies for conservation; Environmental ethics- issues and possible solutions.

#### Suggested Readings

1. A text book of environmental by K M Agrawal, P K Sikdar, S C Deb", published by Macmillan
2. Environment management by N K Uberoi", published by Excel Books
3. Environment management by Dr. Swapan Deb", published by Jaico Publishing House.
4. Environmental Management by S K Agrawal", published by A.P.H. publishing Corporation.
5. Environmental Studies by Rajagopalan- Pub. By Oxford.

# BBA THIRD YEAR

## Paper I

### Entrepreneurship Development

**Unit I: Entrepreneurship** - Creativity and Innovation, Relationship with the Economic Development, Barriers to Entrepreneurship (Factors affecting Growth of Entrepreneurship), Theory of Achievement Motivation, McClelland's Experiments, Women Entrepreneur's.

**Unit II: Entrepreneurship Trends** - Strategic Management, Forms of Ownerships, Franchising, Mergers and Acquisitions, Types of Entrepreneurship.

**Unit III: Business Idea** - Identifying & Developing Entrepreneurial Potential, Business Ideas Generation Process, Evaluation of Business Idea.

**Unit IV: Location and Layout Decisions** - Location decisions for Manufacturing, Retail and Services Business, Layout and Design Considerations, Build, Buy or Lease Decisions.

**Unit V: The Industry and Ancillarization** Entrepreneurship & Industry, Ancillarization, Ancillarization in India, Ancillaries & Industrial Development, Ancillary Opportunities in different Economic Sectors: Agro Industries, Global Aspect of Entrepreneurship.

**Unit VI: Entrepreneurial behaviour** - Techno economics innovation and entrepreneurship, Socio-psychological factors influencing entrepreneurship development.

#### Suggested Readings:

1. Entrepreneurship 6th edition. Robert D Hisrich , Tata McGraw-Hill.
2. Kuratko- Entrepreneurship – A Contemporary Approach, (Thomson Learning Books)
3. Small-Scale Industries and Entrepreneurship. Desai, Vasant (2003). Himalaya Publishing House, Delhi.
4. Chary – Business Gurus speaks ( Macmillan)
5. S.S. Khanka - Entrepreneurial Development (S. Chand & Co.)

## Paper II

### Production and Operations Management

**Unit I: Introduction-** Nature, Scope, Importance and Functions Evolution from manufacturing to operations management - Evolution of the factory system - manufacturing systems–quality–mass customization, Contribution of Henry Ford, Deming, Crossby, Taguchi.

**Unit II: Production Design-** Definition, Importance, Factors affecting location & layout, Principles and Types of Facilities Layout, Layout and its objectives for manufacturing operations, warehouse operations, service operations, and office operations, principles and types of plant layouts – product layout, process layout, fixed position layout, cellular manufacturing layouts, hybrid layouts, Factors influencing layout changes.

**Unit III: Production Planning and Control-** Importance and Functions of Production Planning & Control.

**Capacity Planning :** Concept and overview of aggregation demand and capacity options and strategies in production and services, capacity and value, financial impact of capacity decisions, aggregate planning types and procedure, capacity requirement planning.

**Unit IV: Material Management -** Materials Planning Budgeting and Material Requirement Planning; Purchase Management; **Stores Management-** Functions, Centralized Vs Decentralized stores, role of codification; **Maintenance Management concepts -** factors affecting design of material handling system,

**Unit V: Material Planning and Inventory Control-** Objectives, basic concepts, p-system, q-system, EOQ, maxima, minima, reorder point, buffer stocks, selective inventory classification models,

**Unit VI: Latest Concepts-** Modern concepts in Production & Materials management and Japanese contribution to world class quality manufacturing like single piece flow, JIT, KANBAN, SMED, CAD, CAM, KAIZEN, POKA YOKE, Right First Time, Zero Defects.

**Numerical shall be based on Unit III and Unit IV.**

#### **Suggested Readings:**

1. Operations Management by Shridhar, Himalaya Publishing House
2. Operations Management Nair : TMH
3. Production and Operations Management, Adam & Ebert , Prentice Hall India
4. Operations Management by Chary ,Mcgraw Publications, 4<sup>th</sup> edition.
5. Warehouse Management and Inventory Control, JP Saxena, Vikas Publications

## Paper III

### Office Management

**Unit I: Office Management** - Meaning, Functions and importance of office management, principles of office management, Functions and relations of office with other departments. Poor and good organization Departments -Flow of Work -Organization Charts and manual.

**Unit II Office Managers:** Qualifications and Qualities, authorities and responsibilities, meanings and types of secretaries, qualifications, qualities, duties of secretaries.

**Unit III: Administrative arrangements and physical conditions** - Centralization and Decentralization of Office services - Office Accommodation and Layout -Office Furniture - Meaning of Various terms - Basic pattern of work -Sub-division - Standardization and Standards - Work Measurement and control

**Unit IV: Office equipments** - Reproduction equipments - Typewriter - Duplicators - Photo Copier - Franking Machine - Communication Equipments - Dictaphone - Intercom - Telephone - Telex - Teleprinters - PABX - PBX - STD - Storage equipments - Filing Cabinets - Time Clocks - Use of Computers in Office Management

**Unit V: Office System** - Procedure - Routine - And methods - Paper work in office Filing functions - essentials of good filing systems - Central vs. Departmental Filing classification - Methods of filing Old and Modern - Micro filing - Indexing Types.

**Unit-VI: Mail service and communication** - Office Correspondence - Central vs. Departmental Correspondence - Handling Mail - Postal Services - Postbag and Post Box Numbers - Registered and Insured Posts - VPP Communications - Oral written - Internal and external communication - Records Management Types.

#### **Suggested Readings:**

1. Office Management and procedure by RK Sharma and shashi gupta, sushil nair, Kalyani Publications
2. Manual of Office Correspondence by BN Tandon, S.chand
3. Office Management by PK Gupta
4. Pillai R.S.N, Bhagwathi. V - Office Management, S.chand
5. Denyer JC - Office Management
6. Hicks CB and Place L - Office Practice and Management
7. Littlefield CL and Peterson RL - Modern Office Management

## Paper IV

### Business Ethics

**Unit I: Ethics** - An introduction, Concept of ethics, Values & Ethics – Meaning & Types of Values, Ethical Action–Morals, Morality, Moral development pyramid, Beliefs, Religiousness and Law.

**Unit II: Ethical Decision Making** - Normative Framework –Principle of personal benefit, Principle of Social Benefit, Principle of Neutralization, Categorical Imperative, Principle of Duty, Principle of Justice and Principle of Lawfulness.

**Unit III: Business Ethics** - Ethics in Business – Myth & Reality, The Indian Business scene, Ethical Concerns, LPG & Global trends in business ethics, Business ethics rating in India.

**Unit IV: Organizational Ethics** - Organizations& Organisation culture, Types of Organization, Corporate code of ethics – Formulating, Advantages, implementation Professionalism and professional ethics code.

**Unit V: Business & Society** - Business & its stakeholders, Social Responsibility – Concept of CSR, Public Policy approach & role of NGO, Environmental Ethics – concerns and issues.

**Unit VI: Corporate Governance** - Objectives, issues, features, Corporate Governance codes – Cadbury report, CII recommendations, Corporate Governance for public sector, Corporate Governance & Investment – ethical investing, Insider trading.

#### **Suggested Readings:**

1. Business Ethics – Concept & Practice - B. H. Agalgatti & R. P. Banerjee – (Nirali Publication)
2. Ethics in Business & Management - R. P. Banerjee (Himalaya Publication)
3. Business Ethics. by Crane – Pub. By Oxford Press
4. Corporate Governance & Business Ethics – (Text & Cases), U. C. Mathur, Macmillan India Ltd.
5. Business Ethics, C S V Murthy, Himalaya Publishing House

# ELECTIVE: FINANCIAL MANAGEMENT

## Paper I:

### Indian Financial System

**Unit I: Components of formal financial system**, Functions, Financial system design, Nature and role of financial institutions and financial markets, financial system and economic growth, Pre and post reform scene in financial markets.

**Unit II: Money Markets** - Treasury Bills and types, Commercial papers, Commercial bills, Certificate of deposit, Call / Notice money market, Money market intermediaries, Money markets and monetary policies in India, overview of money markets.

**Unit III: Capital Markets** - History of Indian capital markets, Capital market scams, Reforms in capital markets, Primary Markets - free pricing, book building, Private placements, Secondary Markets - Organization, membership, and management of stock exchanges, Listing, trading, clearing and settlement mechanism, Listing categories, BSE, NSE, OTCEI, ICSEI, measures to boost liquidity in the secondary market, reforms in secondary markets and its impact, Internet trading.

**Unit IV: Debt Markets** - Introduction, History of Indian debt market, Debt market participants, Primary and secondary segment, The private Corporate debt market, The public sector undertaking bond market, The government securities Market, Issuance mechanism - auction, sale, private placement; Trading system, SGL A/c, PD system, steps to develop debt markets.

**Unit V: Financial Regulation** - SEBI - Management, powers and functions, Investor protection measures, achievements, JPC on SEBI; RBI - objectives, organization, role.

**Unit VI: Financial Services** - Meaning, need and importance, Miscellaneous Financial services: Factoring, Securitization of debt, Plastic money, Venture Capital, Credit rating.

### Suggested Readings

1. Financial Markets & Services E. Gordon & K.Natarajan 2007 Himalaya Publishing House
2. Banks & Institution Management (A new Orientation), 2006, Vasant Desai, Himalaya Publishing House
3. Indian Financial System by M Y Khan Tata McGraw Hill
4. Indian Financial System by Bharti V. Pathak, Pearson education
5. Capital management, V.A.Avadhani, 2007, Himalaya Publishing House

## Paper II

### Principles & Practice of Banking and Insurance

**Unit I: Principles of Banking** - Definition of bank, creation of money, Present structure of commercial banking system in India, Brief history; functions, Working during 1947-1990 and thereafter, Forms of banking - unit banking, branch banking, Group banking, Chain banking, Satellite and affiliate banking, Correspondent banking, Managerial functions in banks.

**Unit II: Management of deposits and Advances** - Deposit mobilization, Classification and nature of deposit accounts, advances, Lending practices, types of advances, principles of sound bank lending, preparation of reports, credit plans, Planning customers, Limits of credit, Security.

**Unit III: Investment management** - Nature of bank investment, Liquidity and profitability, preparation of cheques, bills, endorsements, government securities, Documents of title off goods railway receipt, bill of lading, Book debts, securities government and commercial.

**Unit IV: Insurance Basics** - Insurance Vs. other savings and investment options, tax benefits under insurance policies, life cycle needs including solutions, matching of customer needs and requirements to available products, Comparison between different products offered vis-à-vis chargeable premium and coverage, Including proposal form and other relevant forms, policy contract.

**Unit VI: Life Insurance Products** - Traditional and Unit linked policies, individual and group policies, with profit and without profit policies, Different type of insurance products - whole life products, interest sensitive products, term assurance annuities, endowment, assurance.

**Unit VI: Medi-Claim and health insurance products** - Different types of products available in the market, Salient features, Tax treatment, Operations and other procedures involved in claim settlement.

#### Suggested Readings

1. Principles of Bank Management by Vasant Desai, Himalaya Publishing house, Delhi
2. Basics of Banking & Finance, Dr.K.M.Bhattacharya, Himalaya Publishing House
3. Banking Theory, Law & Practice, Gorden & Natrajan, Himalaya Publishing House
4. Banking Theory & Practice, Dr.P.K.Shrivastava, Himalaya Publishing house, Delhi
5. Insurance & Fisk Management , Dr.P.K.Gupta Himalaya Publishing House



# ELECTIVE SUBJECT: MARKETING MANAGEMENT

## PAPER I

### Integrated Marketing Communication

**Unit I: Marketing Communication** - Introduction to Marketing Communication Concept; Elements of Marketing Communications; Unifying the Appeal and the Message across the promotion-mix components.

**Unit II: Integrated Marketing Communication** - Role of IMC in Marketing and Brand Management; How Marketing Communication Work; Setting IMC objectives.

**Unit III: Communication and Branding** - Marketing Communications Functions, Brands, and Integrated Marketing Communication, Integrated Marketing Communication Partners and Industry, Organisations; Using Advertising and Promotion to Build Brands; Brands and Stakeholder Relationships; Basic Marketing Communication Strategies for Building Brands; Integrating the Brand Communication Process; Customer Brand Decision Making.

**Unit IV: Research Methods and Applications** - Role and Relevance of Research in Communication; Types of Research and the Research Process; Advertising Research; Positioning Research, Target Market Research, Pre-test Research and Audience Research.

**Unit V: Integrated Marketing Communication and Micro-Marketing** - Segmenting, Targeting, and Positioning. Data-Driven Communication; fostering word-of-mouth; Opinion Leaders, Reference Groups

**Unit VI: Creating, Sending, and Receiving Brand Messages**-Integrated Marketing, Communication Creative Concept and Messages; Message Execution; Integrated Marketing Communication, Broadcast, Out-of-Home, Product Placement Media; Internet and e-Commerce Media; Integrated Marketing Communication Media Planning.

#### Suggested Readings:

1. Integrated Marketing Communications, Pickton, D. and Broderick, A. - Prentice Hall.
2. Principles of Advertising and IMC, Duncan, Tom. - McGraw Hill.
3. Using advertising and promotion to build brands, Blyth, J. -Pearson
4. Advertising management by Jethwaney -Pub by Oxford.
5. Building the Indian Brand, Kapoor -MacMillan

## Paper II

### Retail Marketing Management

**Unit I: Introduction to Retail Management** - Retail & Retailing – definitions, Meaning of Retail Mix, Growth of Retail Industry, Factors responsible for changes in retailing, Challenges & Opportunities to Retail Industry.

**Unit II: Store Retail Formats** - Independent/ Stand alone outlet, Convenience Store, Supermarket, Discount Store, Off-price retailer, Department Store, Corporate chains, Consumer co-operatives, Shopping malls, Hypermarkets, Catalogue showroom, Franchising.

**Unit III: Non-store Retail Formats** - Multi-Level marketing, e-tailing, Tele-shopping, Automatic Vending Machines, Direct Mail Marketing.

**Unit IV: Retail Planning** - Retail Planning Process, Retail Finance, Location Selection Decision, Lay-out Planning.

**Unit V: Studying Consumer Behaviour & Other Related Issues in Retailing** -Understanding Consumer Behaviour, Cultural & Social Group influence on Consumer Purchase Behaviour, Consumerism & Ethics in Retailing.

**Unit VI: Strategic Issues in Retailing** - Development of Retail Brand, Implementation of CRM, Retail Pricing, Financial Implications of Retail Strategy, Retail Supply Chain.

#### **Suggested Readings -**

1. Retailing Management Text & Cases - Swapna Pradhan (Tata McGraw-Hill Publication)
2. 3. Retail Management - Burman, Evans (A strategic approach , 9th edition PHI)
4. Managing Retailing - P.K. Sinha (Oxford)
5. Retail Management - C. Bajaj (OUP)
6. Information Technology for Retail, - Joshi (Oxford)
7. Retail Management – Suja Nair ( Himalaya Publishing)

# ELECTIVE SUBJECT: HUMAN RESOURCE MANAGEMENT

## Paper I

### Performance Management & Compensation

**Unit I: Compensation Planning** - Concepts, Nature and objectives of Compensation, Wages, Wage Fixation, Wage differentials, legal Status of Wages (basics), Wage Plans - Rowan /Halsey.

**Wages - Variable Compensation and Supplementary Compensation** - Perks, Fringe Benefits, Pay for Performance - Incentives.

**Unit II: HR Accounting** - Introduction, Cost of Recruitment, Remuneration, Investments in Organizational HR, Return on Investment in HR.

**Competency Mapping / Workflow Mapping** - Concept, Practical Application, Implementation

**Unit III: Performance Management System** - Introduction, Objectives, Tools, Methods of PA, Graphic Rating Scales, BARS, Alternation Ranking, Forced Distribution Method, Critical Incident Method, MBO, Assessment Centers, Group Appraisal; 360 deg Feedback, Appraisal Interview; Performance Planning and Potential Appraisal - Trait Based, Behavior Based and Result Based, Pitfalls.

**Unit IV: Career Management** - Career Development Plan - Employee's and Employer's Role, Career Anchors, Nature of Careers, Career Problems - Low ceiling Careers, Career Mapping, Career Counseling, Succession Planning.

**Unit V: HR Scorecard / Balanced Scorecard** - Introduction, Concept, Structure, Practical Application.

**Unit VI: Ancillary Topics** - Goal Setting, Promotions and Transfers; Separations- Retirement, VRS, Deputation, Death, Retrenchment, Pink Slips, Competency Mapping, Employee Manual / PPP Handbook.

#### Suggested Readings

1. Human Resource Management, by Snell / Bohlander Publication - Thomson
2. Compensation by Milkovich & Neman, 8 th edition. Publication - McGraw -Hill
3. Human Resource Management, by Gary Dessler Publication - Thomson
4. Accounting Practices in HRM by M. Kolay
5. Managing Human Resources by Monappa Publication - Macmillan

## Paper II: Training & Development Practices

**Unit I: Human Resource Demand & Supply** - Demand Analysis, Models & Techniques of manpower demand forecasting, Status of existing manpower, Requirement of manpower in relation to Technological advancement, Sources of supply of manpower.

**Unit II: Training and Development** - What is training? Nature of training, Significance of training, Importance of training, Scope & Objectives of training, Benefits of training, Philosophy of training.

**Unit III: Training Need Analysis** - Identification of training needs, Environment for training, Areas of training, Responsibilities for providing training, Training Calendar, Facilities for training.

**Unit IV: Training Design** - Perspectives for Designing Training, Designing a training programme, Objectives, components and methods of training designs, Training Process, Training of trainers (TOT).

**Unit V: Training Methods and Techniques** - Approaches to Training, On the Job Training & Off the Job Training, Training Methodology - Case Study, Management Games, Brain Storming, Role Play, In- Basket exercises, Group Discussion; Teaching aids and techniques, Audio-visual aids, Cross cultural training.

**Unit VI: Skills of an Effective Trainer** - Communication skills, Knowledge, Training styles, Power of Body Language, Developing creativity.

### Suggested Readings

1. Personnel Management and Human Resources - N.C. Jain & Saakshi (Allied Publisher)
2. Effective Human Resource Training and Development Strategy - Dr. B. Rathan Reddy Publication - Himalaya Publication House
3. Human Resource and Personnel Management - Text and cases, K. Aswathappa, Publication - McGraw-Hill Publishing co. ltd
4. Human Resource Management , Tenth Edition, Gary Dessler, Publication- Pearson Education
5. Human Resource Management , Ninth Edition, R.Wayne Mondy, Robert M, Noe, Publication- Pearson Education

# ELECTIVE: MANAGEMENT OF SERVICE SECTOR

## Paper I

### Introduction to Service Sector

**Unit I: Concept of services** - What is services, Reasons for the growth of service economy, Goods Vs Services, Competitive trend in new millennium, Future of service sector.

**Unit II: Service** - Nature & characteristics and strategies, Characteristics of services, Intangibility, Inseparability, Variability, Perishability, Heterogeneity, Ownership, Marketing Mix and strategies in Service Marketing, Product decisions, pricing strategies, Promotion of services, Placing or Distribution methods of services, People Physical Evidence, Process, Service vision & Strategies: Includes Advertisements, Branding, Packaging of Services.

**Unit III: Service Quality** - Impact of service Quality, Approaches to service Quality, Ten original dimensions of Service Quality, How to improve service Quality, Service quality information systems, Benchmarking and certification.

**Unit IV: Service Consumer Behavior/Customer Retention & Relationship Marketing** - CB-Services, Facts & Importance of CB in services, Evolution of Relationship Marketing, Enhancement of Internal & External relationships, Customer Retention (Operations, Delivery System).

**Unit V: International Marketing of Services** - Elements of Global Transnational, International Branding & Advertising, Industry Globalization drivers, Problems connected to Marketing, 10-P models of Global Strategies Management.

**Unit VI: Elements of customer services and identifying them** - Marketing challenges in services business; Classification of services; End user, Profit orientation, Services tangibility, People based services, Expertise.

#### Suggested Readings -

1. Services Marketing and Management - B. Balaji (S. Chand and Co. Ltd. New Delhi)
2. Service Marketing - Vasnti Venugopal Raghu V. N. (Himalaya Publishing House)
3. Service Marketing - S.M. Jha (Himalaya Publishing House)
4. Customer Driven Service Management - S. Balchandran (Sage Publications India Pvt. Ltd.)
5. Services Marketing Operations & Management - V. Jauhari (Oxford)
6. Marketing of Services - G. Apte (OUP)
7. Services Marketing - Ravi Shankar (Excel Books)

## Paper II

### Management in Service Industry

**Unit I: Hotel Industry:** Marketing of Hotel & Tourism Services, Concept of Hotel & Tourism Services; Market mix of Hotel & Tourism services, Hotel & Tourism marketing in Indian perspective;

**Unit II: Hospital Management** - Hospital: Introduction, Concepts of Healthcare, Types of Hospital, Various aspects of Management in Hospitals: Planning, Organizing, Recruitment, Marketing, Finance, Quality Management, and Accreditation of Hospital: Need and Importance of various bodies involved.

**Unit III: Marketing of Transport services** - Introduction, Concept, Users, Consumer Profile, Marketing Mix elements for marketing of Transport.

**Unit IV: Rural Marketing** - Rural India as an untapped market, Characteristics of rural marketing (Large in size, Scattered, Seasonal, Irregular demand, Backwardness, Low exposure to modern world etc.) Product mix for rural market – Marketing of manufactured consumer goods as well agricultural inputs in rural market.

**Unit V: Marketing of Insurance & Banking Services-** Concepts of Insurance & Banking Services, Marketing mix of Insurance & banking services, Insurance & bank marketing in Indian perspective,

**Unit VI: Role of IT in Services-** Introduction to ITES (Captive / Third Party BPO's and KPO's) and CRM (e-CRM, CRM in Banking and Financial Services)

#### Suggested Readings:

1. Services management & Marketing – D.Balajee -S.Chand and company
2. Services Marketing by Govind Apte Jha -Publisher: Oxford University Press.
3. Services Marketing by S.M.Jha -Publisher Himalaya Publishing Company.
4. Services Marketing integrating customer Focus acrbypass the firm by Valarie A. Zeithaml -Publisher: McGraw Hill.
5. Marketing Management:-S V Ramaswamy & S Namkumari - Macmillan India Ltd.
6. Hotel Front Office - Tewari Jatashankar (Oxford)
7. Hotel Housekeeping - G. Raghubalan, 2 Ed. (OUP)
8. Tourism Operations & Management - S. Roday (Oxford)
9. Hospital Management – S.M. Jha ( Himalaya Publishing House)
10. Hospital Supportive Services – Sangeetha Natrajan (Excel Books)
11. Travel & Tourism Management – V.V. Vara Prasad (Excel Books)

# Guidelines for Project Work

## Objective

Every student will be assigned a project in BBA-III and it will be pursued by him/her under the supervision of an internal supervisor. The objective of the Project Course is to help the student develop his/her ability to apply multi-disciplinary concepts, tools and techniques to solve organizational problems and/or to evolve new/innovative theoretical framework.

## Type of Project

The Project may take any one of the following forms:

- i) Comprehensive case study (covering single organization/multifunctional area problem, formulation, analysis and recommendations)
- ii) Inter-organisational study aimed at inter-organisational comparison/ validation of theory/survey of management services.
- iii) Evolution of any new conceptual / theoretical framework.
- iv) Field study (Empirical study).
- v) Software analysis, Design and solutions for organisational achievement ( Applicable to IT)

## Selection of Project Topic:

- o Project topic has to be selected with respect to the programme of study and area elected by the student.
- o Title of the project should clearly specify the objective and scope of the study. It should be specific and neither too vague nor centralistic. The topics should be designed meticulously. It can be designed like "Employee Welfare Measures" – A case study of XYZ Ltd.
- o Project selection has to be made in consultation with the supervisor who will act as a Project guide for the student.

## Scope of Work

The student is expected to carry out following activities in the project:

- 1) Prepare a synopsis and get it approved by the supervisor as assigned by the respective Institutes.
- 2) Undertake a detailed literature survey on the subject matter.
- 3) Make relevant data collection/observation.
- 4) Consult experts of the field.
- 5) Visit related organizations/institutions/industries.
- 6) Compile data in proper format.
- 7) Make proper conclusion/recommendations.

- 8) Prepare a Project Report.
- 9) The volume of the project-report should be ranging from 60-80 pages.
- 10) Obtain approval of Project Report by project supervisor
- 11) Submit two hard bound copies of the Project Report at the Institute.
- 12) Submission of the Project Report shall be one month prior to the date of the commencement of the Examinations for BBA-III

### General Format of the Report

The project report should preferably be written in the following format:

- a) Executive Summary
- b) Introduction to topic
- c) Research Methodology
- d) Analysis and Findings of the study
- e) Conclusions and Recommendations of the study
- f) Bibliography
- g) Appendices - to include questionnaire, if any

### Examination and Evaluation

Project is to be treated as a paper of study of the BBA-III comprising of 100 marks. The external assessment shall be done on the basis of the project report and Viva Voce.

The Project shall be evaluated by an External faculty for 100 marks and of which 50 marks will be allocated to the Written Report Content and Presentation and 50 marks for Viva Voce. **The Project work shall be evaluated by internal and external examiners approved in the list of the University for 100 marks (as mentioned above) at the respective institute / college as per the scheduled fixed by the university.**

**The evaluation shall be made by the examiner on the following criteria:**

#### For Written Report:

- |   |     |
|---|-----|
| • Relevance of topic and the study undertaken | 30% |
| • Theoretical depth and support               | 20% |
| • Quality of work undertaken                  | 30% |
| • Preparation of Project Report               | 20% |

#### For Viva Voce:

- |             |     |
|-------------|-----|
| • Viva-Voce | 50% |
|-------------|-----|



## Absorption scheme for examinees of BBA old course

1. The students of the course immediately preceding the new course under this direction shall be given chance to appear for three more consecutive examination according to old syllabus.

The University shall conduct the examination of old course for three more consecutive examinations after the new scheme of examination is introduced as per following table:

BBA Examination	Attempt-1	Attempt-2	Attempt-3
Year 1	Winter 2014	Summer 2015	Winter 2015
Year 2	Summer 2016	Winter 2016	Summer 2017
Year 3	Winter 2017	Summer 2018	Winter 2018

The students are required to clear all their papers within the stipulated time. The students clearing all the papers of old scheme of Examination shall be awarded Degree according to old scheme of Examination.

Those students who are required to clear their course in three consecutive attempts as per this clause but failed to do so will be required to appear afresh in the course provided under this direction.

2. The absorption of the students of old course referred above shall be made to the new course in the following manner:

Absorption to BBA Course	Condition
Year I	Candidate is unable to clear one or more papers or subjects of Year I examination of the old course in the number of attempts as per this direction. The student shall be required to appear afresh in all the subjects of Year I of the new scheme of examination. The student can claim exemption from only equivalent papers or subject in which they may have passed as per the scheme given in this direction.
Year II	Candidate should have cleared all papers of Year I of the old syllabus. The student shall be required to appear afresh in all the subjects of Year II of the new scheme of examination. The student can claim exemption from only equivalent papers or subject in which they may have passed as per the scheme given in this direction.

To Year III	Candidate should have cleared all papers of Year II of the old syllabus. The student shall be required to appear afresh in all the subjects of Year III of the new scheme of examination. The student can claim exemption from only equivalent papers or subject in which they may have passed as per the scheme given in this direction.
-------------	---

3. The equivalence & exemption of subjects for the students absorbed in the new course shall be as follows:

Sr.No.	Year	Name of Papers as per old course	Name of the paper as per new course	Equivalence & exemption
1.	Year I	English	English and Business Communication	Yes
2.		Principles of Management	Principles of Management	Yes
3.		Business Economics	Business Economics	Yes
4.		Foundation of Human Skills and Cultural Heritage	Foundation course in organization Behaviour	Yes
5.		Financial and Cost Accounting	Financial and Cost Accounting	Yes
6.		Computer Application for Business	Computer Application for Business	Yes
7.		Principles of Marketing Management	Principles of Marketing Management	Yes
8.		Human Resources Management	Human Resource Management	Yes

9.	Year II	Management Accounting and Financial Management	Management Accounting & Financial Management	Yes
10.		Business and Industrial Laws	Business and Industrial Laws	Yes
11.		Environment Management	Environmental Management	Yes
12.	Year III	Entrepreneurship Development	Entrepreneurship Development	Yes
13.		Elective Subject: Financial Management	Elective Subject: Financial Management	Yes
14.		Elective Subject: Human Resource Management	Elective Subject: Human Resource Management	Yes
15.		Elective Subject: Marketing Management	Elective Subject: Marketing Management	Yes
16.		Project Work	Project Work	Yes

The University examination & Internal examination marks awarded in the equivalent subjects of the BBA old course shall be carried in the mark sheet of the BBA new scheme of examination.

4. The above absorption scheme of B.B.A. shall be effective till the introduction of new Syllabus.

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY,  
NAGPUR**

**NOTIFICATION**

No. Acad/140.

Date :4<sup>th</sup> June, 2014

To,

The Principal  
of all the affiliated Science Colleges  
of Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur

**Subject:- Direction No. 4 of 2014.**

**Sir/Madam,**

I am forwarding herewith a copy of the Direction No. 4 of 2014 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 **'Direction governing examination leading to the Degree Of Bachelor of Computer Application (Three Years Degree Course – Semester Pattern)'** and Examination Scheme to be implemented from Academic Session 2014-2015.

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Yours faithfully,

Encl: As above.

Sd/-  
**(Dr. A.V. Gomashe)**

Registrar,  
Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

No. Acad/140

Nagpur dated the 4th June, 2014

**Copy for information and necessary action along with the Direction and Scheme as mentioned above to :-**

1. The Dean, Faculty of Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
2. The Chairman, Board of Studies in Computer Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
3. The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
4. The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
5. The Deputy Registrar (Examinations) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
6. The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
7. The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
8. The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, N

*(Signature)*  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

9. The Asstt. Registrar (Exams & Enquiry.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
10. The Asstt. Registrar University's Sub-Centre at Gadchiroli, R.T.M. Nagpur University, Nagpur.
11. The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
12. The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur
13. The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
14. The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
15. The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
16. Mrs. Veena Prakashe, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-

**(Puran Meshram)**

Deputy Registrar(Acad.)  
Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**RASHTRASANT TUKDOJI MAHARAJ  
NAGPUR UNIVERSITY,  
NAGPUR**

**FACULTY OF SCIENCE**

**BOARD OF STUDIES IN COMPUTER SCIENCE**

**SYLLABUS FOR**

**B.C.A. Three Years (SIX SEMESTER) DEGREE COURSE**

**(FROM SESSION 2014-15)**

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

**FACULTY OF SCIENCE**

**DIRECTION NO. 4 OF 2014**

**DIRECTION GOVERNING THE EXAMINATION LEADING TO  
THE DEGREE OF BACHELOR OF COMPUTER APPLICATIONS**

**(THREE YEARS DEGREE COURSE – SEMESTER PATTERN)**

**(Issued under Section 14(8) of the Maharashtra Universities Act,1994)**

**Whereas**, Maharashtra Universities Act No. XXXV has come into force with effect from 22<sup>nd</sup> July, 1994 and further amended by Maharashtra Universities (Amendment and Continuance) Act, 2003, hereinafter referred as 'Act' has come into force from 8<sup>th</sup> August 2003.

AND

**Whereas**, the University Grants Commission, New Delhi vide letter No.D.O.No.F 1-2/2008/(XI Plan), dated.31 Jan.2008 regarding new initiatives under the XIth Plan – Academic Reforms in the University has suggested for improving quality of higher education and to initiate the Academic Reforms at the earliest.

AND

**Whereas**, the Board of Studies in all the Science subjects in their meeting held during 28.6.2013 prepared the syllabi and scheme of examination for the B.C.A. degree course and recommended for starting of the semester pattern in Faculty of Science from the academic session 2014-15,

AND

**Whereas**, the recommendations of various Board of Studies in the faculty of Science regarding Up-gradation and Revision of various syllabi and introduction and implementation of Semester Pattern Examination System at under graduate level was considered by the faculty of Science in its meeting held on 9.7.2013 and constituted a Committee to decide the policy decision regarding semester pattern examination system.

AND

**Whereas**, the Dean, Faculty of Science has consented to the syllabi and the scheme of examination for the award of B.C.A. degree in Faculty of Science,

AND

**Whereas**, the faculty of Science in its meeting held on 9.7.2013 vide item No. 35, has considered, accepted and recommended to Academic Council, the policy decision regarding introduction of Semester pattern and the draft syllabi of B.C.A. Semester-I & VI along with draft direction and other details.

AND

  
20/03/2014  
Off. Principal,  
S.S. Manjar College, Nagpur



**Whereas**, the new scheme of examination as per semester pattern is to be implemented from the Academic Session 2014-15 for B.C.A. First Year & onwards which is to be regulated by this direction and as such there is no direction issued and in existence and framing of an Ordinance for the above examination is a time consuming process.

AND

**Whereas**, the admission of students in the semester pattern at B.C.A. First Year are to be made in the Academic Session 2014-15.

Now, therefore, I, Anoop Kumar, Vice Chancellor of Rashtrasant Tukadoji Maharaj Nagpur University, in exercise of powers conferred upon me under sub-section (8) of section 14 of the Maharashtra Universities Act., 1994, do hereby direct as under:

1. This Direction may be called, "**Examination leading to the Degree of Bachelor of Computer Applications (Three Year Degree Course-Semester Pattern)**."
2. This direction shall come into force with effect from the date of its issuance.
3. (i) The following shall be the examination leading to the Degree of Bachelor of Computer Applications in the faculty of Science namely:
  - a. The B.C.A. Semester-I Examination;
  - b. The B.C.A. Semester-II Examination;
  - c. The B.C.A. Semester-III Examination;
  - d. The B.C.A. Semester-IV Examination;
  - e. The B.C.A. Semester-V Examination; and
  - f. The B.C.A. Semester-VI Examination.(ii) The period of Academic Session shall be such, as may be notified by the University.
4. The theory examination of Semester-I, II, III, IV, V and VI shall be conducted by the University and shall be held separately at the end of each semester at such places and dates as may be decided by the University and shall be held as per the schedule given in Table 1.

<b>Table 1</b>			
Sr. No	Name of the Examination	Main Examination	Supplementary Examination
1	Semester I, III and V	Winter	Summer
2	Semester II, IV, and VI	Summer	Winter

**5.** Subject to compliance with the provisions of this Direction and of other Ordinances in force from time to time, the following persons shall be eligible for admission to the examinations:-

- (a) A student who has prosecuted a regular course of study for not less than one academic year prior to that examination;
- (b) A teacher in an Educational Institution eligible under the provisions of Ordinance No. 18, and
- (c) A women candidate who has not pursued a regular course of study.

  
20/03/2015  
Off. Principal,  
S.S. Maniar College, Nagpur

Provided that in the case of the persons eligible under clauses (b) and (c), an applicant to the examination shall have attended a full course of laboratory instructions in a College in the subject in which laboratory work is prescribed. The candidate shall submit a Certificate to that effect signed by the Principal of the college.

6. Eligibility of every applicant for admission to B.C.A. Semester course shall:-

**A) In case of the B.C.A. Semester I examination:-**

The candidate should have passed the 12<sup>th</sup> Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education with English and other Modern Indian Languages together with mathematics or an examination recognized as equivalent thereto in such subjects and with such standards of attainments as may be prescribed.

Provided that students passing the 12<sup>th</sup> Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education and offering Vocational Stream with mathematics shall be eligible for admission to the B.C.A. Semester I course.

**B) In case of the B.C.A. Semester II, III, IV, V and VI Examinations:-** The student should have attended a minimum of 90 days in the respective semester and passed the previous semester examination as per the rules of ATKT as mentioned in Para 7 of this direction.

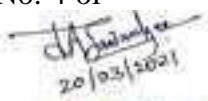
7) The ATKT rules for admission for the B.C.A. Course (**Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored**) shall be as given in the following Table- 2.

**Table 2**

Admission to Semester	The student should have attended the Session / term satisfactorily	Candidates should have passed at least one half of the passing heads of the following examinations (Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored)
1	2	3
B.C.A. Semester I	Semester I and admitted As per para 6 of this Direction	-----
B.C.A. Semester II	Semester II	-----
B.C.A. Semester III	Semester III	One half of the total head prescribed for Sem I and Sem II examination
B.C.A. Semester IV	Semester IV	-----
B.C.A. Semester V	Semester V	a) Passed Sem I & II examination and b) One half of the total head prescribed for Sem III & IV examination
B.C.A. Semester VI	Semester VI	-----

8. a) Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraph 5, 8, 10 and 31 of the said ordinance shall apply to every candidate.

b) The students admitted to this Degree course shall be governed by the general Ordinances / Directions of the University which are applicable to all the regular or ex-students. These Ordinances includes complete as well as relevant provision of Ordinance No. 1, 2, 6, 7-A, 9, 10, 19, 109, Ordinance No. 30 of 2006, (amended Ordinance No. 4 of 2006), Direction 9 of 2008, Direction 5 of 2004 wherever applicable according

  
 20/03/2007  
 Off. Principal,  
 S.S. Manjar College, Nagpur

Direction / Ordinance of ATKT as well as reassessment / provisional admission as issued from time to time.

9. The fee for each Semester examination shall be as prescribed by the University from time to time.

10. Every examinee for the B.C.A. Semester I & II examination shall be examined in:

i) Compulsory English

ii) Any one of the following Languages

Marathi, Hindi, Urdu, Supplementary English, Gujarati, Bengali, Telugu, Sanskrit, French, German, Russian, Persian, Arabic, Pali and Prakrit or Latin

iii) six papers and three practicals at respective semester.

11. The Scope of the subjects of all semesters of B.C.A. examination shall be as indicated in the respective syllabi in force from time to time. The medium of instruction and examination shall be English, except for the courses in Languages.

12. The maximum marks allotted to each subject and the minimum marks which an examinee must obtain in order to pass the examination shall be as per the Appendix A appended to this Direction.

13. The practical examination of all semesters shall be conducted at the end of each semester as indicated in Table 3 given below.

**Table 3**

S. No	Name of the Examination	Main Examination	Supplementary Examination
1	Semester I, III and V	Winter	Summer
2	Semester II, IV, and VI	Summer	Winter

14. The scheme of awarding internal marks shall be as per Appendix- B appended with this Direction.

15. Successful examinees at the B.C.A. Sem-VI Examination who obtained not less than 60% marks (aggregate of Sem-I, II, III, IV, V & VI Examinations taken together, excluding Languages) shall be placed in First Division, those obtaining less than 60% but not less than 45% in Second Division, and all other successful examinees in the Third Division.

**Explanation :**

Division at the B.C.A. Examination shall be declared on the basis of the marks obtained only in the Subjects other than languages at the Sem-I, II, III, IV, V & VI Examinations taken together.

16. There shall be no classification of successful examinees at the Sem-I to Sem-V Examinations.

17. An examinee successful in the minimum period prescribed for the examination, obtaining not less than 75% of the maximum marks prescribed in the subject shall be declared to have passed the examination with Distinction in that subject.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

### **Explanation :**

- (1) Distinction shall be awarded only in the Science Subjects.
- (2) Distinction at the B.C.A. Examination shall be awarded on the basis of the marks obtained at the B.C.A. Semester - I, II, III, IV, V and Semester VI Examination taken together.
- (3) Distinction shall not be awarded to an examinee availing of the provision of the exemptions and compartments at any of the examination.

**18.** Provisions of Ordinance No 7-A relating to the Condonation of Deficiency of Marks for passing an examination and compartment as amended up-to-date vide ordinance No. 45 of 1983 shall apply to the examinations under this Direction.

19. As soon as possible after the examinations, the Board of Examinations shall publish a list of successful examinees at the B.C.A. Sem-I & II; B.C.A. Sem-III & IV and B.C.A. Sem-V & VI Examinations. Such list at the B.C.A. Semester VI Examination shall be arranged in three Divisions. The names of the examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in First or Second Division shall be arranged in Order of Merit as provided in the Examinations in General Ordinance No. 6. While preparing the Merit list for the B.C.A. Examination the marks secured by the candidate in the compulsory languages at their Semester I & II Examination will be taken into consideration in addition to the marks scored by them in their optional subjects.

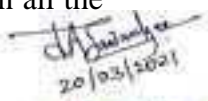
20. No Person shall be admitted to B.C.A. Sem-I, II, III, IV, V and VI Examinations, if he/she has already passed the corresponding or an equivalent examination of any other Statutory University.

21. Successful examinees at the B.C.A. Sem I, II, III, IV, and V Examinations shall be entitled to receive a **Certificate** signed by the **Registrar** and successful examinees at the end of B.C.A. Sem VI examination shall, on payment of prescribed fees, receive a Degree in the prescribed format, signed by the Vice-Chancellor.

22. The provisions of direction no. 3 of 2007 for the award of grace marks for passing an examination, securing higher grade in subject(s) as updated from time to time shall apply to the examination under this direction.

### **23. Absorption Scheme:**

- a) While switching over to semester pattern, the failure students of annual pattern will be given three chances to clear the examination.
- b) The candidates who have cleared first year annual pattern examination in the subject shall get admission to third semester directly by matchable scheme. However, candidates who are allowed to keep term will not be eligible for admission to third semester unless they clear all the papers and practicals of first year annual pattern examination.
- c) The candidates who have cleared second year annual pattern examination in the subject shall get admission to fifth semester directly by matchable scheme.. However, candidates who are allowed to keep term will not be eligible for admission to fifth semester unless they clear all the papers and practicals of second year annual pattern examination.
- d) The unsuccessful students of old course (Yearly pattern) shall be permitted to appear for higher class as per the new course (Semester Pattern) examination of the Bachelor of Computer Applications programme (Semester Pattern) provided that they submit a certificate from the Head of the Department/Principal of the College stating that they have satisfactorily undergone a course of study in all the subjects of the new course.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- e) The absorption scheme of the Bachelor of Computer Applications programme (Semester Pattern) will be effective till the introduction of new syllabus with the new absorption scheme.
- f) For other Statutory University candidates with similar yearly pattern program point No. 23 'a', 'b' and 'c' shall be applicable.
- g) For other Statutory University candidates with Semester pattern Bachelor of Computer Applications program the Candidates shall be admitted to next higher semester provided that he/she shall have cleared previous semester and a R.T.M. Nagpur University Committee constituted from time to time for the purpose shall scrutinize and clear the case on the basis of subject and syllabus contents of his / her previous semester exam of the other Statutory University.

Nagpur

Date : 16.5.2014

**Sd/-**  
**(Anoop Kumar)**

**Vice-Chancellor**

  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

## Appendix - B:

### Guidelines for Internal Assessment, Theory paper pattern and Practical

1. Each semester shall comprise of minimum 90 teaching days.
2. Each semester will comprise
  - a. six theory papers – 50 Marks each
  - b. internal assessment for each paper - 10 Marks each.
  - c. three practicals –30 marks each
3. In addition to the above, Semester I and II will have
  - a. One compulsory English paper of 60 marks with 15 marks internal assessment, Total 75 marks.
  - b. One second language paper (Marathi, Hindi, Urdu, Supplementary English, Gujarati, Bengali, Telugu, Sanskrit, French, German, Russian, Persian, Arabic, Pali and Prakrit or Latin) of 60 Marks with 15 marks internal assessment, Total 75 marks.

### Internal Assessment:

4. The internal assessment shall be done by the College at least 15 days prior to the final examination of each semester. The Marks shall be sent to the University immediately after the Assessment in the prescribed format.
5. Guidelines for Internal Assessment are appended herewith.
  - a) The internal assessment marks assigned to each theory paper as mentioned in Appendix - A shall be awarded on the basis of assignments like class test, attendance, project assignments, seminar, study tour, industrial visits, visit to educational institutions and research organizations, field work, group discussions or any other innovative practice / activity.
  - b) There shall be one / two assignments (as described above) per Theory paper.
  - c) There shall be no separate / extra allotment of work load to the teacher concerned. He/ She shall conduct the Internal assessment activity during the regular teaching days / periods as a part of regular teaching activity.
  - d) The concerned teacher / department / college shall have to keep the record of all the above activities until six months after the declaration of the results of that semester.
  - e) At the beginning of each semester, every teacher shall inform his / her students unambiguously the method he / she proposes to adopt and the scheme of marking for internal assessment.
  - f) Teacher shall announce the schedule of activity for internal assessment in advance in consultation with HOD / principal.
  - g) Final submission of internal marks to the University shall be before the commencement of the University Theory examinations.

### Theory Papers:

6. All Theory papers shall be divided into four units.
7. The theory question papers shall be of 3 hours duration and comprise of 5 questions with equal weightage to all units.
8. The pattern of question papers is appended herewith.

Each theory paper will be of 50 marks each. All questions are compulsory and will carry equal marks.

Question paper for any theory paper will comprise of five questions of 10 marks each. Question No. 1 to 4 will be from four units each with an internal choice. The questions can be asked in the form of long answer type for 10 marks.

Question No. 5 shall be compulsory with three questions / notes of very short answer type from

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

each of the four units having 1 mark each. The student shall have an option of answering any 10 questions out of the 12 questions.

**Practical:**

- 9. Practical exam shall be of 4 hours duration.
- 10. The Practical Record of every student shall carry a certificate as shown below, duly signed by the teacher-in-charge and the Head of the Department.
- 11. If the student fails to submit his / her certified Practical Record duly signed by the Teacher-In-Charge and the Head of the Department, he / she shall not be allowed to appear for the Practical Examination and no Marks shall be allotted to the student.
- 12. The certificate template shall be as follows:

**CERTIFICATE**

Name of the college / institution \_\_\_\_\_  
Name of the Department: \_\_\_\_\_

This is to certify that this Practical Record contains the bonafide record of the Practical work of Shri / Kumari / Shrimati \_\_\_\_\_ of \_\_\_\_\_ Semester \_\_\_\_\_ during the academic year \_\_\_\_\_. The candidate has satisfactorily completed the experiments prescribed by Rashtrasant Tukdoji Maharaj Nagpur University for the subject \_\_\_\_\_

Dated \_\_\_ / \_\_\_ / \_\_\_\_\_

Signature of the teacher who taught the examinee

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

Head of the Department

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Appendix-A  
Teaching & Examination Scheme  
Bachelor of Computer Application (B.C.A.)  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.C.A. Part I (Semester I)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory				Practical			Total (Th,Pr,Al)	
			Duration Hours	Max. Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks				
1.	-	English	4+1	-	4+1	3	60	15	75	30	-	-	-	75
2.	-	Marathi/Hindi/U rdu/Gujarati/ Sanskrit / Suppl. English	3	-	3	3	60	15	75	30	-	-	-	75
3.	Paper-I	Computer Fundamentals	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-II	“C” Programming	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-III	Statistical Methods	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-IV	Discrete Mathematics – I	3	-	3	3	50	10	60	24	-	-	-	60
7.	Paper-V	Operating Systems	3	-	3	3	50	10	60	24	-	-	-	60
8.	Paper-VI	Office Automation	3	-	3	3	50	10	60	24	-	-	-	60
9.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
10.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
11.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

**Note:**

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester I: 450 + 150 = TOTAL = 600 Marks.**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional of 10% with the permission of Hon'ble Vice-Chancellor.
- Details of Course of Languages shall be as per B.Sc. I

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur



Teaching & Examination Scheme  
Bachelor of Computer Application (B.C.A.)  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.C.A. Part I (Semester II)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory				Practical			Total (Th,Pr,Al)	
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical		Min Passing Marks
1.	-	English	4+1	-	4+1	3	60	15	75	30	-	-	-	75
2.	-	Marathi/Hindi/U rdu, Gujarati, Sanskrit / Suppl. English	3	-	3	3	60	15	75	30	-	-	-	75
3.	Paper-I	Programming In 'C++'	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-II	System Analysis And Design	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-III	Numerical Methods	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-IV	Discrete Mathematics – II	3	-	3	3	50	10	60	24	-	-	-	60
7.	Paper-V	Linux Operating System	3	-	3	3	50	10	60	24	-	-	-	60
8.	Paper-VI	E Commerce	3	-	3	3	50	10	60	24	-	-	-	60
9.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
10.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
11.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester II : 450 + 150 = TOTAL = 600 Marks.**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 w  
10% with the permission of Hon'ble Vice-Chancellor.
- Details of Course of Languages shall be as per B.Sc. I

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Computer Application (B.C.A.)  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.C.A. Part II (Semester III)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,Al)
Duration Hours	Max Marks Th. Papers	Max. Marks IA				Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks				
1.	Paper-I	Visual Basic Programming	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Data Base Management System	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	Data Structures	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Operations Research – I	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	Web Technology - I	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Digital Electronics – I	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester III: 450**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Computer Application (B.C.A.)  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.C.A. Part II (Semester IV)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,AI)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Software Engineering-I	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Sql And Pl/Sql	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	Theory Of Computation	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Operations Research - II	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	Web Technology - II	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Digital Electronics – II	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester IV: 450**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Computer Application (B.C.A.)  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.C.A. Final (Semester V)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,AI)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Computer Graphics - I	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Compiler Construction	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	VB.Net	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Software Engineering - II	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	PHP - I	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Data Communication And Network - I	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester V: 450**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Teaching & Examination Scheme  
Bachelor of Computer Application (B.C.A.)  
Three Year (SIX SEMESTER) DEGREE COURSE  
B.C.A. Final (Semester VI)

Sr.No.	Papers	Title of Paper	Teaching Scheme			Examination Scheme								
			Th+Tu (Periods)	Pr (Periods)	Total periods	Theory					Practical			Total (Th,Pr,AI)
						Duration Hours	Max Marks Th. Papers	Max. Marks IA	Total	Min Passing Marks	Duration Hours	Max Marks Practical	Min Passing Marks	
1.	Paper-I	Computer Graphics - II	3	-	3	3	50	10	60	24	-	-	-	60
2.	Paper-II	Programming In Java	3	-	3	3	50	10	60	24	-	-	-	60
3.	Paper-III	ASP.Net	3	-	3	3	50	10	60	24	-	-	-	60
4.	Paper-IV	Software Testing	3	-	3	3	50	10	60	24	-	-	-	60
5.	Paper-V	PHP - II	3	-	3	3	50	10	60	24	-	-	-	60
6.	Paper-VI	Data Communication And Network - II	3	-	3	3	50	10	60	24	-	-	-	60
7.	Pactical-I	Practical I – based on paper I & paper II		6	6	-	-	-	-	-	4	30	12	30
8.	Pactical-II	Practical II – based on paper III & paper IV		6	6	-	-	-	-	-	4	30	12	30
9.	Pactical-III	Practical III – based on paper V & paper VI		6	6	-	-	-	-	-	4	30	12	30

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately.

**Grand Total of Semester VI: 450.**

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

**Valuation Pattern for practical examination:-**

The valuation scheme of practical examination will be as under.

Record

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

Viva	- 6
Writing	- 09
Execution	- 09
<b>TOTAL</b>	<b>- 30</b>

---

**B.C.A. Part I Semester I (From 2014-2015)**

**B.C.A. Part I Semester I**

**Paper I**

**COMPUTER FUNDAMENTALS**

**UNIT - I :**

**Basic Components of Digital Computers:** Block Diagram. **CPU:** Functions of Each Unit: Primary Memory, ALU and CU, Instruction format. **Bus:** Data, Control and Address Bus **Number Systems:** Binary, Octal, Decimal, HexaDecimal, Their Conversions, Binary Arithmetic. ASCII, BCD, EBCDIC.

**Language Evolution :** Generation of Languages : Machine, Assembly, High Level Languages. Characteristics of Good Language **Translators :** Compiler, Interpreter and Assembler. Source and Object Program.

**UNIT - II :**

**Memory:** Static & dynamic, RAM, ROM, PROM, EPROM, EEPROM, flash and Cache.

**Storage Devices:** Hard Disk, Zip Disk and Optical Disk. Pen Drive, Blue Ray

**UNIT - III :**

**Input Devices:** Keyboard, Mouse, Light Pen, Touch Screen, Voice Input , MICR, OCR, OMR, Barcode Reader and Flatbed Scanner.

**Output Devices:** VDU, Printers: Dot Matrix, Laser and Inkjet.

Plotters: Drum, Flat-Bed and Inkjet.

**UNIT - IV :**

**Network:** Network terminology, Topologies : Linear, Circular, Tree and Mesh. Types of Networks: LAN, WAN, MAN. Repeaters, Bridge, Routers, Brouters and Gateway. Modem for Communication between pc's, wi-fi network, Introduction of Bluetooth and Infrared devices. Network protocols. Architecture : Peer-to-Peer, Client/Server.

**Reference Books:**

1. Information technology concepts by Dr. Madhulika Jain, Shashank & Satish Jain, [BPB Publication, New Delhi.]

2. Fundamentals of Information Technology By Alexis And Mathews Leon [Leon Press, Chennai & Vikas Publishing House Pvt Ltd, New Delhi]

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part I Semester I**  
**Paper II**  
**‘C’ PROGRAMMING**

**UNIT- I :**

**Programming Structure :** Sequence, Selection, Iteration and Modular. **Problem Solving techniques:** Development Tools: Algorithm, Flowcharts and Pseudo code (Definition and its characteristics) **Developing Algorithm and Drawing flowcharts**

**UNIT- II :**

C Character set, Tokens, Identifier, Keywords, Variables, Data types, Qualifiers. Operators and Expressions: Arithmetic, Relational, Logical, Bit-Wise, Increment, Decrement, Conditional and Special operators. typedef, Type Conversion, Constants, Declaring Symbolic Constants, Character Strings, Enumerated Data Types, Operator Precedence and Associativity. Library functions. : Maths, string handling Functions. Control Structure: Compound Statement, Selection Statement: if, if-else, Nested if, switch. Iteration statement: for, while, do..while, Nested loops, Jump statement: break, continue, goto. (Special emphasis on problem solving)

**UNIT- III :**

**Arrays:** Need, Types: Single and Two Dimensional Array.

**Strings:** Strings Manipulation, Arrays of Strings, Evaluation order

**Function:** Function Components, Return Data type, Parameter Passing, Return by Reference, Default Arguments, Recursive Functions, Arrays with Functions, Storage Classes. (Special emphasis on problem Solving )

**UNIT- IV:**

**Structure:** Declaration, Definition, Accessing structure members, Initialization, Nesting of Structures.

**Union:** Unions, Differences between Structure and Union

**Pointer:** Introduction, Address Operator (&), Pointer variables, Void pointers, Pointer Arithmetic, Pointers to Pointers.

**File handling:** Hierarchy of File Stream Classes, Opening & closing a file, Testing for errors, File Modes, File pointers and their manipulations, Sequential Access, Random Access, Command Line arguments.

**Reference Books:**

1. The Art of programming through flowcharts & algorithm by Anil B. Chaudhari Firewall Media, Laxmi publication, New Publication.
2. Programming in C by E. Balagurusamy TMH Publications.
3. C Programming - Kernighen Ritche
4. Programming with C – Y. Kanetkar.
5. C Programming – Holzner, PHI Publication.
6. Programming in C – Ravichandran.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part I Semester I**  
**Paper III**  
**STATISTICAL METHODS**

**UNIT- I:**

Introduction - Definition of Statistics, Importance and scope of Statistics, Limitations of statistics, Distrust of Statistics. Statistical Data Collection - Primary and Secondary data, Methods of Collecting Primary data, Sources and Secondary Data, Census and Sample Investigation. Presentation of statistical Data - Classification, Tabulation, Frequency Distribution, Diagrams and Graphs. Frequency Distributions and

**UNIT- II :**

Measures of Central Tendency - Frequency Distribution, Continuous Frequency Distribution, Graphic Representation of a Frequency Distribution Average or Measures of Central Tendency or Measures of Locations, Requisites for an ideal Measure of Central Tendency Arithmetic: Mean Median, Mode, Geometric Mean and Harmonic Mean, Weighted Average, Relationship amongst different Averages.

**UNIT- III:**

Measures of Dispersion, Skewness and Kurtosis - Meaning and Significance of Dispersion, Methods of Measuring Dispersion - Range, Quartile, Mean Deviation, Standard Deviation, Coefficient of Skewness, Kurtosis, Coefficient of Dispersion, Coefficient of Variation.

**UNIT- IV:**

Correlation and Regression - Definition of Correlation, . Scatter Diagram, Karl Pearson Coefficient of Correlation, Limits for Correlation Coefficient, Definition of Regression, Lines of Regression, Regression Curves, Regression coefficients, properties of Regression coefficients, Correlation Analysis vs. Regression Analysis.

**Reference Books:**

- 1.S Sastry Introduction to Numerical Analysis
- 2.Y. Rajaraman, Computer Oriented Numerical Methods - Prentice Hall Publication
- 3.Gupta and Kapoor Fundamental of Mathematical Statistics
- 4.Brian Flowers Introduction to Numerical Methods in C++ By. (Oxford)
- 5.E. Balaguruswamy, Numerical Methods - Tata McGraw Hill Publication
- 6.Srimanta Pal Numerical Methods (Oxford)
- 7.K Sankara Rao Numerical Methods for Scientists & Engineers [PIII].
- 8.Manish Goyal Computer Based Numerical And Statistical Techniques (Laxmi)



**B.C.A. Part I Semester I**  
**Paper IV**  
**DISCRETE MATHEMATICS – I**

**UNIT- I:**

Propositional Calculus:

Connectives, Negation, conjunction, Disjunction, statement formulas and truth tables, conditional and Bi-conditional, well formed formulas, Tautologies, Equivalence of formulas, duality law, Tautologies implications, Functionally complete set of, other connectives,

**UNIT- II:**

Disjunctive normal forms, connective normal forms, Principal disjunctive normal form, Principal conjunctive normal form.

**UNIT- III:**

Predicate Calculus:

The theory of Inference for statement Calculus, validity using truth tables, Rules of inference, consistency of premises and indirect method of Proof

**UNIT- IV:**

The statement function, variables and quantifier, Predicate formulas, Free and Bound variables, The universe of Discourse, Theory of inference for predicate calculus.

**Reference Books:**

1. Discrete Mathematical Structures with applications to computer Science By J.P.Tremblay & R. Manohar, (TMH)
2. Discrete Mathematical Structures by Kolman Busby and Ross (pearson)
3. Discrete Mathematics By Norman Biggs. (Oxford).
4. Logic and Discrete Mathematics : Grassmann, Tremblay (Pearson)
5. Introduction to Automata Theory, Languages, and computation :Hopcroft, Motwani and Ullman(Pearson)
6. An introduction to the theory of computer science , languages and machines : Sudkamp
7. Kenneth H Rosen Discrete Mathematics & it's Applications TMH

**B.C.A. Part I Semester I**  
**Paper V**  
**OPERATING SYSTEMS**

**UNIT - I:**

Structure of Operating System, Operating System functions, Characteristics of Modern OS. **Process Management:** Process states, Creation, Termination, Operations on Process, Concurrent process, Processes Threads, Multithreading, Micro Kernels  
**CPU Scheduling:** Schedulers, Scheduling Methodology, CPU Scheduling Algorithm: FCFS, SJF, RR, Priority Scheduling.

**UNIT – II:**

Performance comparison : Deterministic Modeling , Queuing analysis, Simulators.  
**Deadlock and Starvation:** Resource Allocation Graph, Conditions for Dead Lock, Dead Lock Prevention, Dead Lock Detection, Recovery from Deadlock.

**UNIT - III:**

**Memory Management:** Logical Vs. Physical Address Space, Swapping, Memory Management Requirement, Dynamic Loading and Dynamic Linking, Memory Allocation Method: Single Partition allocation, Multiple Partitions, Compaction, paging, segmentation, Segmentation with paging. Protection.

**UNIT - IV:**

**I/O Management:** I/O hardware, I/O Buffering, Disk I/O, Raid, Disk Cache. **File Management:** File Management system, File Accessing Methods, File Directories, File Allocation Methods, File Space Management, Disk Space Management, Record blocking. **Protection Mechanisms:** Cryptography, Digital Signature, User Authentication.

**Reference Books:**

1. Operating Systems by P. Balakrishna Prasad [Scitech Publication]
2. Operating System Concept : Silbershaz (Addision Education)
3. Operating Systems - H.M. Deitel - Addision Wesley.
4. Operating Systems- John J. Donoven.
5. Operating System : A.S.Godbole (TMH)
6. Modern Operating Systems : Tenenenbaum (Pearson Education)
7. Operating System : Peterson.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part I Semester I**  
**Paper VI**  
**OFFICE AUTOMATION**

**UNIT – I**

Introduction to windows Operating System

Advantages of windows operating system, using different windows applications simultaneously, operating with windows, GUI, use of help features, starting an application, essential accessories, creating shortcuts, windows explorer, control panel, my computer, my documents, recycle bin, finding folders and files, changing system settings, system tools, use of run command, setting peripherals, drivers, editing graphics in windows, new features in windows XP/Vista versions.

**UNIT - 2**

Introduction, basics, starting Word, creating document, parts of Word window, mouse and keyboard operations, designing a document; Formatting- selection, cut, copy, paste; Toolbars, operating on text; Printing, saving, opening, closing of document; Creating a template; Tables, borders, pictures, text box operations; Mail Merge.

**UNIT - 3**

Introduction to MS EXCEL, navigating, Excel toolbars and operations, Formatting; copying data between worksheets; entering formula, chart creation; data forms, data sort; Functions in Excel ROUND( ), SQRT( ), MAX( ), MIN( ), AVERAGE( ), COUNT( ), SUMIF( ), SUMIF( ), ABS( ), ROMAN( ), UPPER( ), LOWER( ), CELL( ), TODAY( ), NOW( ).

**UNIT – 4**

Introduction to MS POWER POINT Working with Power Point Window, Standard Tool Bar, Formatting tool bar, Drawing tool Bar, Moving the Frame, Inserting Clip Art, Picture, Slide, Text Styling, Send to back, Entering data to graph, Organization Chart, Table, Design template, Master Slide, Animation Setting, Saving and Presentation , auto Content Wizard.

**Reference Books:**

1. MS Office XP for Everyone By Sanjay Saxena (Vikas Publi, Noida)
2. MS-Office 2000(for Windows) By Steve Sagman
3. A First Course in Computers – Sanjay Saxena

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part I Semester II**  
**Paper I**  
**PROGRAMMING IN 'C++'**

**UNIT - I :**

**Object Oriented Methodology:**

Elements of Object Oriented programming, Objects, Classes, OOPs features.

**Classes & Objects:** Specifying a Class, Creating Objects, Accessing Class members, Defining member function, Outside Member Functions as inline, Accessing Member Functions within the class, Static data member, Access Specifiers: Private, Protected and Public Members.

**UNIT - II :**

**CONSTRUCTORS & DESTRUCTORS:** Introduction, Parameterized Constructors, Constructor Overloading, Constructors with Default Arguments, Copy Constructor, Destructor, Order of Construction and Destruction, Static data members with Constructor and Destructors.

**OPERATOR OVERLOADING:** Definition, Overloadable Operators, Unary Operator Overloading, Unary & Binary overloading, Rules for Operators Overloading.

**UNIT - III :**

**DYNAMIC OBJECTS:** Pointers to Objects, Creating and Deleting Dynamic Objects: New and Delete operators, Array of Objects, Array of Pointers to Objects, Pointers to Object Members, this Pointer.

**INHERITANCE:** Defining, Abstract classes, Single, Multilevel, Multiple, Hierarchical, Hybrid Inheritance, Constructor and Destructor in Derived Classes.

**UNIT - IV :**

**VIRTUAL FUNCTIONS:** Need for Virtual Functions, definition, Pure Virtual Functions, Abstract Classes, Rules for Virtual Functions.

**EXCEPTION HANDLING:** Exception Handling Model, List of Exceptions, Handling Uncaught Exceptions, Fault Tolerant Design Techniques, Memory Allocation Failure Exception, Rules for Handling Exception Successfully.

**Reference Books:**

1. Mastering C++ by K R Venugopal Tata McGraw-Hill , New Delhi.
2. The C++ Programming Language –Bjarne Stroustrup
3. Programming with C++ - Ravichandran
4. Programming with C++ - Robert Lafore
5. Object Oriented Programming with C++ by E. Balagurusamy, McGraw Hill

**B.C.A. Part I Semester II**  
**Paper II**  
**SYSTEM ANALYSIS AND DESIGN**

**UNIT - I :**

**Introduction :** System, Subsystems, Components of Computerized Information System, Systems Analysts, SDLC, Prototyping.

**Feasibility Study and Analysis:** Identifying Problems, Organizing Feasibility Analysis: Economic, Financial, Organizational and Technological. Feasibility Decision, Choice of a solution.

**Data Collection:** Interviews, Brain Storming, Questionnaires, Document Search, Observation.

**UNIT - II :**

**Structured tools and techniques of Data analysis :** Structured English, Process Charts, SOP, Decision Tables and Decision Trees, Data Flow Diagram, Data Dictionary.

(Special emphasis on problem solving )

**System Design :** Input design: Input Validation, Human factor Consideration, Messages, System Tolerance. Output design: Categories of output, Design Principles, Control of Output. Forms: Principles of Form Design, Ways to ensure Quality Forms.

**Codes:** Types, Physical Representation of Codes, Principle of Code Design.

**UNIT - III :**

**Implementation:** Training, Operational Training and Related Activities, Planning to Implement Change, Change Strategies.

**Testing:** Preparation for Testing, Test Execution: Levels of Testing, Component, Function, Subsystem, System, Test Evaluation, Acceptance.

**Conversion:** Cold Turkey, Parallel, Pilot, Modular and Sequential Methods. Conversion Period Length. **System Evaluation.**

**UNIT - IV :**

Project Planning, Metrics for Project Size Estimation, Project Estimation Techniques,

**Scheduling:** Work Breakdown Structure, Activity Networks and CPM, Gantt Charts, PERT Charts, Project Monitoring and Control. Risk Management, Software Configuration Management: Necessity, Configuring Management Activities

**Software Reliability and Quality Management:** Software Reliability, Software Quality, ISO 9000. Software Maintenance: Characteristics of Software Maintenance, Maintenance Process Models, Estimation of Maintenance Cost.

**Software Reuse:** What can be reused, Why no reuse so far, Basic Issues.

**Reference Books:**

1. Information Systems Analysis, Design and Implementation By K. M. Hussain  
Donna Hussain [Tata McGraw-Hill Publishing Company Ltd, New Delhi]
2. Fundamentals of Software Engineering by Rajib Mall [PHI Publication]
3. Workbook on Systems Analysis & Design by V. Garg [PHI Publication]
4. System Analysis and Design- Don Yeates, shiebls, Helmy (M).
5. System Analysis & Design - Edward –TMH
6. System Analysis and Design – Satzinger, Robert Jackson and Stephen Burd,  
Thomson Learning
7. Introduction to Systems Analysis Design, Igor Hawryszkiewicz, PHI

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part I Semester II**  
**Paper III**  
**NUMERICAL METHODS**

**UNIT - I :**

Roots of Non-Linear Equations : Algebraic equation, Polynomial equation, Transcendental equation, Iterative method, Starting & Stopping Iterative method, Bisection Method, False Position method, Newton Raphson Method: Secant Method, Determining all possible roots, Multiple roots of polynomial, Complex Roots using Muller's Method.

**UNIT - II :**

Solution to Linear Equations Existence of solution, Gauss Elimination Method, Gauss elimination with pivoting, Gauss Jordan Method, Round off errors and refinement, m Conditioned system, Matrix inversion method.

**UNIT - III :**

Linear interpolation, Lagrange Interpolation, Spline Interpolation, Interpolation with equidistant points, Least Square regression Fitting, Transcendental equations, Multiple linear regression, m conditioning in Least square

**UNIT - IV :**

Integration & Differentiation : Trapezoidal Rule, Simpson 1/3 Rule, Simpson 3/8 rule, Gaussian Integration, Solution to differential equation (using Runge-Kutta second and fourth order methods, Multistep method for differential equations (Milne-Simpson method, Adams-bashforth-

**Reference Books:**

- 1.S Sastry Introduction to Numerical Analysis
- 2.Y. Rajaraman, Computer Oriented Numerical Methods - Prentice Hall Publication
- 3.Gupta and Kapoor Fundamental of Mathematical Statistics
- 4.Brian Flowers Introduction to Numerical Methods in C++ By. (Oxford)
- 5.E. Balaguruswamy, Numerical Methods - Tata McGraw Hill Publication
- 6.Srimanta Pal Numerical Methods (Oxford)
- 7.K Sankara Rao Numerical Methods for Scientists & Engineers [PIII].
- 8.Manish Goyal Computer Based Numerical And Statistical Techniques (Laxmi)

**B.C.A. Part I Semester II**  
**Paper IV**  
**DISCRETE MATHEMATICS – 2**

**UNIT - I :**

Set Theory:

Set, Subsets operations on set, Venn diagram, algebra on sets, Cartesian product of sets, Binary relations, Properties of binary relation, Relation matrix and the graph of relation, Partial order relations, Equivalence relations, Equivalence Classes, Composition of relations.

**UNIT - II :**

Functions - definition, types of function, Invertible functions composition of functions.

Counting - Permutation, Combinations, The pigeonhole principle, recurrence relation, Mathematical Induction.

**UNIT - III :**

Algebraic Structures

Semi groups & groups: Binary operations, Semi groups, isomorphism and Homomorphism, Product and Quotient of semi groups, Groups, subgroups, products and Quotient of groups.

Lattices: - Lattice concepts, isomorphic Lattices, Properties of lattices, Finite Boolean algebras.

**UNIT - IV :**

Graph Theory: Basic concepts, types of graphs, Representation of graph in memory, Euler path and circuits, Hamiltonian Path and circuits.

Trees:- Basic concepts, Libeled trees, Undirected trees.

**Reference Books:**

1. Discrete Mathematical Structures with applications to computer Science By J.P.Tremblay & R. Manohar, (TMH)
2. Discrete Mathematical Structures by Kolman Busby and Ross (pearson)
3. Discrete Mathematics By Norman Biggs. (Oxford).
4. Logic and Discrete Mathematics : Grassmann, Tremblay (Pearson)
5. Introduction to Automata Theory, Languages, and computation :Hopcroft, Motwani and Ullman(Pearson)
6. An introduction to the theory of computer science , languages and machines : Sudkamp
7. Kenneth H Rosen Discrete Mathematics & it's Applications TMH

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part I Semester II**  
**Paper V**  
**LINUX OPERATING SYSTEM**

**UNIT - I :**

Logging In and Logging Out, Anatomy of Linux OS, Directory Structure, /usr Directory, File Types: User datafiles, System data files, Executable files. Naming files and directories, Spawning Processes. **Shell:** Creating User Account, Shell Program, bash shell, Changing shell prompt. **Commands:** Basic Syntax for a command, Exploring the Home Directory, ls, mkdir, rmdir, stat, cat, rm, mv, cp

**UNIT - II :**

**Editor:** Vi editor. **Hooking up Hardware Devices:** Formatting a Floppy Disk, Gathering important system information. Backing Up and restoring the File **System:** Simple Backup, gzip, gunzip, tar. **Printing files:** Print Spool directory, Sending files to Printer.

**UNIT - III :**

**Sharing Files with other Users:** Maintaining User Accounts, Changing Password, Creating Group Accounts, Granting Access to files, Changing File Ownership, Protecting Files, Making a File Read-Only. Working with Processes: Types of processes, ps Command, Creating process, killing process, free command and top utility.

**UNIT - IV :**

**Managing Disk Space:** df, du commands, Creating Additional Free Disk Space, Locating Unused Files, Setting System Clock. Communication Utilities: who, who am i, finger, mesg, write, wall, talk, Creating a message of the day. X Window System, Graphical User Interfaces: KDE and GNOME Desktop Environment.

**Reference Books:**

1. SAMS Teach Yourself Linux by Craig and Coletta Witherspoon [Techmedia]
2. LINUX complete reference by Richard Peterson

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**B.C.A. Part I Semester II**  
**Paper VI**  
**E COMMERCE**

**UNIT - I :**

Introduction to e-Commerce, Scope of electronic commerce, definition, e-Commerce and Trade Cycle, e- Markets, Internet e-Commerce in perspective. Value chain, Supply chain, Porters value chain model, Inter organizational value chains.

**UNIT - II :**

Business strategy in electronic age: Competitive advantages, Strategy, Porters model, First Movers advantages, Advantages using e-Commerce. Introduction to business strategy, Strategic implications of IT, Technology, Business environment, Business capability, Existing business strategy, Strategy formulation and implementation planning, e-Commerce implementation, e-Commerce evaluation.

**UNIT - III :**

Business to Business e-Commerce: Inter organizational transactions, The credit transaction trade cycle, A variety of transaction, Pens and things, Electronics Market, Usage of e-Market, Advantages and disadvantages of e-Market, Future of e-Market, EDI, introduction, EDI and Business.

**UNIT - IV :**

Business to Consumer Electronic Commerce: Consumer trade transaction, Internet e-Commerce, e-Shop, Other e-Commerce technologies, Advantages and disadvantages of consumer e-Commerce. Elements of e-Commerce: elements, e-Visibility, e-Shop, Online payments, Internet e-Commerce security.

**Reference Books:**

01. E-Commerce, Strategy, Technologies and Applications By: David Whiteley Tata McGraw-Hill Edition.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part II Semester III**  
**Paper I**  
**VISUAL BASIC PROGRAMMING**

**UNIT-I :**

**Working with Visual Basic Window Components:** Menu Bar, Tool Bar, Project Explorer Window, Form Layout Window, properties Window, Toolbox, Code Editor Window **Working with Forms:** Properties, Events, Methods Working with Basic Controls: Label, CommandButton, TextBox, OptionButton, Frame, CheckBox, ListBox, ComboBox, Image, Scroll, Picture, Timer, DriveListBox, DirListBox, FileListBox and Shape Controls. **Basic Programming Fundamentals:** Variables, Data types, Constant, Conversion Function. Scope of Variable: Public, Private Static. Operators: Logical, Arithmetic, Concatenation, Comparison. Decision Structure: If.. Then, If..Then..Else, Select Case.. End Case. Loop Structure: Do..While, While.. Wend, For.. Next, With..EndWith. DoEvents()

**UNIT-II :**

**Arrays:** Dynamic Array, Preserve and Control arrays. **Procedure:** General procedure, General Methods for Passing Arguments to a Procedure, **Functions:** User-Interaction, String, Math, Date, Conversion Functions.  
**Modules:** Form, Standard.

**UNIT-III :**

**Menus:** Creating, Adding Menu Items, Creating Shortcut, Adding Separators Bars, Submenus, Code for Menus. Creating Popup Menu: System, Custom. **Database Handling:** Database Concepts, Creating and Accessing Database, Using Data Control. **Using DAO:** Creating Search Programs, Numeric Search and Complex Search Programs.

**UNIT-IV :**

**Using ADO Data Control,** Data Link, ODBC Data Source name, Using Connection String, Creating Navigating buttons. Working with Advanced Data Controls : DataList Control, DataCombo Control, DataGrid Control and Msflexgrid Control. **Handling Errors :** Run Time, Trapping and Handling Error, ERR Object. Data Environment and Data Reports.

**Reference Books:**

1. VISUAL BASIC – to Advance by Soma Dasgupta [BPB Publication]
2. Evangelos Petroustos, Mastering Visual Basic 6.0 BPB Publication.
3. VISUAL BASIC 6 COMPLETE REFERENCE (TMH PUB)
4. Visual Basic 6 Deitel & Deitel (Pearson Education)
5. Mastering VB 6.0 Black Book -Peter - Norton-Techmedia.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part II Semester III**  
**Paper II**  
**DATA BASE MANAGEMENT SYSTEM**

**UNIT- I :**

**DBMS :** Definition: Databases, DBMS, Problems with traditional file processing system, Objectives of the database systems, Three level architectures of DBMS, Component of DBMS, Database Administrator, Database Users, Data model, Different types of data models, Concepts of Hierarchical, Network Models.

**UNIT-II :**

**E-R Models :** Basic Concepts, Entity, Attributes, Relation Ship, Mapping, Keys, Weak and Strong Entity Set, Problems on E-R Diagrams, Extended E-R Features: Specialization, Generalization, Aggregation, Problems on Reduction of an E-R Schema to Tables, Tabular representation of Strong, Weak entity Sets and Relationship Sets.

**UNIT-III :**

**Relational Model:** Structure, Relational Algebra, Fundamental Operations, Set – Intersection, Natural Join, Division and Assignment Operation. Extended Relational Algebra Operations, Aggregate Functions.

**UNIT-IV :**

**Functional Dependency:** Functional Dependency, Fully Functional Dependency, Partial Dependency, Transitive Dependency, Multi Valued Dependency. Normalization, Normal Forms ( 1NF, 2NF, 3NF, BCNF, 4NF, 5NF). Problems on Normal forms.

**Reference Books:**

1. Data Base System Concepts By A SilbersChatz By Henry Korth And S.Sudarshan [Mcgraw-Hill ltd. New Delhi] 3<sup>rd</sup> Edition.
2. Introduction to Data Base Management by NAVEEN PRAKASH [Tata McGrawHill ltd.]
3. Bipin C. Desai, An Introduction to Database Systems, Galgotia Publications.
4. Raghu Ramakrishnan & Johannes Gerhrke, "Data Base Management Systems", Mc Graw Hill International Edition, 2000
5. Muzumdar, Introduction to Database Management Systems. TMH

## **B.C.A. Part II Semester III**

### **Paper III**

## **DATA STRUCTURES**

### **UNIT - I :**

**LINKED LIST :** Linked List, Representation of Single, Double, Header, Circular Single and Double Linked list, All possible operations on Single and Double linked List using Dynamic representation, Polynomial Representation and its Manipulation.

### **UNIT - II :**

**STACKS :** Stacks terminology, Representation of Stacks in Memory, Operation on Stacks, Polish Notations, Translation of infix to postfix & prefix expression, Infix to Postfix Conversion, Evaluation of Postfix Expression, Recursion, Problems on Recursion, Quick Sort and Tower of Hanoi Problem.

### **UNIT - III :**

**QUEUE :** Representation of Queues in Memory, Circular Queue. Dequeue and Priority Queue. Operations of above Structure using Array and Linked Representation.

**SORTING AND SEARCHING:** Selection Sort, Insertion Sort, Merge Sort, Efficiency of Sorting Methods, Big-O Notations.

Hash Tables, Hashing Technique, Collision Resolution Technique.

### **UNIT - IV :**

**TREES :** Basic Terminologies, Representation of Binary Trees in Memory, Traversing of Binary tree, Binary Search Tree, Operation on Binary Search Tree, Heap Tree, Operation on Heap Tree, Heap Sort Method

**GRAPHS :** Basic Terminologies, Definition and Representation of Graphs in Memory: Linked List and Matrix Representation. Traversing graphs : BSF, DFS Method.

### **Reference Books:**

1. Classical Data Structures : D. Samanta. PHI, New Delhi.
2. DATA STRUCTURE : LIPSCTUZ SCHUM OUTLINE SERIES
3. Data structure Using C++ : Y. Kanetkar
4. Data Structures Using C++: Tennenbaum
5. Data structures by Tremblay Sorenson
6. Data structures by Bhagat singh Naps

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part II Semester III**  
**Paper IV**  
**OPERATIONS RESEARCH – I**

**UNIT - I :**

Introduction to Operation Research (OR) Origin and development of OR, Nature of OR, Characteristics of OR, Classification of Problems in OR, Models in OR, Phases of OR, Uses and Limitations of OR, Methodologies of OR, Applications in OR. Linear Programming – Concepts of Linear Programming Model, Mathematical Formulation of the Problem, Graphical solution methods.

**UNIT - II :**

Linear Programming Methods – Simplex Methods, Big M methods, Dual Simplex Method, TwoPhase methods. Duality in Linear Programming – Formulation of Dual Problem, Application of Duality.

**UNIT - III :**

Transportation Problem

Mathematical model for Transportation Problem, Types of Transportation Problem.

**UNIT - IV :**

Assignment Problem – Zero-One Programming Model for Assignment Problem, Types of Assignment Problem, Hungarian Method, Branch and Bound Technique for Assignment Problem.

**Reference Books:**

1. Operation Research by Kanti Swarup, P. K. Gupta, Man Mohan [Sultan]
2. Operation Research by R. Panneerselvam [PHI]
3. Introduction to Operation Research by Billy E. Gillet [TMH]
4. Operation Research by Hira Gupta
5. Operation Research Problems and Solutions by Sharma J. K. [MacMillan]
6. Operation Research Theory and Application by Sharma J. K., [MacMillan]

## **B.C.A. Part II Semester III**

### **Paper V**

#### **WEB TECHNOLOGY - I**

##### **UNIT - I :**

Introduction to Internet, History of Internet, Internet users, Internet working, Information on Internet, Requirements for connecting to Internet, Basic Internet Terms, Introduction to world wide web, Evaluation of world wide web, basic features, web browsers, popular web browsers, web servers, HTTP, URL, Search Engines, Search Engines categories, how to use Search Engines, Searching criterion.

##### **UNIT - II :**

HTML: Introduction, Objective, HTML Browsers, Windows Switching, HTML Command Tags, URLs, links, new web page creation, main body of the text, putting headers, adding paragraph , formatting text in HTML and font mechanism, Color settings, superscripts and subscripts and other manipulations on text and paragraphs, using directory and menu lists, creation of links, inserting graphics, using images, all manipulations on tables and its display, Detailed working with forms, allowing visitors to upload files, active images ,working with frames & framesets, Frames handling, scroll bars, alternatives to frames,

##### **UNIT - III :**

Introduction to browsers, Working with e-mail, Parts of e-mail text, working with messages.

DHTML: using DHTML in internet explorer, heading and horizontal line, hidden message, the message at the center of the page, moving boxes ,changeable box.

##### **UNIT - IV :**

Cascading style sheets

Introduction to css, creating style sheets, common tasks with CSS, Colors, the font - family, font metrics ,length units ,absolute units ,relative units ,the pixel unit ,percentages as values ,keywords as values, various properties such as the font -size property, font - size property etc, Assigning classes ,tags and attributes for applying classes, applying classes to an HTML tag, applying classes to other document parts ,the layer tag, CSS Tags

##### **Reference Books:**

1. Internet and web design by R Bangia, Second edition , firewall media
2. Multimedia and Wed technology by R Bangia
3. Internet and web designing by ITELS (Macmillan)
4. Web Enabled Commercial Application Development Using HTML, DHTML, JS, Perl by Ivan Bayross
5. Deitel, Deitel & Nieto, Internet and Worldwide Web how to Program, Pearson Education, PHI.
6. Internmet Programming with VBScript and Java Script.  
Kathhleen Kalata, (Thomsaon Publication)
7. Programming the World Wide Web By. Robert W. Sebesta. (Pearson )
8. Web Technology Theory and Practice By: M Srinivasan (Pearson Publication)

**B.C.A. Part II Semester III**  
**Paper VI**  
**DIGITAL ELECTRONICS – I**

**UNIT - I :**

Number System and Data Representation

**Number System :** Binary, Octal, Decimal and Hexadecimal number system and their interconversion.

**Binary Codes :** BCD, Excess3 , Parity, Gray, ASCII, EBCDIC codes and their advantages and disadvantages.

**UNIT - II:**

Binary Arithmetic

**Data Representation:** Positive, negative, maximum and minimum number representation (related to 8 bit number), real number representation, underflow, overflow, range and accuracy. **Binary Arithmetic:** Binary addition, binary subtraction using 1's and 2's compliment.

**UNIT - III:**

**Logic gates:** Truth table, properties and symbolic representation of NOT, AND, OR, NOR, NAND, EXOR, EXNOR gates. NOR and NAND gates as a universal gates.

**UNIT - IV:**

Boolean Algebra.

Laws and Identities of Boolean algebra, DeMorgan's Theorem , use of Boolean Algebra for simplification of logic expression, K-Map for 2,3,4 variables, simplification of SOP and POS logic expression using K-Map.

**Reference Books:**

1. Digital Electronics by Gothman(PHI)
2. Digital and analogue technique by Navaneeth, Kale and Gokhale
3. Modern Digital Electronics by R. P. Jain

**B.C.A. Part II Semester IV**  
**Paper I**  
**SOFTWARE ENGINEERING - I**

**UNIT - I :**

**Introduction to Software Engineering :** The evolving role of software, Changing Nature of Software, Software myths.

**A Generic view of process :** Software engineering- A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models.

**UNIT - II :**

**Process models :** The waterfall model, Incremental process models, Evolutionary process models, The Unified process. **Software Requirements :** Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document.

**UNIT - III :**

**Requirements engineering process :** Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management.

**System models :** Context Models, Behavioral models, Data models, Object models, structured methods.

**UNIT - IV :**

**Design Engineering :** Design process and Design quality, Design concepts, the design model.

**Reference Books:**

1. Software Engineering, A practitioner's Approach- Roger S. Pressman, 6th edition. McGrawHill International Edition.
2. Software Engineering- Sommerville, 7th edition, Pearson education.
3. Software Engineering- K.K. Agarwal & Yogesh Singh, New Age International Publishers
4. Software Engineering, an Engineering approach- James F. Peters, Witold Pedrycz, John Wiely.
5. Systems Analysis and Design- Shely Cashman Rosenblatt, Thomson Publications.
6. Software Engineering principles and practice- Waman S Jawadekar, The McGraw-Hill Companies.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**B.C.A. Part II Semester IV**  
**Paper II**  
**SQL AND PL/SQL**

**UNIT - I :**

**CODD'S Rules**, Oracle Database Objects, Sub Languages of SQL, Data types, Operators.  
**DDL Statement:** Creating Tables, Deriving Table from existing table, Altering, Dropping Tables. Integrity Constraints, Specifying Names for the Constraints, Viewing Integrity Constraints, Adding and Dropping Constraints. **DML Statements:** SELECT statement, Insert, Update, Delete, Working with Sequences and Synonyms. Built-in functions: Arithmetic, Date, Character, Conversion, Single row, Aggregate, Decode. Joins, Set Operators and Sub queries. **DCL and TCL Statements:** Grant, Revoke, Commit, Rollback and Savepoints.

**UNIT - II :**

**VIEWS:** Creating Views, Dropping Views, Inserting, Updating and Deleting Data using Views, Types of Views. **PL/SQL Programming:** PL/SQL Data Types, Identifiers, Operators and Expressions, Iterative Statements, Conditional Statements, emphasis on Problems

**UNIT - III :**

**Exception Handling :** Predefined Exceptions, User defined Exceptions. **Cursors:** Declaring Cursors, Opening and Retrieving Records, Closing cursors. Attributes of Explicit and Implicit Cursors, Parameter Passing in Cursors. **Procedures :** Create and Drop Procedure, Creating Procedures with Parameters, Calling Procedures, Granting the EXECUTE Permission Problems on Exception Handling, Cursors and Procedures.

**UNIT - IV :**

**Function:** Creating and Dropping Function, Purity Levels in Functions, Executing Functions. **Triggers:** Create Triggers, Type of Triggers, Creating BEFORE and AFTER Triggers, INSTEAD-OF Triggers, Trigger Predicates, Inserting, Updating and Deleting Triggers, Enabling , Disabling and Dropping Triggers. Problems on Functions and Triggers

**Reference Books:**

1. Understanding ORACLE By Ivan Bayross [ BPB Publication]
2. Database System Using Oracle: A Simplified Guide to SQL & PL-SQL: Nilesh Shah, PHI Publication.
3. Database Management Systems (Complete practical approach) by Sharad Maheshwari & Ruchin Jain, Firewall media
4. Dr. P.S.Deshpande SQL & PL/SQL for Oracle 10g Black Book
5. Scott Urman Programming PL/SQL TMH

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Part II Semester IV**  
**Paper III**  
**THEORY OF COMPUTATION**

**UNIT - I :**

Finite Automation and Regular Expression : Finite State systems, Basic Definitions, Non-deterministic finite Automata, Finite Automata with moves, Regular Expressions, Two way finite automata, Finite automata with output, Application on Finite Automata.

**UNIT - II :**

Properties of Regular Sets : The pumping lemma for Regular Sets, Closure properties of Regular sets, Decision Algorithms for Regular Sets. Context Free Grammars, Context Free Grammar, Derivation Tree,

**UNIT - III :**

Simplification of context Free Grammars, Chomsky Normal form, Greibach normal form, The existence of inherently ambiguous context free languages. Properties of Context free languages : The pumping lemma for CFL's , Closure properties of CFL's,

**UNIT - IV :**

Push Down Automata : Informal description, Definitions, Push – Down Automata & Context free languages.

**Reference Books:**

1. Introduction to Automata Theory, Languages and Computation: John E. Hopcroft & Jeffrey D. Ullman
2. Theory of Computer Science : E. V. Krishnamoorthy.
3. Theory of computer Science : K. L. P. Mishra.

**B.C.A. Part II Semester IV**  
**Paper IV**  
**OPERATIONS RESEARCH - II**

**UNIT - I :**

Game Theory – Terminologies of Game Theory, Two Person Zero-Sum Games, The Maximin-Minimax Principle, Games without Saddle points-Mixed Strategies, Graphical Solution of  $2 \times n$  and  $m \times 2$  games, Dominance Property. Introduction, Decision under Certainty, Decision under Risk, Decision under Uncertainty, Decision Tree.

**UNIT - II :**

Network Scheduling by CPM/PERT – Introduction, Basic Concept, Constraints in Network, Critical Path Method (CPM), PERT Network, PERT calculations, Time-Cost trade-off aspects in Network Technique, Advantage of Network (PERT/CPM).

**UNIT - III :**

Inventory Control

Introduction, Inventory Control, Selective Control Techniques, Types of Inventory, Economic Lot Size Problem, Problem of EOQ with shortage, Inventory Control Techniques – Uncertainty Demand, Stochastic Problem, Inventory Control with Price Breaks.

**UNIT - IV :**

Queuing Theory

Introduction, Terminologies in Queuing System, Characteristics of Queuing System, Poisson Process and Exponential Distribution, Classification of Queues, Definition of Transient and Steady states, Poisson Queues, Non-Poisson Queuing Systems, Cost-Profit Models in Queuing, Queuing Control.

**Reference Books:**

1. Operation Research by Kanti Swarup, P. K. Gupta, Man Mohan [Sultan]
2. Operation Research by R. Panneerselvam [PHI]
3. Introduction to Operation Research by Billy E. Gillet [TMH]
4. Operation Research by Hira Gupta
5. Operation Research Problems and Solutions by Sharma J. K. [MacMillan]
6. Operation Research Theory and Application by Sharma J. K., [MacMillan]

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## **B.C.A. Part II Semester IV**

### **Paper V**

### **WEB TECHNOLOGY - II**

#### **UNIT - I :**

Introduction, JSP lifecycles, Elements in JSP Pages , values and variables, operators, loops and various statements in java script, Date object, Math object, string object, window events, working with forms, document object, screen object, navigator object, images and animation.

#### **UNIT - II :**

Java script objects, Implicit JSP Objects, JSP Object scopes, JSP Tags, Declarations, Directives, JSP Tags, JSP Exceptions, Expressions, Scriptlet, Actions, Expression Language, JSP Standard Tag library, JSP Custom Tag library, Java Script security.

#### **UNIT - III :**

VB Script:

Adding VB Script code to HTML, Adding script to your document, Data types, Arrays in script, Messages, Subroutines, functions, if..then..else, for..next loop, do while or do until, Select case construct, Manage your web site with Task and Reports : Keep track of work eith tasks, Check your site with your web site report, Publishing web site to a WPP host server.

#### **UNIT - IV :**

Web Services :

Ev0lution of the concept, Purpose, standards, Use cases, programming models, SOAP Based web services, WSDL,, SOAP, Structure of SOAP messages, REST based Web Services, REST principles, Resource Orientation, SOAP vs. REST.

#### **Reference Books:**

1. Internet and web design by R Bangia, Second edition , firewall media
2. Multimedia and Wed technology by R Bangia
3. Internet and web designing by ITELS (Macmillan)
4. Web Enabled Commercial Application Development Using HTML, DHTML, JS, Perl by Ivan Bayross
5. Deitel, Deitel & Nieto, Internet and Worldwide Web how to Program, Pearson  
a. Education, PHI.
6. Internmet Programming with VBScript and Java Script. Kathhleen Kalata, (Thomsaon Publication)
7. Programming the World Wide Web By. Robert W. Sebesta. (Pearson )
8. Web Technology Theory and Practice By: M Srinivasan (Pearson Publication)

**B.C.A. Part II Semester IV**  
**Paper VI**  
**DIGITAL ELECTRONICS – II**

**UNIT - I :**

Combinational / Sequential Circuits

**Combinational circuits:** Half adder, Full Adder, Parallel adder, Half subtractor, Full Subtractor, 4-bit binary adder subtractor, Multiplexer, Demultiplexer, Decoder, Encoder, Parity detector.

**UNIT - II :**

**Sequential Circuits: Flip-Flops :** Construction and working of RSFF, CkRSFF, DFF, TFF, JKFF, and JKMSFF . **Counters:** Construction and working of asynchronous, synchronous, up-down counter, shift registers and their types.

**UNIT - III :**

Architecture of 8086 and Assembly Language Programming Block diagram of 8086, Pin diagram of 8086, Addressing modes,

**UNIT - IV :**

**Instruction set:** Data transfer, Arithmetic, Logical, String manipulations, Control Transfer, Unconditional branch, Conditional branch, Flag, Processor control. Assembler directives and operators, simple assembly programs.

**Reference Books:**

1. Digital Electronics by Gothman(PHI)
2. Digital and analogue technique by Navaneeth, Kale and Gokhale
3. Fundamental of Microprocessor by B Ram
4. Microcomputers Systems: The 8086/8088 family by Liu. Gibson
5. Introduction to Microprocessor by Douglas V Hall (McGraw Hill.)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Final Semester V**  
**Paper I**  
**COMPUTER GRAPHICS - I**

**UNIT - I :**

Introduction and Primitives

**Introduction:** Application areas of Computer Graphics, overview of graphics systems, video-display devices, raster-scan systems, random scan systems, graphics monitors and work stations and input devices

**UNIT - II :**

**Output primitives :** Points and lines, line drawing algorithms, mid-point circle and ellipse algorithms. Filled area primitives: Scan line polygon fill algorithm, boundary-fill and flood-fill algorithms .

**UNIT - III :**

2D Transformations

**2-D geometrical transforms :** Translation, scaling, rotation, reflection and shear transformations, matrix representations and homogeneous coordinates, composite transforms, transformations between coordinate systems.

**UNIT - IV :**

**2-D viewing :** The viewing pipeline, viewing coordinate reference frame, window to view-port coordinate transformation, viewing functions, Cohen-Sutherland and Cyrus-beck line clipping algorithms, Sutherland –Hodgeman polygon clipping algorithm.

**Reference Books:**

1. “Computer Graphics Principles & practice”, second edition in C, Foley, VanDam, Feiner and Hughes, Pearson Education.
2. “Computer Graphics”, second Edition, Donald Hearn and M.Pauline Baker, PHI/Pearson Education.
3. Procedural elements for Computer Graphics, David F Rogers, Tata Mc Graw hill, 2nd edition.
4. “Principles of Interactive Computer Graphics”, Neuman and Sproul, TMH.
5. Computer Graphics, Amrendra N Sinha, Arun D Udai TMH
6. Computer Graphics, Steven Harrington, TMH

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Final Semester V**  
**Paper II**  
**COMPILER CONSTRUCTION**

**UNIT - I :**

Compilers and translators, need, the structure of a compiler, Lexical Analysis, Syntax analysis, Intermediate code Generation, Optimization, Code Generation, Book keeping, Error Handling

**UNIT - II :**

High Level programming languages, Definitions of programming languages, The lexical and syntactic structure of a language, Data elements, structures, Operators, Assignment Statements, Data Environments, Parameter transmission, Storage management.

**UNIT - III :**

The role of the lexical analyzer, Approach to the design of lexical analyzer, Implementation of lexical analyzer, Context free grammars, Derivations and parse trees, Ambiguous grammar.

**UNIT - IV :**

Parsers, Shift-reduce parsing, Operator precedence parsing, Top-down parsing, predictive parsers, Symbol Table , Code Optimization: The principal source optimization, Loop optimization, The DAG representation of basic blocks, Code Generation : A machine model, a simple code generator, Register Allocation and assignment.

**Reference Books:**

1. Principles of Compiler Design - A.V. Aho, J. D.Ullman : Pearson Education.
2. Modern Compiler Design- Dick Grune, Henry E. Bal, Cariel T. H. Jacobs, Wiley dreamtech.
3. Engineering a Compiler-Cooper & Linda, Elsevier.
4. Compiler Construction, Louden, Thomson.

# **B.C.A. Final Semester V**

## **Paper III**

### **VB.NET**

#### **UNIT - I :**

##### **VB.NET**

Introduction to .Net, The .NET framework, The .NET Programming Framework, .NET Language, The Class .NET Library, Vb.NET, Windows Application using VB .NET

Class: Creating a New Class, defining and using a New Object, Constructor & Destructor  
Inheritance: Inheritance Properties and Methods, Inheriting Constructors, Overriding Methods, Creating a Derived Class

#### **UNIT - II :**

Interface Design & Implement: Abstraction & Interfaces on Object Oriented Software Design, Interface & Inheritance, Realizing the benefits of Interfaces, Implicit Interface, Explicit Interface – Abstract Class of Explicit Interface, Implementing Interfaces – Interface Implementation Semantics, Implementing ICloneable, Implementing IComparable, Accessing & using the Implement, Compound Interfaces

#### **UNIT - III :**

User Interface: Helper Forms, Message Process, Dialog Process, Owned Forms

Menus: Creating a Menu, Functionality to the Menu Items, Enhancing the Menu, Disabling Items on the Windows Form Menus, Creating Context Menu – Step by Step, Add Functionality to the Menu Items

Toolbar: Adding the Toolbar and buttons, Defining an Icon for the Toolbar and Buttons, Defining an ICON for a Toolbar Button, Adding Functionality to the Toolbar

MDI Application: The Basics, Building an MDI Application, Building – In Capabilities of MDI Applications, Accessing Child Forms, Ending an MDI Applications, A Scrollable PictureBox

#### **UNIT - IV :**

Advanced Interface Patterns, Adapters, Delegates & Events: Adapters & Wrappers, Interfaces Adaptation in Action – COM - .NET interop, The Adapter Pattern in .NET, The Adapter Pattern Event – Model, Delegates – Understanding Delegates, Declaration of the Delegates, Early Bound Delegates Declares, Late Bound Delegates Declares, Sorting Data with Delegates, Multicast Delegates, .NET Framework Event Model – Delegates & Events, Delegates Events verses Adapter Events, Delegates verses Function Pointers  
Error Handling & Prevention: Types of Errors – Design Time Error, Runtime Error, Logic Error

Structured Exception Handling: Exception Structured verses Unstructured Exception Handling, Try.....Catch.....Finally Statement, Exception Class.

Debugging: Break Mode, Starting Debugging, Controlling the Flow during Debugging, Debugging Tools

#### **Reference Books:**

1. Evangelos Petroustos, Mastering Visual Basic 6.0 BPB Publication.
2. John Smiley Learn Program with Visual Basic 6
3. Wallace Wang Visual Basic 6 for Dummies (for Windows)
4. VISUAL BASIC 6 COMPLETE REFERENCE (TMH PUB)
5. Deitel & Deitel Visual Basic 6 (Pearson Education)
6. Bradly, VB.Net TMH



**B.C.A. Final Semester V**  
**Paper IV**  
**SOFTWARE ENGINEERING - II**

**UNIT - I :**

**Creating an architectural design :** Software architecture, Data design, Architectural styles and patterns, Architectural Design.

**UNIT - II :**

**Testing Strategies :** A strategic approach to software testing, test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing, the art of Debugging.

**UNIT - III :**

**Product metrics :** Software Quality, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance.

**Metrics for Process and Products :** Software Measurement, Metrics for software quality.

**UNIT - IV :**

**Risk management :** Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM Plan.

**Quality Management :** Quality concepts, Software quality assurance, Software Reviews, Formal technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

**Reference Books:**

1. Software Engineering, A practitioner's Approach- Roger S. Pressman, 6th edition. McGrawHill International Edition.
2. Software Engineering- Sommerville, 7th edition, Pearson education.
3. Software Engineering- K.K. Agarwal & Yogesh Singh, New Age International Publishers
4. Software Engineering, an Engineering approach- James F. Peters, Witold Pedrycz, John Wiely.
5. Systems Analysis and Design- Shely Cashman Rosenblatt, Thomson Publications.
6. Software Engineering principles and practice- Waman S Jawadekar, The McGraw-Hill Companies.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

# B.C.A. Final Semester V

## Paper V

### PHP - I

#### UNIT - I :

**Introduction to PHP:** What Does PHP Do, A Brief History of PHP, Installing PHP, A Walk Through PHP Language **Basics:** Lexical Structure, Data Types, Variables, Expressions and Operators, Flow-Control Statements, Including Code, Embedding PHP in Web Pages, Installing and Configuring PHP on Windows and Linux Platforms

#### UNIT - II :

**Functions:** Calling a Function, Defining a Function, Variable Scope, Function Parameters, Return Values, Variable Functions, Anonymous Functions, Strings: Quoting String Constants, Printing Strings, Accessing Individual Characters, Cleaning Strings, Encoding and Escaping, Comparing Strings, Manipulating and Searching Strings, Regular Expressions, POSIX-Style Regular Expressions, Perl-Compatible Regular Expressions,

#### UNIT - III :

**Arrays:** Indexed Versus Associative Arrays, Identifying Elements of an Array, Storing Data in Arrays, Multidimensional Arrays, Extracting Multiple Values, Converting Between Arrays and Variables, Traversing Arrays, Sorting, Acting on Entire Arrays, Using Arrays

#### UNIT - IV :

**Reading data in web pages:** Setting Up Web Pages to Communicate with PHP, Handling Text Fields, Text Areas, Check Boxes, Radio Buttons, List Boxes, Password Controls, Hidden Controls, Image Maps, File Uploads. **Handling Buttons:** Making Button Data Persist, Using Submit Buttons as HTML Buttons.

#### Reference Books:

1. PHP 5.1 for beginners by Evan Bayross and Sharman Shah, SPD Publications
2. PHP 5.2 The Complete Reference by Steven Holzner, Mc Graw Hill Edition 2008.
3. Programming PHP by Rasmus Lerdorf and Kevin Tatroe, Orilly Publications

**B.C.A. Final Semester V**  
**Paper VI**  
**DATA COMMUNICATION AND NETWORK - I**

**UNIT - I :**

Data Communication

Data Transmission- Concept and Terminology, Analog & Digital Data Transmission, Transmission Impairment, Transmission Media.

Data Encoding- Digital Data, Analog Data, Digital Signal, Analog Signal.

**UNIT - II :**

Digital Data Communication: Asynchronous and Synchronous transmission, Error detection technique, Interfacing.

Data Link Control: Line configurations, Flow control, Error control, Data link control protocols. Multiplexing-Frequency division multiplexing, Synchronous Time Division Multiplexing.

**UNIT - III :**

Circuit Switching: Communication Networks, Circuit switching, Single Node network, Digital switching concept, Control Signaling.

**UNIT - IV :**

Packet Switching: Packet switching principles, Virtual circuits and diagrams, Routing, Traffic control, X.25. LAN & MAN- LAN,MAN technology, Bus, Tree, Star and Hybrid Topologies, Optical fiber Bus, Ring Topology, Medium Access Control Protocols, LAN/MAN standards.

**Reference Books:**

1. William Stallings, Data and Computer Communication, PHI Publication.
2. Forouzan, Data Communication and Networks, Tata McGraw Hill.
3. Godbole, Data Communication and Network, TMH
4. Tanenbum, Computer Networks , ,PHI Publication.
5. Comer Internetworking with TCP/IP Vol-1, PHI Publication

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Final Semester VI**  
**Paper I**  
**COMPUTER GRAPHICS - II**

**UNIT - I :**

3D Transformations

3-D object representation : Polygon surfaces, quadric surfaces, spline representation, Hermite curve, Bezier curve and B-Spline curves, Bezier and B-Spline surfaces. Basic illumination models, polygon rendering methods.

**UNIT - II :**

**3-D Geometric transformations** : Translation, rotation, scaling, reflection and shear transformations, composite transformations.

**3-D viewing** : Viewing pipeline, viewing coordinates, view volume and general projection transforms and clipping

**UNIT - III :**

**Visible surface detection methods** : Classification, back-face detection, depth-buffer, scan-line, depth sorting, BSP-tree methods, area sub-division and octree methods

**UNIT - IV :**

**Computer animation** : Design of animation sequence, general computer animation functions, raster animation, computer animation languages, key frame systems, motion specifications.

**Reference Books:**

1. "Computer Graphics Principles & practice", second edition in C, Foley, VanDam, Feiner and Hughes, Pearson Education.
2. "Computer Graphics", second Edition, Donald Hearn and M.Pauline Baker, PHI/Pearson Education.
3. Procedural elements for Computer Graphics, David F Rogers, Tata Mc Graw hill, 2nd edition.
4. "Principles of Interactive Computer Graphics", Neuman and Sproul, TMH.
5. Computer Graphics, Amrendra N Sinha, Arun D Udai TMH
6. Computer Graphics, Steven Harrington, TMH

**B.C.A. Final Semester VI**  
**Paper II**  
**PROGRAMMING IN JAVA**

**UNIT - I :**

**Introduction to Java:** -History of Java, features of Java, getting started with Java.

**Java programs:**-Introduction of Application & Applets. **Variables:** -Variable naming, variable initialization, assign values, Rules of variables, Scope of variable. **Operators:** - Arithmetic, Assignment, Unary, Comparison, Shift, Bit- Wise, Logical, Conditional, New, Special, Relational. Data types:-Integers, Char, String, Float etc. Typecasting:

**Tokens:** -Java tokens Order of precedence of operators Streams: - Input and output.

**UNIT - II :**

**Creating a class & subclass:** -Declaring a class, Naming class, Rules to assign Class & Subclass, Creating a new object, Class of an object. **Data members:** -Declaring data member, Naming variables, using class members. **Methods:** -Using data members, Invoke a method, passing arguments to a method, calling method. **Access Specifier & Modifiers:** -Public, Private, Protected, Static & Final. **Overloading:** -Method overloading, Constructor overloading. **Java class library:** - Different types of classes.

**Decision making & loops:**-If-then-else, Switch,? : operator, While-loop, do-while loop, for. **Array:** -Creating an array, one-dimensional array, two-dimensional array. **String:** - String array, string methods. **Inheritance:** -Single & multiple inheritances **Interfaces:** - Defining interfaces, extending interfaces, implementing interfaces.

**UNIT - III :**

**Packages:** -Java API packages, creating packages, accessing packages, adding a class to packages. **Import statement:** - Introduction & implementation of import statement.

**Applets:**-Introduction to Applets & Application, how applets application are different creating An applet. Applets life cycle, designing a web page, creating an executable applet, running the applet, applet tags, passing a parameter to applet, HTML tag, Converting applet to application. **Threads:**-Overview of threads, single & multiple threads, life cycle of threads, stopping & blocking threads, working with threads, priority to thread, synchronization. **Exceptions & Errors:**-Introduction, types of error, exception, syntax of exception, handling techniques, exception for Debugging.

**UNIT - IV :**

**Event:** -Event driven programming, handling an (AWT) events. **Graphic class:-** Introduction, the graphic classes, drawing & filling of lines, rectangle, circle & ellipse, arcs, polygons, text & fonts, creating a font class, font objects, text, coloring object.

**Streams:**-Introduction, Abstract stream classes, file input & output.

**AWI Applications:** -Creating a GUI using AWT toolkit, using component class, frames.

**Components & Control:** -Textfield, textarea class, label, button, choice, list, checkbox, class, and combo. **Menus:** -Creating a popup menus. **Image:** - Type of image, Properties of an image, Displaying an image. **Layouts:** -Using Window Listener interface, Different types of Layout, Layout manager, Flow manager, Grid manager. **Container:** -Different types of container (Frame, Dialog, Panel)

**Reference Books:**

1. Programming with Java a primer II edition:-E Balaguruswamy(Tata McGraw-Hill)
2. Java Programming (For absolute beginners) Russell PHI
3. Black Book on Java
4. Java-Complete References

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## **B.C.A. Final Semester VI**

### **Paper III**

### **ASP.NET**

#### **UNIT - IV :**

##### **Introduction to XML**

Introduction to XML, creating DTD, elements and attributes definitions. XML schema. Defining simple and complex types. Namespaces, Schemas and validation. Cascading style sheets (CSS) L and XML, Anatomy of a style, creating and calling style sheets for an XML/HTML document. Layout with CSS. Setting up various properties of elements using CSS. Formatting text with CSS, XML schemas, writing Simple sheets using XSLT, SAX and DOM Parsers, SOAP introduction.

#### **UNIT - II :**

##### **Introduction to ASP .NET**

Introduction to ASP .Net, Types, Object and Namespaces, Setting up ASP .NET and IIS, ASP .NET configuration, ASP .NET Application, Web form Fundamentals, Web Controls, Global.asax Application File, Responding toPostBack Events in ASP .NET.

#### **UNIT - III :**

ASP .NET Validations and Rich Controls: Calendar Control, AdRotator, Advertisement File and AdRotator Class, Server-side Validation, Client –side Validation, Validation Controls, Validated Customer Form. Stat Management, Tracing, Logging and Error Handling.

#### **UNIT - IV :**

Accessing Data with ADO.NET Relational Databases and SQL, ADO .NET Object model, Working with Data –Bound Controls, Populating a DataGrid, DataList and Repeater, Customizing DataSet and Combining Data Tables, Changing Database records accessing, Updating, Deleting and Creating records, Difference between ADO .NET and XML, Adding Controls, Data binding, Database Connectivity.

#### **Reference Books:**

1. Beginning XML By Wrox Press
2. XML how to program By Deitel and Deitel
3. Web Enabled Commercial Application Deveopement using HTML, DHTML, JAVA Script, and PERL-CGI By Ivan Bayross
4. The Complete Reference By Thomas Powell Tata MacGraw Hill
5. ASP .NET-The Complete Reference Tata MacGraw Hill

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**B.C.A. Final Semester VI**  
**Paper IV**  
**SOFTWARE TESTING**

**UNIT - I:**

**Introduction:** Testing as an Engineering Activity, Testing as a Process, testing axioms, Basic Definitions Software Testing Principles, The Tester's Role in a Software Development Organization, Origins of Defects, cost of defects, Defect Classes, The Defect Repository and Test Design, Defect Examples, Developer/Tester Support for Developing a Defect Repository, Defect Prevention Strategies.

**UNIT - II:**

**Test Case Design :** Test Case Design Strategies, Using Black Box Approach to Test Case Design, Random Testing, Requirements based testing, Boundary Value Analysis, Decision tables, Equivalence Class Partitioning, State-based testing, Cause-effect graphing, Error guessing, Compatibility testing, User documentation testing, Domain testing

Using White Box Approach to Test design, Test Adequacy Criteria, static testing vs. structural testing, code functional testing, Coverage and Control Flow Graphs, Covering Code Logic, Paths, Their Role in White-box Based Test Design, code complexity testing, Evaluating Test Adequacy Criteria.

**UNIT - III:**

**Levels Of Testing :** The Need for Levels of Testing, Unit Test, Unit Test Planning, Designing the Unit Tests, The Test Harness, Running the Unit tests and Recording results, Integration tests, Designing Integration Tests, Integration Test Planning, Scenario testing, Defect bash elimination.

System Testing, Acceptance testing, Performance testing, Regression Testing, Internationalization testing, Ad-hoc testing - Alpha , Beta Tests, testing OO systems, Usability and Accessibility testing, Configuration testing, Compatibility testing, Testing the documentation, Website testing

**UNIT - IV:**

**Test Management :** People and organizational issues in testing, organization structures for testing teams, testing services, Test Planning , Test Plan Components, Test Plan Attachments, Locating Test Items – test management, test process, Reporting Test Results, The role of three groups in Test Planning and Policy Development, Introducing the test specialist, Skills needed by a test specialist, Building a Testing Group.

**Reference Books:**

1. Srinivasan Desikan and Gopaldaswamy Ramesh, "Software Testing – Principles and Practices", Pearson education, 2006.
2. Ilene Burnstein, "Practical Software Testing", Springer International Edition, 2003.
3. Ron Patton, " Software Testing", Second Edition, Sams Publishing, Pearson education, 2007
4. Renu Rajani, Pradeep Oak, "Software Testing – Effective Methods, Tools and Techniques", Tata McGraw Hill, 2004.
5. Edward Kit, "Software Testing in the Real World – Improving the Process", Pearson Education, 1995.
6. Boris Beizer, "Software Testing Techniques" – 2nd Edition, Van Nostrand Reinhold New York, 1990.
7. Aditya P. Mathur, "Foundations of Software Testing – Fundamental algorithms and techniques", Dorling Kindersley (India) Pvt. Ltd., Pearson Education,

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

# B.C.A. Final Semester VI

## Paper V

### PHP - II

#### UNIT - I :

**PHP Browser-Handling Power:** Using PHP's Server Variables, Using HTTP Headers, Getting the User's Browser Type, Redirecting Browsers with HTTP Headers, Dumping a Form's Data All at Once, Handling Form Data with Custom Arrays, Putting It All in One Page.

**Data Validation:** Performing Data Validation, Checking if the User Entered Required Data, Requiring Text, Persisting User Data, Client-Side Data Validation, Handling HTML Tags In User Input.

#### UNIT - II :

**Classes and Objects:** Terminology, Creating an Object, Accessing Properties and Methods, Declaring a Class, Introspection, Serialization, Web Techniques: HTTP Basics, Variables, Server Variables, Server Information, Processing Forms, Setting Response Headers, Session, cookies, files, Maintaining State, SSL.

#### UNIT - III :

**Working With Database:** Using PHP to Access a Database: Relational Databases and SQL, Mysql database Basics, Execute SQL Queries In PHP, Accessing The Database In PHP: Connecting To The Database, Reading, Displaying, Closing Connection, Database Manipulation: Inserting, Updating, Sorting and Deleting Records. Advanced Database Techniques.

#### UNIT - IV :

Setting a Cookie, Reading a Cookie, setting cookies Expiration, Deleting Cookies. Working with FTP: Downloading with FTP, Uploading files with FTP, Deleting a file with FTP, Creating and Removing Directories with FTP, Sending E-mail, Advanced E-mail, Adding Attachments to E-mail, Storing Data in Sessions, Writing a Hit Counter Using Sessions. PHP Code, Shell Commands.

#### Reference Books:

1. PHP 5.1 for beginners by Evan Bayross and Sharman Shah, SPD Publications
2. PHP 5.2 The Complete Reference by Steven Holzner, Mc Graw Hill Edition 2008.
3. Programming PHP by Rasmus Lerdorf and Kevin Tatroe, Orilly Publications



**B.C.A. Final Semester VI**  
**Paper VI**  
**DATA COMMUNICATION AND NETWORK - II**

**UNIT - I :**

Communication Architecture

Protocols & Architecture: Protocols, The Layers Approach, OSI Model, TCP/IP protocol suite, System Network Architecture.

Internetworking: Principles of Internetworking, Bridges, Routers, Repeaters, Gateways, Connection Oriented Internetworking, Connectionless Internetworking, Connectionless Internetwork Protocol, Router-level protocol.

**UNIT - II :**

Transport Protocols- Transport services, Protocol Mechanism, Network services, ISO Transport Standards, TCP, UDP, TCP and UDP Packet format, Lightweight Transport Protocol.

**UNIT - III :**

Session Services & Protocols- Session Characteristics, OSI Session Services, Definition, OSI Session Protocol definition. DNS, FTP, HTTP.

**UNIT - IV :**

Digital Network

ISDN & Broadband ISDN : Overview of ISDN, Architecture and Interfaces of ISDN, Transmission structure, User Access, ISDN protocols, Broadband ISDN(B-ISDN).

**Reference Books:**

1. William Stalling, Data and Computer Communication, PHI Publication.
2. Forouzan, Data Communication and Networks, Tata McGraw Hill.
3. Godbole, Data Communication and Network, TMH
4. Tanenbum, Computer Networks, PHI Publication.
5. Comer Internetworking with TCP/IP Vol-1, PHI Publication

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

**NOTIFICATION**

No. Acad/168.

Date :12<sup>th</sup> June, 2014

To,

The Principal  
of all the affiliated Commerce Colleges  
of Rashtrasant Tukadoji Maharaj  
Nagpur University, Nagpur

**Subject:- Direction No. 12 of 2014.**

**Sir/Madam,**

I am forwarding herewith a copy of the Direction No. 12 of 2014 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 "**Direction Governing The Examinations Leading To The Degree Of Bachelor Of Commerce (Computer Application)(BCCA) In The Faculty Of Commerce**" along with the scheme to be implemented from Academic Session 2014-2015.

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Yours faithfully,

Sd/-

**(Dr. A.V. Gomashe)**

Registrar,

Rashtrasant Tukadoji Maharaj

Nagpur University, Nagpur.

No. Acad/168.

Nagpur dated the 12<sup>th</sup> June, 2014

**Copy for information and necessary action along with the Direction and Scheme as mentioned above to :-**

- 1) The Dean, Faculty of Commerce, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 2) The Chairman, All Board of Studies in Commerce Faculty, R.T.M. Nagpur University.
- 3) The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

*(Signature)*  
20/03/2014  
Off. Principal,  
S.S. Maniar College, Nagpur

- 4) The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 5) The Deputy Registrar (Exam.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 6) The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 7) The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 8) The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 9) The Asstt. Registrar (Exams & Enquiry.), R.T.M. Nagpur University, Nagpur
- 10) The Asstt. Registrar University's Sub-Centre at Gadchiroli, R.T.M. Nagpur University, Nagpur.
- 11) The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
- 12) The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur
- 13) The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 14) The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 15) The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
- 16) Mrs. Veena Prakash, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-

**(Puran Meshram)**

Deputy Registrar(Acad.)

Rashtrasant Tukadoji Maharaj

Nagpur University, Nagpur.



## **RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY**

“(Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Universities Act, 1994.)”

**Directions, Subject Scheme and Syllabus**

**For**

### **Bachelor of Commerce (Computer Application) (BCCA) Examinations**

**FACULTY OF  
COMMERCE**

**B.Com. (Computer Application) (BCCA) Examinations**

**2014-15 and Onwards**

**(Three Years Degree Course)**



**RASHTRASANT TUKDOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

**Direction No. 12 of 2014**

**DIRECTION GOVERNING THE EXAMINATION LEADING TO THE DEGREE  
OF Bachelor of Commerce (Computer Application)**

**{B.Com. (Computer Application)}(BCCA)Examination**

**WHEREAS** the Maharashtra Universities Act No. XXXV of 1994 has come into force with effect from 22nd July, 1994.

**AND**

**WHEREAS** the amendment to the said Act came to be effected from 12th May, 2000.

**AND**

**WHEREAS** the Faculty of Commerce at its meeting held on 01-05-2013 have decided to restructure the syllabus for the award of the degree of **Bachelor of Commerce (B.Com(Computer Application))(BCCA)** Examination commensurate with the curricula existing in the various Universities in India and with a view to include the latest trends in the commerce stream as well as to design it to suit to the needs of the industries and corporate houses as provided under Section 38(a) of the Act.

**AND**

**WHEREAS** all the Board of Studies in Faculty of Commerce in its meeting held on 20-07-2013 restructured the existing syllabi and recommended the new scheme of examination.

**AND**

**WHEREAS** the recommendations made by the all four Board of studies under Faculty of Commerce were approved by the Academic Council, in its meeting held on \_\_\_\_\_.

**AND**

**WHEREAS** it is expedient to provide and Amend Ordinance for the purpose of prescribing examinations leading to the degree of **B.Com(Computer Application))(BCCA)** in the Faculty of Commerce.

Now, therefore, I, Anoop Kumar, Vice-Chancellor, Rastrasant Tukdoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section

14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction.

### **Scheme of Examination**

1. This Ordinance may be called '**Examination leading to the degree of B.Com(Computer Application))(BCCA) in the Faculty of Commerce (Amendment) Ordinance,**-----  
-----
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. There shall be three examinations leading to the degree of **B.Com(Computer Application))(BCCA)** namely :
  - (1) The **B.Com(Computer Application)(BCCA) Part - I** Examination,
  - (2) The **B.Com(Computer Application)(BCCA) Part - II** Examination and
  - (3) The **B.Com(Computer Application)(BCCA) Final** Examination.
4. The duration of the Degree Course under this shall be of three academic years with the **BCCAPart - I** Examination at the end of the first academic year, the **BCCAPart - II** Examination at the end of the second year and the **BCCAFinal** Examination at the end of the third year.
5. The Examinations Specified in paragraph 3 above shall be held twice a year at such places and on such dates as may be fixed by the University.
6. The details of eligibility for **B.Com(Computer Application)(BCCA)** examinations:

(A) For the **BCCAPart - I**, Examinee shall have Passed the 12<sup>th</sup> Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education, with English at Higher or Lower level and any Modern Indian Language at higher or lower level with any combination of optional subjects;

**OR**

XII Standard Examination of Maharashtra State Board of Secondary and Higher Secondary Education in Vocational Stream with one language only; OR any other examination recognized as equivalent thereto; in such subjects and with such standards of attainments as may be prescribed Minimum Competition vocation course (MCVC).

**OR**

**Any other Equivalent Examination of any State in (10+2) pattern with any combination of subjects**

(B) For the **BCCAPart - II** Examination the student shall have appeared in **BCCAPart - I** Examination of this University & should be eligible as per ATKT rules.

(C) For the **BCCAFinal** Examination the student shall have Passed **BCCAPart - I** & shall have appeared in **BCCAPart - II** Examination of this University & should be eligible as per ATKT rules.

7. A collegiate candidate shall have pursued a regular course of study for not less than one academic year before being examined for **BCCAPart - I** or the **BCCAPart - II** or the **BCCAFinal** Examination in any recognized institution and or college affiliated to Rashtrasant Tukdoji Maharaj Nagpur University where the course is conducted.

8. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said Ordinance shall apply to every collegiate candidate.

9. The fees for the examination shall be as prescribed by the University from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.

10. (A)

**Teaching and Examination Scheme**  
**B.Com. (Computer Application)(BCCA)**  
**Three Year Degree Course**

**B.Com. (Computer Application)(BCCA) Part-I w.e.f. 2014-15**

Sr.No	Subjects	Teaching Scheme			Examination Scheme								Total Marks (TH. + PR + IM)
		Theory (Periods)	Practical (Periods)	Total (Periods)	Theory				Practical				
					Max Marks Theory Paper (TH)	Max Internal Marks (IM)	Total	Min Passing Marks	Max Marks Practical (PR)	Min Passing Marks			
1	English & Business Communication	4	-	4	80	20	100	40		-	-	100	
2	Principles of Business Management	4	-	4	80	20	100	40		-	-	100	
3	Financial Accounting	4	-	4	80	20	100	40		-	-	100	
4	Information Systems	4	-	4	80	20	100	40		-	-	100	
5	Information Technology	4	-	4	80	20	100	40		-	-	100	
6	Introduction to Operating Systems	4	-	4	80	20	100	40		-	-	100	
7	Practical-I : Microsoft Office	-	6	6						100	40	100	
8	Practical-II : Operating System	-	6	6						100	40	100	
<b>Total</b>		24	12	36								800	

- Note :
1. Theory/Practical period of 48 minutes per week.
  2. TH = Theory, PR = Practical, IM = Internal Marks.
  3. Minimum marks for passing will 40% of the total marks allotted to the theory paper/Practical.
  4. The candidate has to pass theory papers and practicals separately.
  5. Practical Examination is to be conducted as follows:
 

a) Practical Record	20 marks
b) Writing two programs/theory	20 marks each
c) Program Execution	20 marks
d) External viva-voce	20 marks
-----	

Total 100 marks



(B)

**B.Com. (Computer Application) Part-IIw.e.f. 2015-16**

Sr.No.	Subjects	Teaching Scheme			Examination Scheme							Total Marks (TH. + PR + IM)
		Theory (Periods)	Practical (Periods)	Total (Periods)	Theory				Practical			
					Max Marks Theory Paper (TH)	Max Marks (IM)	Total	Min Passing Marks	Max Marks Practical (PR)	Min Passing Marks		
1	Statistics & Quantitative Techniques.	4	-	4	80	20	100	40	-	-	100	
2	Business Economics	4	-	4	80	20	100	40	-	-	100	
3	Cost & Management Accounting	4	-	4	80	20	100	40	-	-	100	
4	Programming Skills (C Prog.)	4	-	4	80	20	100	40	-	-	100	
5	E-Commerce & Web Designing	4	-	4	80	20	100	40	-	-	100	
6	MIS & System Analysis	4	-	4	80	20	100	40	-	-	100	
7	Practical-I : Programming Skills	-	6	6					100	40	100	
8	Practical-II : HTML	-	6	6					100	40	100	
<b>Total</b>		24	12	36							800	

- Note :
1. Theory/Practical period of 48 minutes per week.
  2. TH = Theory, PR = Practical, IM = Internal Marks.
  3. Minimum marks for passing will 40% of the total marks allotted to the theory paper/Practical.
  4. The candidate has to pass theory papers and practicals separately.
  5. Practical Examination is to be conducted as follows:
    - a) Practical Record 20 marks
    - b) Writing two programs/theory 20 marks each
    - c) Program Execution 20 marks
    - d) External viva-voce 20 marks

Total 100 marks

C.

**B.Com. (Computer Application) Part-III w.e.f. 2016-17**

Sr.No.	Subjects	Teaching Scheme			Examination Scheme						Total Marks (TH.+ PR+IM)
		Theory (Periods)	Practical (Periods)	Total (Periods)	Theory			Practical			
					MaxMarks Theory Paper (TH)	Max Marks (IM)	Total	Min Passing Marks	Max Marks Practical (PR)	Min Passing Marks	
1	<b>Business Law</b>	4	-	4	80	20	100	40	-	-	100
2	<b>Computerized Accounting (TALLY)</b>	4	-	4	80	20	100	40	-	-	100
3	<b>Software Product and Project Management.</b>	4	-	4	80	20	100	40	-	-	100
4	<b>Front End Development</b>	4	-	4	80	20	100	40	-	-	100
5	<b>DBMS and Oracle</b>	4	-	4	80	20	100	40	-	-	100
6	<b>Practical-I : Tally</b>	-	6	6					100	40	100
7	<b>Practical-II : VB &amp; Oracle</b>	-	6	6					100	40	100
8	<b>PROJECT</b>	-	6	6					100	40	100
	<b>Total</b>	20	18	38							800

- Note:
1. Theory/Practical period of 48 minutes per week.
  2. TH = Theory, PR = Practical, IM = Internal Marks.
  3. Minimum marks for passing will 40% of the total marks allotted to the theory paper/Practical.
  4. The candidate has to pass theory papers and practicals separately.
  5. Practical Examination is to be conducted as follows:
 

a) Practical Record	20 marks
b) Writing two programs/theory	20 marks each
c) Program Execution	20 marks
d) External viva-voce	20 marks

-----  
Total 100 marks

6. Project Examination is to be conducted jointly by External Examiner & Internal Examiner / (Guide) appointed by university & shall jointly award the marks.

**11. (A)** The scope of the subjects and pattern of examination shall be as indicated in Syllabus.

**(B)** The Medium of instructions and examinations shall be in ENGLISH only.

**(C)** The Maximum/minimum marks which each subject carries & workload in BCCAPart - I, Part- II and Final Examination shall be as indicated in Examination & Teaching Scheme (item no 10) "A", "B", and "C" respectively.

12. The percentage of passing marks in Theory & Practical shall be as indicated in Examination Scheme (item no 10) "A", "B", and "C" respectively.

**In order to pass at the BCCA Part - I, II and Final Examinations an examinee shall obtain not less than 40% marks in each theory subject paper/practical, that is to say jointly in the written subject theory Examination and in internal assessment /sessional wherever applicable.**

(i) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.

(ii) An examinee who has failed at the Internal /sessional examination only shall be required to register himself afresh for doing the Internal practical work again in the Department / College in the subject/subjects in which he has failed on payment of fresh annual Internal/sessional fee of Rs. 100/- per paper. Such registration shall be done on or before the beginning of the respective Academic Session. The Director / Principal shall on being satisfied about the completion of the Internal/sessional work of such a candidate send the fresh Internal sessional marks to the University and these fresh Internal /sessional marks shall be taken into consideration for computing his / her result at the examination.

13.(a) There shall be no classification of examinees successful at the BCCA Part - I & II Examinations. Division at the BCCAFinal Examination shall be declared on the basis of the aggregate marks at the BCCAPart - I Examination , the BCCAPart -II Examination and the BCCAFinal Examination taken together.

(b) Successful examinees at the BCCAPart -I, BCCAPart -II and the BCCA Final Examinations taken together and obtaining 75% or more in the aggregate shall be placed in the distinction, 60 % or more in the aggregate shall be placed in the first division, those obtaining less than 60 % but not less than 45 % in the Second Division & those obtaining less than 45% in third division.

c) Successful examinees in the BCCAPart -I, BCCAPart -II and BCCA Final Examination shall be awarded Distinction in each subject in which examinees obtain 75 % or more marks in that subject at the respective Examination.

14. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.

15. Provisions of Ordinance No. 3 of 2007 relating to the award of Grace Marks for passing an examination, securing higher division / class and for securing distinction in subject(s) shall be applicable.

16. Notwithstanding anything to the contrary in this Direction, no person shall be admitted to an examination under this Ordinance, if he/ she has already passed the same examination or an equivalent examination of any other University.

17. Examinees passing all the **B.Com(Computer Application)(BCCA)** Examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.

18. The aforesaid Amendment shall come into force from the date of its issuance and shall remain in force till the relevant Ordinance come into being in accordance with the provisions of the Maharashtra University Act, 1994.

19. The marks for internal assessment should be communicated to university within time limit as per University norms.

The record of conduct of such examination, evaluation and marks for internal assessments should be maintained for a period of at least **one** year by the respective college / Department for the verification by the competent authority.

The A.T.K.T. rules shall be as under : (Theory and Internal assessment of that theory subject shall be jointly considered as single passing head).

Admission to academic year	Candidate should have passed in following examination	Candidate should have passed in Minimum <b>FOUR</b> passing heads of the following examination
I Year	H.S.S.C/equivalent	-----
II Year	-----	<b>BCCA</b> Ist year
Final Year*	<b>BCCA</b> Ist year	<b>BCCA</b> IInd year

**Note: (\*)** A candidate admitted to Final Year can appear for Final year examination however the result of the Final year examination will be withheld unless the candidate clears all the lower examinations of the **BCCA** course.

20. This direction shall come into force phase wise from the academic session 2014-15.

Nagpur:

Dated : 4.6.2014

Sd/-

( Anoop Kumar )

Vice-Chancellor

## Syllabus

# B.Com. (Computer Application) Part-I

## Paper – 1: English and Business Communication

**Unit I:** Comprehension, Enriching Vocabulary, Single Word For a Group of Words, Words Frequently Misspell.

**Unit II:** Business Letter Writing, Getting to the point, Choice of Words, Punctuation, E-mail etiquette. Enquiries and replies - Placing and fulfilling orders - Complaints and follow-up - Sales letters - Circular letters - Application for employment and resume.

**Unit III:** Nature, Scope, and Functions of Communication: Definition, Objectives, Purpose of Communication, Communication Process, Sender's Thoughts, Encoding, Decoding, Feedback Loop, Noise Channels of Communication, Informal Channels Of Communication, Barriers to Effective communication.

**Unit IV:** Textbook entitled 'Prism: Spoken and Written Communication, Prose & Poetry' published by Orient Longman

- 1) The Bet – Anton Chekov
- 2) Socrates and the Schoolmaster – F. L. Brayne
- 3) An Astrologer's Day – R. K. Narayan
- 4) The Gift of the Magi – O' Henry
- 5) With the Photographer – Stephen Leacock

### Reference Books:

1. Oxford Practice Grammar – John Eastwood (Oxford)
2. Business Communication – Sona Prasad, Saijyoti Publication  
A Guide to Business Correspondence – Kapoor A. (S. Chand & Co.)
3. Basic Business Communications – Rober M. Archer
4. English Grammar – Wren in & Martin
5. Effective Business Communication – Herta Murphy Chorles Perk (Tata McGraw Hill)
6. Business Communication: Urmila Rai, S.M. Rai- (Himalaya Publishing House)
7. Business Correspondence & Communication Skill- Kapur (S. Chand Co.)

## Paper-2: Principles of Business Management

**Unit I: Introduction** - Nature, function, definition and importance of management, Definition, nature, purpose and scope of management, Functions of a manager, an overview of planning, organizing and controlling, is management a science or art?

**Unit II: Development of Management Thought** - Scientific management; Contribution of Taylor, Fayol, Mary Follet, Elton Mayo; Hawthorne experiments, Contingency approach, Indian heritage in production and consumption.

**Unit III: Management and Administration** - Management and administration, Management as a profession, Professionalism of management in India, Management ethics and management culture, Skills required of manager, Classification of skills, Methods of skills development.

**Management Planning** - Concept of planning, objectives, Nature, Types of plan, Stages involved in planning, Characteristics of a good plan, Importance, Limitations of planning, Making planning effective, Strategic planning in Indian Industry.

**Unit IV: Decision Making** - Concept, characteristics of decisions, Types of decisions, Steps Involved in decision making, Importance of decision making, Methods of decision making, Committee Decision Making.**Organisation** - Concepts, Principle of organization, Importance, Features of good organization structure, Types of Organisation structure.

### Reference Books:

1. Essential of Business Administration - K.Aswhatha Himalaya Publishing House
2. Management: Concept and Strategies By J. S. Chandan, Vikas Publishing
3. Principles of Management, By Tripathi, Reddy Tata McGraw Hill
4. Principles of Management By Ramasamy T, Himalaya Publishing House
5. Principles of Business management By Sherlekar, Himalaya Publishing House

## Paper-3: Financial Accounting

**Unit -I: Introduction** - Meaning, Scope and importance of Financial Accounting. Financial Accounting - concepts and conventions, classification of accounts, Rules and principles governing Double Entry Book-keeping system. Accounting Books & Record - Meaning, Preparation of Journal, Ledger & Trial balance. Accounting Standards - introduction, Need & Objectives, AS 1 to AS 10, Accounting Policies and their Disclosure.

**Unit II: Final Account of Joint Stock Companies** - Final Accounts of Joint Stock Companies - contents, and preparation of Trading and Profit and Loss Account, Profit and Loss Appropriation Account and Balance sheet with adjustment, Closing Entries (Simple entries).

**Unit III: Accounting for Non-profit making institutions:** Introduction for non-profit making institutions, receipt and payment account, income and expenditure account, preparation of final accounts of non-profit making institutions.

**Unit IV: Issue of Shares:** Entries for issue of shares, Issue of shares at discount and premium, forfeiture and re-issue of forfeited shares.

### Reference Books:

- 1) S. N. Maheshwar :- Financial Accounting - Vikas Publishing House, New Delhi
- 2) Gupta R. L. - Advanced Financial Accounting - S. Chand & Sons
- 3) Kumar, Anil S. - Advanced Financial Accounting - Himalaya Publication House
- 4) Shukla and Grewal : Advanced Accounts (S. Chand & Ltd. New Delhi)
- 5) Jain and Narang : Advanced Accounts (Kalyani Publishers, Ludhiana)
- 6) Sr. K. Paul : Accountancy, Volume -I and II (New Central Book Agency, Kolkata)
- 7) R. K. Lele and Jawaharlal : Accounting Theory (Himalaya Publishers)
- 8) M. A. Arulnandam :- Advance Accounting - Himalay Publication



## Paper 4: Information Systems

**Unit-I: Introduction to IT and Computers**, Block diagram of computer, functioning of computer, generations of computer, classification of computers, characteristics, advantages & limitations of computer. Computer organization: Central processing Unit - speed of processor, computer memory: primary & secondary, types of primary memory, registers. Storage devices: floppy disk, Hard disk, magnetic tapes, optical disk (CD/ DVD), solid state storage (Flash memory cards, pen drive, etc.). Input devices: keyboard, mouse, joystick, light pen, scanners, OCR, MICR, Touch Screen, Bar code reader. Output devices: monitor, printers, classification of printers, impact & non-impact printers, dot matrix, ink jet, laser, thermal printers, plotters.

**Unit-II :Hardware & software**, Software and programming languages. Introduction, types of software, characteristics of good program, development of programming languages-machine language, assembly language, high level language.  
Data representation: Binary, decimal, Octal, hexadecimal number systems, features & conversions, BCD, EBCDIC & ASCII codes.

**UNIT - III: File Concept**, Types of Files, Organization of Files, Data Processing. Factors affecting File Organisation, Data capture techniques.

Computer communication, wireless communication, need for networks, forms of data communication - analog, digital; data transmission modes, data transmission media (Twisted pair, co-axial, Fibre Optic, Microwave, Satellite communication), Bandwidth- Narrow, voice, board band, Protocols, modems, Multiplexing, Types of network-, LAN, WAN, MAN, concept of Network topology, types of topologies, advantages & limitations .Type of networking: Telephone network, ISDN, LAN, MAN, WAN AND VAN; networking topology; OSI Model.

**UNIT - IV: Concept of E-Commerce and Internet**, Brief history and development of internet, WWW, Internet architecture - servers, browsers, URL; service providers - shell account, TCP/IP internet services and application - E Mail, education, financial service, e-Commerce, banking, shopping, advertising, e-governance.

Application of Computer: Business and Industry, CAD/CAM graphics, Office automation, scientific application, process control, computer, computer audit, simulation.

Virus, Types of Viruses, Anti-Virus, Firewall and Anti-Spy ware Utilities

### BOOKS RECOMMENDED:

1. I.T. TODAY (ENCYCLOPEDIA) BY S. JAISWAL (TEST BOOK)
2. COMPUTER TODAY BY DONALD SENDERS
3. Computer Applications in Management - UshaDahiya,SapnaNagpal(Taxmann's)
4. Information Technology - Dr. SushilaMadan (Taxmann's)
5. UNDERSTANDING COMPUTER BY DINESHKUMAR
6. COMPUTER FUNDAMENTALS BY P. K. SINHA
7. OFFICE AUTOMATION BY K.K. BAJAJ (MACMILAN)
8. BUSINESS ON THE NET AN INTRODUCTION TO THE WHATS AND HOWS OF E-COMMERCE BY K. N. AGARWALA & OTHERS (MACMILAN)
9. Fundamentals of Computers - IITL Education Solutions Ltd. (Pearson)

## Paper 5 - Information Technology

**Unit -I : Word Processing:** Introduction, Starting word, Creating document, Structure of Ms-word window and its application, Mouse & keyboard operations, designing a document; formatting-selection, cut, copy, paste, Toolbars, operating on text; Printing, Saving, Opening, Closing of document; creating a template; Tables, borders, textbox operations; Spelling and Grammar check, Mail merge, Envelope and Label, Protection of document, Change the view of document.

**Unit-II : Spreadsheet Package:** Introduction To Ms-Excel, Navigating, Excel Toolbars and Operations, Formatting Features- Copying Data Between Worksheets; Entering and Editing Cell Entries, Creation of Charts, Editing and Formatting Charts, Goal Seek, Auditing, Linking, Workbook, Database in Excel (Auto Filter, Advanced Filter, Sort, Form), Mathematical, Statistical and Financial Functions in Ms-Excel.

**Unit-III : PowerPoint Presentation:** Working with PowerPoint Window, Standard Toolbar, Formatting Toolbar, Drawing Toolbar, Moving the Frame, Inserting Clip Art, Picture, Slide; Text Styling, Send to Back, Entering Data to Graph, Organisation Chart, Table, Design Template, Master Slide, Animation Setting, Saving and Presentation, Auto Content Wizard, Package for CD (Pack & Go Feature).

**Unit-IV : MS-Access :** Introduction to database management system, DBMS vs RDBMS, Database Administrator (DBA) and its role.

Introduction to Microsoft Access, creating a database in access, using database wizards and blank database, creating table, database view and design view, creating queries, forms, reports and macros in ms-access.

### BOOKS RECOMMENDED:

1. Microsoft Office -2000 - Gini Courter , Annelte Marquis BPB
2. It Today (Encyclopedia- S.Jaiswal
3. A First Course In Computers- Sanjay Saxena
4. First Text Book On Information Technology - SrikantPatnaik
5. Guide To Microsoft Access - Carl Townsend
6. An Introduction to Database Management System - Bipin C. Desai (Galgotia Pub.)
7. Database Management Design- CSV Murthy ( Himalaya)

## Paper-6: Introduction to Operating System

**UNIT - I: Introduction to Operating System**, definition, need, functions, types of operating system, simple batch system, multiprogramming, time sharing system, parallel system, distributed systems, real-time system, multiprocessing, on-line and off line processing, multitasking, virtual memory management.

### UNIT - II: Introduction to Disk Operating System (DOS)

1. File types, Directory Structure
2. Booting - Warm and Cold Booting
3. Types of DOS commands (Internal and External)
4. Introduction of Autoexe and Config files.
5. Directory commands: DIR, MD, RD, TREE, PATH, SUBST ETC.
6. Wild card Definitions
7. Commands related to file management: COPY, DEL, ERASE, REN, ATTRIB, XCOPY, BACKUP and RESTORE .
8. General commands: TYPE DATE, TIME, PROMPT etc.
9. batch commands, wild card characters & its use.

### Unit - III: Introduction to Unix overview

1. File systems and structure of directories and file
2. File Oriented Commands - Cat, cp, mv, rm etc.
3. File Permissions
4. Directory Oriented commands - ls, mkdir, rmdir, cd, pwd etc.
5. Inter user connection commands - write, mail, used, at, wall etc.
6. Common commands - skill, date, wo, sleep, who ps.
7. Unix Utility Commands - grep, pr, cut, paste, sort, lp shutdown, halt, sys, tar, find etc.
8. Introduction of Linux.

**UNIT - IV: Introduction to windows Operating System**, advantages of windows operating system, using different windows applications simultaneously, operating with windows, GUI, use of help features, starting an application, essential accessories, creating shortcuts, windows explorer, control panel, my computer, my documents, recycle bin, finding folders and files, changing system settings, system tools, use of run command, setting peripherals, drivers, editing graphics in windows, new features in windows XP/Vista versions.

Introduction to Mobile Operating System

### BOOK RECOMMENDED:

1. MODERN OPERATING SYSTEMS 2<sup>nd</sup> EDITION BY TANENBAUM (PHI)
2. THE UNIX PROGRAMMING ENVIRONMENT BY KERNIGHAN & PIKE (PHI)
3. DOS/UNIX & WINDOWS: I.T. TODAY (ENCYCLOPEDIA) BYS. JAISWAL
4. OPERATING SYSTEM CONCEPT: SILLBERSCHATZ GALVIN
5. MSDOS; MANUAL
6. USING LINUX (FIFTH EDITION) : TACKETT, BURNETT (PHI)

### PRACTICAL:

#### Practical - I: Microsoft Office

The Practical should be based on MS-Word, MS-Excel, MS-PowerPoint and MS-Access.

#### Practical -II: Operating System

The Practical should be based on MS-DOS, Unix, Shell Script, Windows.

# B.Com. (Computer Application) Part-II

## Paper 1: Statistics and Quantitative Techniques

**Unit I: Descriptive statistics** - Definition, functions, scope and role of statistics in business, Importance of statistics, distrust and limitations of statistics.

**Unit II: Presentation of statistical data** - classification; tabulation; frequency distribution; diagrams & graphs.

**Statistical average** - importance and requisites of a good statistical average; types of averages - arithmetic mean, median, mode, geometric mean and harmonic mean, weighted average, relationship amongst different averages.

**Unit III: Dispersion** - meaning and significance of dispersion; methods of measuring dispersion - range, quartile; mean deviation, standard deviation, Co-efficient of Skewness, Lorenz Curve.

**Correlation and Regression (Simple)**- Types of correlation, Calculation of Co-efficient of Correlation for Simple Series, Calculation of Co-efficient of Correlation for Continuous Series; Regression Equation of X on Y, Regression Equation of Y on X

**Unit IV: Quantitative Techniques** - An introduction: Classifications of quantitative techniques; applications of quantitative techniques to business and industry; limitations of quantitative techniques.

**Numerical shall be based on Unit II and Unit III.**

### Reference Books:

1. Fundamentals of statistics : D. V. Elhance & Veena Elhance
2. Statistics : V. K. Kapoor - S. Chand & Sons
3. Statistics : B. New Gupta - Sahitya Bhavan Agra
4. Statistics Methods : S.P. Gupta - S. Chand & Sons
5. Fundamental of Statistics : S. C. Gupta - Himalaya Publishing House
6. Business Mathematics & Statistics : NEWK Nag & S.C. Chanda - Kalyani Publishers
7. Problem in statistics : Y. R. Mahajan - Pimplapure Publisher Nagpur

## Paper-2: Business Economics

**Unit I: Nature and fundamental concepts and basis techniques of Business economics** - Analysis of Demand, Significance, estimation of demand; Elasticity of Demand, Techniques and Importance of Demand forecasting; Basic Mathematical Problems related to demand estimation and elasticity of demand.

**Unit II: Production & Cost Analysis** - Production & Production Function: Concept, Forms of production function, Law of variable Proportions, Returns to scale. Cost concept, Short term and long term cost output relationship, Cost curves, Economies of scale.

**Objectives & Equilibrium of the Firm** - Market Structures- Perfect Competition, Monopoly, Monopolistic Competition & Oligopoly - kinked demand curve and cartels, Mathematical Problems on profit maximization and Price & Output determination under various market structures.

**Unit III: National Income Accounting** - Concept & measurement; Determination of Income & Employment; Concept of multiplier; Inflation and Deflation, types, causes and control of inflation.

**Unit IV: Macroeconomic policy** - Monetary and fiscal- objectives and Instruments; Effectiveness of Monetary & Fiscal Policy with respect to Indian Economy. **Business cycles** - Concept, Causes & Impact, Measures to control Business cycles.

### Reference Books:

1. Managerial Economics, P. L. Mehta, Sultan Chand & Sons, New Delhi
2. Managerial Economics, Dwidevi, TMH
3. Managerial economics in a Global economy, Dominick Salvatore, 2006, Thomson learning Press
4. Managerial Economics, Suma Damodran, 2006, Oxford University Press, New Delhi
5. Indian Economy, Mishra & Puri, 2007, Himalaya Publishing House

## Paper 3: Cost & Management Accounting

**Unit I : Meaning, Definition, Scope, and Importance of Cost Accounting** - Elements of Cost, Cost Classification, Preparation of Cost Sheets, Tenders, and Quotations. Methods of Cost Allocation and Absorption (Simple Problems on Operating Costing - Transportation only).

**Unit II : Reconciliation of Profits Shown by Cost and Financial books. Marginal Costing** - Break Even Analysis, Concept and Applications. Process Costing (Up to Abnormal Loss and Abnormal Effectiveness).

**Unit-III:** Meaning, objects, advantages, importance tools and techniques of management accounting. Distinction between Financial Accounting, Cost Accounting and Management Accounting.

**Ratio Analysis** - Meaning, nature, analysis, significance & limitations of ratio analysis. Ratio as tools of interpretation of financial statements.

**Computation of ratios** - Gross profit ratio, net profit, net profit ratio, operating net profit ratio, operating ratio, expenses ratio stock turn-over ratio, current ratio, liquidity ratio, debtors turn-over ratio, creditors turnover ratio, fixed assets turnover ratio, debt equity ratio, earning per share.

**Unit-IV: Break even analysis** - Meaning, need, importance & limitations. Computation - Profit volume ratio, breakeven point, margin of safety, estimated sales for required profit & estimated profit for given sales.

**Fund flow statement** - Meaning, concepts, importance & limitations, preparation of fund flow statement, Business budgets and budgetary control - Types of budget and its utility, preparation of cash & flexible budgets.

**Simple Numerical will be based on all Units.**

### Reference Books:

- 1) S. N Maheshwari : Cost Accounting Theory and problems -ShriMahavir Book Depot, New Delhi
- 2) V.K. Saxena : Cost Accounting Text Book- Sultan Chand and Sons New Delhi
- 3) M.C. Shukls - T.S. - Grewal, M.P. Gupta - Cost Accounting - S. Chand , New Delhi
- 4) R. S. N. Pallai, V Bhagavathi - Cost Accounting - S. Chand, New Delhi
- 5) S. M. Shukla :- Cost Accounts (Hindi)
- 6) Nigam R. S. - Advanced Cost Accounting , S. Chand & Company
- 7) Jain S. P. - Advanced Cost Accounting - Kalyani Publication
- 8) Pillai R. S. N. - Management Accounting - S. Chand & Co. Pvt. Ltd.
- 9) Agrawal N. K. - Managements Accounting - Galgotia Publication
- 10) Singh, Jagwant - Managements Accountings - KitabMahal
- 11) Rathnam P. V. - Managements Accountings - KitabMahal
- 12) Sharma R. K. - Managements Accountings - Kalyani Publication
- 13) Management Accounting & Financial Management :-Arora M N (Himalaya Publishing House Pvt. Ltd.)

## Paper 4: Programming Skills ('C' Programming)

**Unit -I: Programming Logic:** Problem Analysis, Process Analysis, Conceptual Development of solution. Development Tools : Algorithm & Flowchart **Translator** : Interpreter, Compiler  
**Introduction to C** : History of C Language, C Character Set, Data Types, Constant & Variables, Type Casting, Type Modification, Operators in C, Input/Output Function in C.

**Unit -II: Control Statement** :If, If...Else, While, Do....While, for, goto, switch...case, break, continue, exit statement. **Arrays** : Array Definition, One dimensional array, two dimensional array, searching, sorting, inserting, deletion, process in arrays, Addition & Multiplication of two dimensional array, **Storage Class** : Automatic, Register, Static, External Storage Class.

**Unit -III: String Handling:**String library function. **Structure and Union** : Introduction to structure and union, Declaration, initializing structure, accessing structure elements, array of structure.

**Function** :Library functions, user defined functions, function prototype, types of user defined function, function with arrays, function with structure.

**Unit -IV: Pointers:**Introduction to pointers, Arithmetic operations on pointer variables. Pointer with array. Pointer with structure, Function call value and call by reference.

**File Processing** : Introduction, stream and files, opening and closing files, file opening modes, text mode, binary mode, more on file handling functions.

### BOOKS RECOMMENDED:

1. Introduction Tech. Concepts by Dr. Madhulika Jain, Shashank&Satish Jain (BPB)
2. Programming in ANSI C - By E. Balaguruswami
3. C in Depth - by S.K. Shrivastava (BPB)
4. Let us C - By Y Kanetkar (BPB)

## Paper 5: E-Commerce and Web Designing

**Unit -I : E-Commerce:** Introduction, Definition, Benefits of E-Commerce, Impact of E-Commerce on business models, Traditional Commerce Vs E-Commerce, Advantages and Disadvantages of E-Commerce, Electronic Commerce and the Trade Cycle.

**Electronic Market :** Usage, Advantages and Disadvantages and its future.

**Electronic Data Interchange (EDI) :** Introduction, Benefits, Trade Cycle and Example.

**Internet Commerce :** Introduction, Internet Trade Cycle and example, **Internet Security :** Secure Transaction, Privacy issues, computer crimes and its type, **Security Issues :** Security threats like damage to data, loss of data and unauthorized use of data, **Security Procedure :** Firewall, Encryption, Password, Access Control List, Digital Certificate.

**Unit -II : Creating Static Web Pages with HTML:** Introduction, Designing web site, Advantages and Disadvantages of HTML, Flow of Web Information, Role of Web Browser and Web Server, Process of Web Publishing,

**Creating a Simple Static Web Page :** About HTML, Basic elements : <html>, <head>, <title>, <p>, <br>, <h1> to <h6>, <ol>, <ul>, <li>, <dl>, <pre>, <marquee>, <hr>, Physical and Logical tags **Path :** Relative and Absolute path, Comments, Special Characters, Text Formatting tags, <center>

**Adding Links, Images, Background and Table :** Hyperlinks <a href ...>, Creating links to web pages and URLs, Creating links within the same page, various types of URLs that can be used in links, Image tag and their related attributes, Inline images, Links to (external) images, Using Inline images, Using images as hyperlinks, Popular images formats for internet and HTML.

**Tables :** Basic tabletags and their related attributes.

**Unit -III : Frames and Embedding Multimedia: Frames, Image Map and Web Font Creator :** Frames and their creation, the <Frame> and <Frameset> tags, Fram linking, Floating or Inline Frames, Image Maps <map> and <area> tags, Client - Side and Server - Side image maps.

Form designs, Form Controls, Text controls, password fields, radio buttons, checkboxes, reset and submit buttons, form control selection, option processing and textarea.

**Embedding Multimedia :** Introduction, Embedding Multimedia, Inserting sound/audio formats, video file formats.

**Unit -IV : Cascading Style Sheets (CSS) and XML: CSS :** Defining style sheets, features, adding style to document, Linking to a single sheet, Embedding style sheet, Using inline style, Style sheet properties, Font properties, Color and Background properties, Text properties, Box properties.

**XML :** Introduction, XML and SGML, Design goals of XML, Application of XML: Document Application, Data Application, XML Software : Browsers, Editors, Parsers, Processor, XML tags, Structure of XML documents, XML element tags, Element markup, Attribute markup, HTML document, adding scripts, Data types in XML , XML Namespaces : Qualified name and Unqualified names, Namespace scope, default name space, working with text and font : Font, Font Size, font style, text alignment, text indent, line height, color and Background Properties : Foreground color, Background color, Border color, Background image, Working with DTD : Introduction, HTML and DTD, Benefits of the DTD, Structure of DTD, Declarations of variable in DTD : Element name, Occurrence indicators, Connectors.

### BOOKS RECOMMENDED :

1. Electronic Commerce : Greenstein and Feinman (TMH)
2. E-Commerce : Bhushan Dean – S. Chand
3. Web Publishing : MonicD'souza and J D'souza
4. Complete HTML : BPB
5. XML : Xavier (TMH)



## Paper 6: MIS AND SYSTEM ANALYSIS

**UNIT-I: System Concept**, definition, system approach, characteristics, System Elements - Input, Output, Environment, Boundary Interface, feedback, Control. Types of systems, Business as system. Data vs information, information and decision making, Value of information, quality of information. Introduction to MIS, definition, need, objectives, benefits, functions, characteristics. Structure of MIS, information requirements at various levels of Management Activities. MIS vs data processing. Types of MIS: TPS, OAS, DSS, Expert system (organization, features & advantages)  
Functional MIS for marketing, finance, human resource, production & service industry.

**UNIT -II :System development life cycle(SDLC)** concept & stages. Need identification, determining user's information requirements. Information gathering - Sources & Methods (Interviews, questionnaires, observation, document analysis). System analysis, planning approach- elements, objectives, constraints , feasibility study, Tools of data recording, DFDs, data dictionary, decision tree, decision table, cost benefit analysis.

**UNIT -III: Output input design**, form design, process design, process specification, file design, program design, module integration, storage requirement ,selection of hardware and software, software controls, system flow chart, user view of processing, modeling input output data. Procedure design, design documentation, user feedback, Project planning& control.

### UNIT -IV: Testing and Implementation

Testing: Code testing, specification testing, types of tests, verification and validation systems security and privacy, control measures, disaster recovery plan, system audit, Documentation : user's, System , operations manual, Role and qualities of system analyst as a change agent. Implementation - Methods of change over, transition and conversion, change management, user training. Post implementation maintenance & review.

### BOOKS RECOMMENDED :

1. System Analysis and Design : E. Awad(Galgotia)
2. Systems Analysis and Design : Edward (TMH)
3. System Analysis and Design : Don Yeats(McMillan)
4. Management Information Systems : Goyal(McMillan)
5. Management Information System : Jawadekar (venus)
6. Management Information System : Sadagopan (Prentice Hall of India).
7. Management Information Systems : Kanter (Prentice Hall of India)

### PRACTICAL :

#### Practical - I : Programming Skills

The Practical should be based on all the units of Programming Skills

#### Practical -II : Web Designing

The Practical should be based on Unit-II, Unit-III and Unit-IV of E-Commerce & Web Designing.

# B.Com. (Computer Application) Part-III

## Paper - 1: Business Law

**Unit I: Legal Framework for business entities-** Introduction to legal aspects of Business in general; Need and importance of Business Laws.

**Indian Contract Act, 1872** - Definition of Contract, Agreement, Offer and Acceptance, Essentials of Valid Contract, Performance of Contract and Breach of Contract.

**Unit II: Indian Joint Stock Companies Act, 1956-** Definition of a Joint Stock Company, Kinds of Companies, Formation of Company, Memorandum of Association, Articles of Association, Prospectus, Company Meetings, Liquidation of a Company.

**Unit III : Indian Partnership Act, 1932-** Definition of Partnership, Kinds of Partners, Partnership Deed, Registration of a Partnership Firm, Rights and Duties of Partners, Liabilities of Partners, Dissolution of a Partnership Firm.

**Unit IV: Information Technology Act 2000 & Cyber Law** - Scope, Provisions & overview, IT Act and E-mails, Strategy to Combat Cyber Crime

**Consumer Protection Act, 1986-** Definitions, Category of the term Consumer, Rights of Consumer, Consumer protection Councils, Remedies & Relief available to the consumer.

### Reference books:

1. Business laws By SatishMathur, McGraw Hill,
2. Principles of Business Law, Maheshwari, Himalaya Publishing House
3. Business & Industrial Laws, M.C.Kuchhal, Vikas Publishing Pvt.Ltd.
4. Business Law, Sarvanavel, Himalaya Publishing House
5. Corporate Law, AbhishekShahu ,Saijyoti Publication

## Paper 2 :Computerised Accounting (TALLY)

**Unit - I: Introduction to Accounting**, Advantages of Accounting, Books of accounts, Classification of Accounts, Financial Statements, Inventory management, Computerized Accounting, Advantages of Computerized Accounting, Manual Vs Computerized Accounting, Need of Computerized Accounting, Accounts Organization, Accounts group, Loans, Liabilities, Assets and Budget.

**Unit - II: Accounting Software's**, Introduction to Tally Software, Features of Tally, Tally Screen, Company Information, Creating new Company, Gateway, Selection of Company, Selection of Options, Buttons at Gateway, Working with multiple Companies, Company Features, Configuration - General, Numeric Symbols, Voucher Entry, Invoice Order Entry, Printing.

**Unit - III: Accounts Info Menu, Account Groups** - Create new group, creation of Primary group. Normal and Advance Information, Ledger Accounts, Cost Categories, Cost Centers. Creation of Budget, Types of Budget. Voucher - Voucher Entry, Creation of Voucher Screen, Types of Voucher, Selection of Voucher Types, Post Dated Voucher, Printing of Vouchers, Cheque Printing, advance Features of account Voucher.

**Unit - IV: Inventory Info, Features of Inventory Info. Configure** - Inventory Info, Balance Sheet, Audit trail, Ratio Analysis. Display - Accounting Report Display, Inventory report Display, and MIS Report Display. Printing Reports, Export of Data. Maintenance - Bank Reconciliation, House Keeping, Data Maintenance. Security - Users and Password, Security Controls, Types of Security, Creation New Security Levels and Tally Audit.

### Practical:

**Tally Software** - All Accounting Problems Viz. Balance Sheet, Profit & Loss, Cash Book, Loans, Cost Accounting, Vouchers, Budget, Sales and Purchase, Assets & Liabilities, Inventory Management, Financial Statements, Books of accounts, Ledger, etc.

### Books Recommended:

1. Accounting with Tally : K.K. Nadhani, BPB Publication.
2. Tally Tutorial :K.K. Nadhani and A.K. Nadhani, BPB Publication.
3. Advances Accounts Vol - I :M.C.Shukla, T.S.Grewal and S.G.Gupta, S.Chand& Company, Delhi.
4. Accounting Principles :Anthony R.N. and J.S.Richard, Irwin Inc.
5. Advanced Accountancy : P.C. Tulsian, Tata McGRAW HILL Publication.

## Paper 3: Software Product and Project Management

### Unit-I: PROJECT MANAGEMENT

1. The Management Spectrum, The People, The Product, The Process, The Project
2. Project Manager – Role & Responsibilities
3. Project Estimation – Introduction, Decomposition Techniques – Software sizing, Problem Based Estimation, LOC Based, FP Based estimation
4. Project Scheduling – Basic Concepts, Project Scheduling, Basic Principles, The relationship between People & effort, Effort Distribution, Defining a task network – CPM/PERT, Gantt Chart.

### Unit-II: SOFTWARE TESTING STRATEGIES

1. A strategic approach to software testing – Verification & Validation, Organizing for software testing.
2. Test Strategies for conventional software – Unit Testing, Integration Testing.
3. Test Strategies for object-oriented software – Unit Testing, Integration Testing.
4. Validation Testing – Test Criteria, Configuration Review, Alpha & Beta Testing.
5. System Testing – Recovery, Security, Stress & Performance Testing.
6. The Art of Debugging – The debugging process, Psychological consideration, Debugging strategies, correcting the errors.

### Unit-III: RISK MANAGEMENT

1. Introduction
2. Software Risks
3. Risk Identification – Assessing overall project risk, Risk Components & Drivers
4. Risk Projection – Developing a risk table, Assessing Risk Impact
5. Risk Refinement
6. Risk Mitigation, Monitoring and Management
7. The RMMM Plan

### Unit-IV: QUALITY MANAGEMENT

1. Quality Concepts – Quality, Quality Control, Quality assurance, Cost of Quality.
2. Software Quality Assurance – Background issues, SQA Activities.
3. Formal Technical Reviews – The Review Meeting, Review reporting & record keeping, Review guideline
4. Statistical Software Quality Assurance – A generic example, Six sigma for software engineering.
5. Software Reliability – Measure of software reliability & Availability, Software safety.
6. ISO 9000 Quality Standard

### Books Recommended :-

Author	Title	Edition	Year of Publication	Publisher and Address
Elias M. Awad	System Analysis and Design	Second	1997	Galgotia Publication
Roger S. Pressman	Software Engineering – a Practitioner's Approach	Sixth	2005	McGraw-Hill
Fitz AngGery Gerald	System Analysis and Design	First	1997	Galgotia Publications , New Delhi
By Whitten, Bentley, Dittman	System Analysis and Design Methods	Fifth	2001	McGraw-Hill
V.K. Khanna	System Analysis, Design & MIS		2002	Khanna Book Publishing, New Delhi

## Paper 4 : Front End Development

**Unit -I:** Introduction to Visual Basic, Event driven programming, **Programming constructs** - Variables, Types of Variables, Data Types, Scope of Variables, Constants, system defined functions, Operators (Precedence and Associativity), Creating User Interface, **VB Controls** (Label, Text box, Command button, Frame, Check box, Option button, List box, Combo box, Timer, Drive list box, Directory list box, File list box, Horizontal and vertical scroll bars, Image, Picture box, Shape, Line, Data, OLE container), **Microsoft windows common controls** (Tab Strip, Tool bar, Status Bar, Progress Bar, Tree View, List View, Image List, Slider, Date Picker, Month View), adding controls to a form, adding controls at run time,

**Unit -II:** Working with Procedure, Function and Modules (Form, Class, Standard Modules), Scope of Procedures, Calling Procedures, Calling Functions, Passing Arguments, Control Structures : If-Then, If-Then-Else, Select Case, Loops Structures : Do-While, While -Wend, For-Next, For-Each, With-End With.  
Arrays : Declaring an Array, Types of Array (Fixed arrays, Single-dimensional arrays, Multidimensional arrays, Dynamic arrays), Control Array.  
Menus : Creating Menus, Adding Menu Items, Adding Code for the Menus, Modifying menus at run time, Creating Pop-Up Menus.

**Unit - III:** Database Programming in Visual Basic: Use of data control, creating database using Visual data manager, validating data, data bound controls.  
Comparative study of Data Access Techniques: DAO, RDO, ADO, ODBC  
Data access object:DAO Architecture, Database connectivity through data access object. Types of recordset , setting properties and record editing & updating , searching records.

**UNIT IV :Active X data object:** ADO architecture, setting data source through Active X Data objects. Use of ADO control , connecting ADODC to bound controls. Use of different data bound Controls. Editing , Updating & searching through ADO.  
Data Reports, Data Environment designer adding connection & commands Data report controls creating & printing reports.  
**Error handling:** Types of errors, Debugging, tools for debugging, break mode,break points, watch window, immediate window, handling runtime errors.

### Books Recommended:-

1. Visual Basic to Advance – Soma Dasgupta (BPB)
2. Murach’s Visual Basic 6 – Koop, Prince, Murach (BPB)
3. Mastering VB 6 - BPB Publication
4. Visual Basic Black Book – SterenHolzna
5. Programming in VB 6

## Paper 5 : DBMS and Oracle

**Unit -I:** Database environment, Data processing, Traditional and DBMS environment, Database system, **Types of databases** - Centralize, distributed, Database management system, Components of DBMS, DBMS elements, **Database Approach** - Objectives, benefits, characteristics, Advantages of DBMS, The three tire architecture, Three level architecture, Database administration - Roles, Functions and responsibilities of DBA.

**Unit-II: The E-R Model** - Data models, Entities, attributes and relationship, Logical and Physical database design, Mapping Cardinalities, Database development process, Database development life cycle. Integrity constrains. Transforming ERR diagrams into relations, tree structure and hierarchical. Normalization, Codd's 12 rules, hierarchical database structure, Network database structure, Relational database structure.RDBMS.

**Unit-III: Introduction to ORACLE as RDBMS,** History& standardization of SQL, **Elements of SQL :** Database objects, reserved words, Keywords, Variables, Data Types, Operators.

**Types of SQL :** DDL, DML, DCL, Create table, Alter table, Crate view, Drop table, grant, revoke, commit, delete, insert, lock table, rollback, save point, Update, Select statement, Where clause.

**Functions :** Arithmetic & Characters comparison, Logical set, Like function, Group function, Date Functions.

**Unit-IV: PL/SQL :** Introduction to PL/SQL, Variables, Initialization of variables, Dynamic data types, Control loop statements, **PL/SQL Cursor :** Declare cursor, Fetch, Open cursor, Close cursor. **Triggers :** Concepts, Trigger definition, Trigger type, Enabling, Disabling & Dropping triggers.

### BOOKS RECOMMENDED:

- |                               |   |                                    |
|-------------------------------|---|------------------------------------|
| 1. DBMS                       | : | Korth and Sudarshan                |
| 2. DBMS                       | : | Desai                              |
| 3. Database management system | : | R. Panneerselvam (PHI)             |
| 4. Oracle                     | : | I.T. Today (Encyclopedia)          |
| 5. Oracle                     | : | Oracle Press                       |
| 6. Oracle Pl/SQL              | : | PL/SQL in 21 days (Techmedia) SAMS |

### PRACTICAL:

#### Practical - I : Tally

The Practical should be based on all the units of Computerised Accounting (Tally)

#### Practical -II : VB & Oracle

The Practical should be based on all the Units of Front End Development (VB) and Unit-III and Unit-IV of DBCS & Oracle.

# Project

The Project work constitutes a major component in most of the professional programmes and it is to be carried out with due care and executed with seriousness by the students.

## Types of Project

As majorities of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software companies, it is suggested that the project is to be chosen which should have some direct relevance in day-to-day activities of the candidates in his/her institution. Students are encouraged to work in the area listed at the end. The List of Applications Areas in which project must be - Financial/Marketing/Database Management System/ Relational Database Management System/E-Commerce/Internet/Manufacturing/web Designing etc.

**Group Project may be allowed (Not more than THREE students in a group)**

## Indicative Project Report Formulation.

1. Title Page.
2. Certificate Page.
3. Declaration Page.
4. Acknowledgment Page.
5. Index or Content Page.
6. Documentation.
  - i. Introduction/Objectives.
  - ii. Preliminary System Analysis.
    - Identification of Need.
    - Preliminary Investigation.
    - Feasibility Study.
    - Need Of New System.
    - Flaws in Present System.
  - iii. Project Category.
  - iv. Software Requirement Specification.
  - v. Detailed System Analysis.
    - Data Flow Diagram.
    - Numbers of Modules and Process Logic.
    - Data Structures and Tables.
    - System Chart or Structure Chart.
    - Entity-Relationship Diagram.
  - vi. System Design.
    - Source Code.
    - Input screen & Output Screen.
  - vii. Validation Checks.
  - viii. Implementation, Evaluation and Maintenance.
  - ix. security Measures taken.
  - x. Reports.
  - xi. Future Scope of the project.
  - xii. Bibliography.

---

## Project Examination is to be conducted as follows:

- **External Examiner & Internal Examiner (Guide) jointly examine the project and award the marks.**

**Question Paper Pattern**  
**B.Com.(Computer Application) (BCCA)**

**N.B. – 1) All Questions are compulsory.**

**2) All Questions carry equal marks.**

**Time :- 3 hours** **Marks-80**

Question No. 1 – A)	Unit I	08 Marks
B)	Unit-I	08 Marks
	<b>OR</b>	
C)	Unit-I	16 Marks
Question No. 2 – A)	Unit II	08 Marks
B)	Unit-II	08 Marks
	<b>OR</b>	
C)	Unit-II	16 Marks
Question No. 3 – A)	Unit III	08 Marks
B)	Unit-III	08 Marks
	<b>OR</b>	
C)	Unit-III	16 Marks
Question No. 4 – A)	Unit IV	08 Marks
B)	Unit-IV	08 Marks
	<b>OR</b>	
C)	Unit-IV	16 Marks
Question No. 5 – A)	Unit I	
B)	Unit-II	
C)	Unit-III	
D)	Unit-IV	4x4

\*\*\*\*\*



## Absorption Scheme

### B.Com.(Computer Application) (BCCA)

It is notified for general information of all concerned that the failure students of **B.Com.(Computer Application)(BCCA) Old Course** shall be absorbed in the **New course** introduced from the session 2014-2015 examination with the following scheme.

1. Those who have completed & passed **B.Com.(Computer Application)(BCCA) Part - I as per Oldcourse** are eligible for admission in the **B.Com.(Computer Application)(BCCA) Part - II New course**.
2. Failure students of **B.Com.(Computer Application)(BCCA) Part - I old course** and having ATKT as per rules are eligible to take admission in **B.Com.(Computer Application)(BCCA) Part-II New course**. They should clear their **B.Com.(Computer Application)(BCCA) Part - I old coursebacklog** papers in next **three attempts (Last Chance Winter 2016)**. If they fail to pass in **Winter-2016** attempt they will have to appear in parallel papers of **New course scheme** as per absorption scheme indicated in **Appendix- I**.  
**Note:** The students who will appear in parallel papers of **New course scheme** paper with maximum theory marks 80, will get proportional marks out of 100 updated in **old course marksheet** of **B.Com.(Computer Application)(BCCA) Part - I**.
3. Those who have completed & passed **B.Com.(Computer Application)(BCCA) Part - I & B.Com.(Computer Application)(BCCA) Part - II as per Oldcourse** are eligible for admission in the **B.Com.(Computer Application)(BCCA) Part - III New course**.
4. Failure students of **B.Com.(Computer Application)(BCCA) Part - II old course** and having ATKT as per rules are eligible to take admission in **B.Com.(Computer Application)(BCCA) Part-III New course**. They should clear their **B.Com.(Computer Application)(BCCA) Part - II old coursebacklog** papers in next **three attempts (Last Chance Winter 2017)**. If they fail to pass in **Winter-2017** attempt they will have to appear in parallel papers of **New course scheme** as per absorption scheme indicated in **Appendix- II**.

**Note:** The students who will appear in parallel papers of **New course scheme** paper with maximum theory marks 80, will get proportional marks out of 100 updated in **old course marksheet** of **B.Com.(Computer Application)(BCCA) Part - II.**

5. Failure students of **B.Com.(Computer Application)(BCCA) Part-III old course** are having chances upto **Winter 2018 examination (Last Chance)**. So they should appear **B.Com.(Computer Application)(BCCA) Part-III old course examination & are required to clear their backlog.**

After that those who will have backlog in the **B.Com.(Computer Application)(BCCA) Part-III old course** will have to appear in parallel papers of **New course scheme** as per the absorption scheme indicated in **Appendix- III.**

**Note:** The students who will appear in parallel papers of **New course scheme** paper with maximum theory marks 80, will get proportional marks out of 100 updated in old course marksheet of **B.Com.(Computer Application)(BCCA) Part-III.**

### Appendix- I.

#### B.Com.(Computer Application) (BCCA) Part-I

Sr. No.	Old course	Max. Marks	Sr. No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	English & Business Communication.	100	1	English & Business Communication	80
2	Principles of Business Management.	100	2	Principles of Business Management	80
3	Basic Economics & Business Environment.	100	3	Introduction to Operating Systems	80
4	Financial Accounting.	100	4	Financial Accounting	80
5	Information Systems.	70	5	Information Systems	80
6	Information Technology	70	6	Information Technology	80
7	<b>Practical I : IS</b>	30	7	<b>Practical-I : Microsoft Office</b>	100
8	<b>Practical II : IT</b>	30	8	<b>Practical-II : Operating System</b>	100

**Note:** The students who will appear in parallel practicals of **New course scheme** with maximum practical marks 100, will get proportional marks out of 30 updated in old course marksheet of **B.Com.(Computer Application)(BCCA) Part-I.**

## Appendix- II.

### B.Com.(Computer Application) (BCCA) Part-II

Sr. No.	Old course	Max. Marks	Sr. No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	Cost & Management Accounting	100	1	Cost & Management Accounting	80
2	Statistics & Quantitative Techniques.	100	2	Statistics & Quantitative Techniques.	80
3	MIS & System Analysis	100	3	MIS & System Analysis	80
4	E-Commerce & Web Designing	70	4	E-Commerce & Web Designing	80
5	Programming Skills (C Prog.)	70	5	Programming Skills (C Prog.)	80
6	Computerized Accounting (TALLY)	70	6	Basic Economics & Business Environment.	80
7	<b>Practical- I : PS (C Prog.)</b>	30	7	<b>Practical-I : Programming Skills</b>	100
8	<b>Practical-II : E-Comm&amp; WD</b>	30	8	<b>Practical-II : HTML</b>	100
9.	<b>Practical-III : Comp.A/c(Tally)</b>	30			

**Note:** The students who will appear in parallel practicals of **New course scheme** with maximum practical marks 100, will get proportional marks out of 30 updated in old course marksheet of **B.Com.(Computer Application)(BCCA) Part-II.**

## Appendix- III.

### B.Com.(Computer Application) (BCCA) Part-III

Sr. No.	Old course	Max. Marks	Sr.No.	New Course	Max. Marks
	<b>Theory</b>			<b>Theory</b>	
1	Business Laws.	100	1	Business Law	80
2	Auditing and Income Tax	100	2	Computerized Accounting (TALLY)	80
3	Software Product and Project Management.	100	3	Software Product and Project Management.	80
4	Front End Development	70	4	Front End Development	80
5	DBMS and Oracle	70	5	DBMS and Oracle	80
6	<b>Practical- I : FED</b>	30	6	<b>Practical-I : Tally</b>	100
7	<b>Practical -II : DBMS &amp; Oracle</b>	30	7	<b>Practical-II : VB &amp; Oracle</b>	100
8	<b>Project</b>	100	8	<b>Project</b>	100

**Note:** The students who will appear in parallel practicals of **New course scheme** with maximum practical marks 100, will get proportional marks out of 30 updated in old course marksheet of **B.Com.(Computer Application)(BCCA) Part-III.**

**R.T.M. NAGPUR UNIVERSITY, NAGPUR**  
**SCHEME FOR M.Sc. (COMPUTER SCIENCE)**

Sr. No.	M.Sc. Part I Semester-1	Teaching Scheme per week (hrs.)			Credits	Examination Scheme					
		Th.	Pr	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing	
							External Marks	Internal Marks		Th.	Pr.
1	Discrete Mathematical Structure	4	-	4	4	3			100	40	
2	Programming in Java	4	-	4	4	3			100	40	
3	Digital Electronics and Microprocessor	4	-	4	4	3			100	40	
4	Advanced DBMS and Administration	4	-	4	4	3			100	40	
5	Practical-I based on theory paper-1 and 2	-	8	8	4	4	80	20	100	--	40
6	Practical-II based on theory paper-3 and 4	-	8	8	4	4	80	20	100	--	40
7	Seminar			2	1	0.5			25	10	
	<b>Total</b>	16	16	34	25	-			625	170	80

Sr. No.	M.Sc. Part I Semester-2	Teaching Scheme per week (hrs.)			Credits	Examination Scheme					
		Th	Pr	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing	
							External Marks	Internal Marks		Th.	Pr.
1	Windows Programming using VC++	4	-	4	4	3			100	40	
2	Theory of Computation and Compiler Construction	4	-	4	4	3			100	40	
3	Computer Architecture and Organization	4	-	4	4	3			100	40	
4	Computer Graphics	4	-	4	4	3			100	40	
5	Practical-I based on theory paper-1 and 2	-	8	8	4	4	80	20	100	--	40
6	Practical-II based on theory paper-3 and 4	-	8	8	4	4	80	20	100	--	40
7	Seminar			2	1	0.5			25	10	
	<b>Total</b>	16	16	34	25	-			625	170	80

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Sr. No.	M.Sc. Final Semester-3	Teaching Scheme per week (hrs.)			Credits	Examination Scheme					
		Th	Pr	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing	
							External Marks	Internal Marks		Th.	Pr.
1	Data Communication and Networks	4	-	4	4	3			100	40	
2	Software Engineering	4	-	4	4	3			100	40	
3	Neural Network	4	-	4	4	3			100	40	
4	Elective-1 1.1 Mobile Computing 1.2 Multimedia Technologies 1.3 ASP.NET	4	-	4	4	3			100	40	
5	Practical-I based on theory paper-1 and 2	-	8	8	4	4	80	20	100	--	40
6	Practical-II based on theory paper-3 and 4	-	8	8	4	4	80	20	100	--	40
7	Seminar			2	1	0.5			25	10	
	<b>Total</b>	16	16	34	25	-			625	170	80

Sr. No.	M.Sc. Final Semester-4	Teaching Scheme per week (hrs.)			Credits	Examination Scheme					
		Th	Pr	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing	
							External Marks	Internal Marks		Th.	Pr.
1	Data Mining	4	-	4	4	3			100	40	
2	Artificial Intelligence & Expert System	4	-	4	4	3			100	40	
3	Design and Analysis of Algorithm	4	-	4	4	3			100	40	
4	Elective-2 2.1 Embedded System 2.2 Pattern Recognition 2.3 Parallel Computing	4	-	4	4	3			100	40	
5	Practical-I based on theory paper-1 to 4	-	8	8	4	4	80	20	100	--	40
6	Project	-	8	8	4	3	80	20	100	--	40
7	Seminar			2	1	0.5			25	10	
	<b>Total</b>	16	16	34	25	-			625	170	80

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**M.Sc. Part I**  
**Semester -1**

**Paper I : Discrete Mathematical Structure**

**Hours/Week : 4**  
**Credits : 4**

**Unit-1 :**

Fundamental – Sets and Subsets, operations on sets, sequence, Division in the integer, Matrices, Mathematics Structures. Logic-Proposition and Logical Operation Conditional Statements, Methods of Proof, Mathematical Induction, Mathematics Logic- Statements and Notation, Connectives ,Normal Forms ,The Theory of Interface for the statement Calculus ,Inference Theory of the Predicate Calculus,

**Unit-2 :**

Counting- Permutation, Combination, The pigeonhole Principle, Recurrence Relations. Relational and Digraphs- Product sets and Partitions, Relations and Digraphs, Paths in Relations and Digraphs Properties of Relations, Equivalence Relations, Computer Representation of Relations and Digraph, Manipulation of Relations, Transitive Closure and Warshall's Algorithms. Functions-Definition and Introduction, Function for Computer Science, Permutation Functions, Growth of Functions.

**Unit-3 :**

Graph Theory : Basic Concept of Graph Theory, Euler Paths and Circuits, Hamiltonian Paths and Circuits. Other relations and Structure- Partially Ordered Sets, Lattices Finite Boolean-Algebra, Functions of Boolean Algebra's, Boolean function as Boolean Polynomials. Tree-Introduction Unidirected Tree, Minimal Spanning Trees.

**Unit-4 :**

Semigroups and Groups: Binary Operations Revisited, Semigroups, Products and Quotations of Groups. Introduction to computability –Languages Finite –State Machines, Semigroup, Machines and Language.

**Books :**

1. Discrete Mathematical Structures By Bernard Kolman c,Busby & Sharon Ross [PHI]
2. Discrete Mathematical Structures with Application to computer science By J.P.Tremblay & R.Manohar [Tata McGraw –Hill]
3. Combinational Mathematics By.C.J.Liu

**Reference Books:**

- 1.Discrete Mathematics with Graph Theory By Goodaire[PHI]
2. Discrete Mathematics by J.K.Sharma(McMillan)
3. Discrete Mathematics and its Applications By Kenneth Rosen (TMH)
4. Discrete Mathematics By Seymour Lipschutz, Marc Lipson (TMH)
5. Discrete Mathematics : Rajendra Akerkar, Pearson

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper II : Programming in Java

Hours/Week : 4

Credits : 4

### Unit-1 :

Java and Internet, Features of java: security, portability, multithreading, etc, Bytecode, Datatypes, variables and Arrays, Operators, Classes : declaring objects, methods, constructor, overloading constructor, garbage collection, finalize() method, static variable and method, final variable, command line argument. Inheritance: super keyword, final with inheritance. Packages and Interfaces.

Exception handling : Overview, types, Uncaught exception, try -catch block, multiple catch, nested try, throw, throws, finally, built-in and user- defined exception.

Multithreading : Life Cycle, Thread class and Runnable Interface, isAlive(), join(), Priorities, Synchronization : sleep() , run(). Interthread communication : wait(), notify(), notifyAll(), deadlock. String Handling.

### Unit-2:

Wrapper classes, Applet: Applet Class, Architecture, Life Cycle, Display methods, HTML APPLET Tag, Passing parameter to Applet

AWT : working with Windows, Controls, Layout Manager, Menus. Swings. Event handling.

### Unit-3:

JDBC : Architecture, JDBC-ODBC bridge driver, SQL Package, ResultSet and its methods.

Networking : Socket, Reserve socket, Internet Addressing, InetAddress, TCP/IP client socket, TCP/IP server socket, URL, URL Connection, Datagram.

RMI : Introduction, Architecture, Remote Interface, java.rmi. server package, class naming, creating Rmi server and client ,transmitting files using rmi, client side callback, RMISecurityManager class, RMI Exception, Stub and Skeleton.

### Unit-4:

Servlet : Life Cycle, Tomcat, javax. servlet package, reading servlet parameter, javax.servlet.http package, handling http request and response with HTTPGET and HTTPPOST, cookies,session tracking. JSP : Introduction, Types of JSP tags, Application using JSP and Servlet.

JavaBeans : Advantages of Beans, JDK, JAR files, Introspection, Developing Beans using JDK.

### Books:

1. Complete Reference by Herbert Schildt (TMH)
2. Programming with Java By C Muthu (McGraw Hill)
3. Black Book on java.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper III : Digital Electronics and Microprocessor

Hours/Week : 4

Credits : 4

### Unit-1 :

Number System and Data Representation

Number System : Binary, Octal, Decimal and Hexadecimal number system and their inter conversion. Binary Codes : BCD, Excess3 , Parity, Gray, ASCII, EBCDIC codes and their advantages and disadvantages. Data Representation : Positive , negative ,maximum and minimum number representation (related to 8 bit number), real number representation, underflow, overflow , range and accuracy. Binary Arithmetic : Binary addition, decimal subtraction using 9's and 10's compliment, binary subtraction using 1's and 2's compliment, multiplication and division. Logic gates: Truth table, properties and symbolic representation of NOT, AND, OR, NOR , NAND, EXOR, EXNOR gates. NOR and NAND gates as a universal gates .

### Unit-2 :

Boolean Algebra: Laws and Identities of Boolean algebra, DeMorgan's Theorem , use of Boolean Algebra for simplification of logic expression, K-Map for 2,3,4 variables, simplification of SOP and POS logic expression using K-Map.

Combinational circuits: Half adder, Full Adder, Parallel adder, Half subtractor, Full Subtractor, 4-bit binary adder subtractor, Multiplexer, Demultiplexer, Decoder, Encoder, Parity detector.

### Unit 3 :

Sequential Circuits : Flip-Flops : Construction and working of RSFF, JKRSFF, DFF, TFF, JKFF, and JKMSFF . Counters : Construction and working of asynchronous, synchronous, up-down counter, shift registers and their types, Ring counter, Johnson counter with their time diagram.

### Unit-4 :

Architecture of 8086 and Assembly Language Programming

Block diagram of 8086, Pin diagram of 8086, Addressing modes, Instruction set: Data transfer, Arithmetic, Logical, String manipulations, Control Transfer, Unconditional branch, Conditional branch, Flag, Processor control. Assembler directives and operators, simple assembly programs.

### Books:

- 1.Digital Electronics by Gothman(PHI)
- 2.Digital and analogue technique by Navaneeth, Kale and Gokhale
- 3.Fundamental of Micropocessor by B Ram
- 4.Microcomputers Systems: The 8086/8088 family by Liu. Gibson
5. Modern Digital Electronics By Jain (TMH)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



## Paper IV : Advanced DBMS and Administration

Hours/Week : 4

Credits : 4

### Unit-1 :

Relational Database design: Functional dependencies, and Normalization Normal forms based on primary keys (1 NF, 2 NF, 3 NF, BCNF, 4 NF, 5 NF) Loss less joins and dependency preserving decomposition Query Processing: Query Processing Stages, Query Interpretation, Equivalence of Expressions, Query Resource Utilization, Query Execution Statistics, Query Execution Plan, Estimation of Query Processing Cost, Table Scan, Sample Index Access, Fill Factor, Multiple Index Access, Methods for Joining Tables (Nested Loop, Merge Join, Hybrid Join, Multiple Join) Structure of a Query Optimizer

### Unit-2 :

Transaction Processing & Concurrency Control: Concept and definition of transaction, ACID properties, serializability, Prioritization, states of transaction, Types of failure, desirable properties of transaction schedules and recoverability, serial usability of schedules, levels of transaction consistency, deadlocks, long duration transactions, transaction performance, transaction processing as implemented in contemporary database, management system. Concurrency Control, locking techniques, techniques based on time-stamp ordering, multiple granularity. Crash Recovery: failure classification, recovery concepts, database backup, recovery concepts based on deferred update and on immediate update. Shadow paging, check points, on-line backup during database updates, crash recovery techniques.

Client/Server database: Evolution of client concept, Client/Server environment, characterization of Client/Server computing. Functions of clients server , application partitioning, the two-layer and three-layer architectures, communication between clients and servers.

### Unit-3 :

Oracle Database Architecture and Administration: Oracle database architecture, Design, Creation, Migration and Management of Oracle Databases and related database schemes, Data Dictionary views and standard package Maintaining the control, Redo Log files, Managing Tablespace and Data Files, Storage structure and relationships, Managing rollback segment, Managing tables, Indexes, Managing data Integrity, Managing password security and resources, Managing users, Privileges, roles.

Oracle Backup and Recovery Strategies: Backup and recovery considerations, Oracle recovery structure and processes, Oracle backup and recovery configuration, Physical backup, Complete recovery of an Oracle database, Incomplete recovery of an Oracle database with Archiving, Oracle Export / Import utilities, Oracle standby database.

### Unit-4 :

Oracle Tuning and Troubleshooting: Oracle performance tuning methodology, Oracle alert and trace files, Tuning the shared pool, Buffer Cache, Redo Log buffer, Database configuration and I/O issues, Using Oracle Blocks efficiently, Optimizing sort operations, Rollback segment tuning, Monitoring and detecting lock contention, SQL issues and tuning considerations for different application. Integrity, Security: Need for Database Integrity, Integrity Constraints, Non-Procedural and Procedural Integrity Constraints Specifications in SQL, Introduction to Database Security issues, Authorization and use.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Books :**

1. Fundamental of Database Systems by R. Elmasri; S. Navate; Benjamin Cummings;
2. Introduction to database systems by C. J .Date
3. Database system concept by Korth
4. DBA Handbook oracle press by Loney

**Reference Books:**

1. Principles of Database Management by James Martin
2. Relational database design for Micro computers Application by Prentice Hall (Jackson)
3. Database Management Systems by Bipin Desai

**M.Sc. Part I**  
**Semester -2**

**Paper I : Windows Programming using VC++**

**Hours/Week : 4**

**Credits : 4**

**Unit-1 :**

Windows, Visual C++, Application Frameworks Fundamentals and MFC Libraries View Class. Introduction, MFC, ATL and WFC, Windows Programming Model, Components, Application Framework, MFC Library, Event Handling, Mapping Modes and Scrolling Views, Graphic Device Interface, Colors and Fonts, Modal Dialog and Windows Common Control, Modeless Dialog and Windows Common Dialog, ActiveX Controls and Internet Explorer Common Controls, Win32 Memory Management, Bitmaps, Message Processing and Multithreaded Programming.

**Unit-2 :**

Document View Architecture : Menus, Keyboard Accelerators, Rich Edit Control and Property Sheets, Tool bar and Status Bars, Reusable Frame Window Base Class, Separating the Documents from its View, Reading and Writing Documents- SDI applications, MDI applications, Printing and Print Preview, Splitter Windows and Multiple Views, Context-Sensitive Help, DLL's, MFC Programs without Documents or View Classes

**Unit-3 :**

Active X: COM, Automation and OLE : Component Object Model, Automation, Uniform Data Transfer- Clipboard Transfer and OLE, Drag and Drop, Structured Storage, OLE Embedded Components and Containers, Introducing the Active Template Library, ATL and ActiveX Controls.

**Unit-4 :**

Database Management: Database Management with Microsoft ODBC, Database Management with Microsoft Data Access Objects, OLE DB Templates.

Programming for the Internet: TCP/IP, Winsock, WinInet, Programming the Microsoft Internet Information Server, ActiveX document Servers and the Internet, Introducing the Dynamic HTML, Visual C++ for Windows CE.

**Books :**

1. Programming Microsoft Visual C++ by D. J. Kruglilski, G Shepherd and Scot Wingo  
Publication : Microsoft Press Fifth Edition.

**Reference Books:**

1. Visual C++ 6 From The Ground Up: Mueller: TMH Publication
2. VC++ 6 The Complete Reference: Pappas, TMH Publication

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper II : Theory of Computation and Compiler Construction

Hours/Week : 4

Credits : 4

### Unit-1 :

Finite Automation and Regular Expression : Finite State systems, Basic Definitions, Non - deterministic finite Automata, Finite Automata with moves, Regular Expressions, Two way finite automata, Finite automata with output, Application on Finite Automata.

Properties of Regular Sets : The pumping lemma for Regular Sets, Close properties of Regular sets, Decision Algorithms for Regular Sets.

Context Free Grammars : Motivation and Introduction, Context Free Grammar, Derivation Tree, Simplification of context Free Grammars, Chomsky Normal form, Greibach normal form, The existence of inherently ambiguous context free languages.

Properties of Context free languages : The pumping lemma for CFL's , Closure properties of CFL's, Decision Algorithm for CFL's

### Unit-2 :

Push Down Automata : Informal description, Definitions, Push – Down Automata & Context free languages.

Turing Machine : Introduction, The Turing Machine Model, Computable languages and functions , Techniques Turing Machine construction, Modification of Turing Machines, Church's Hypothesis, Turing Machine as enumerators, Restricted Turing Machine equivalent to the basic model. Undecidability : Problems, properties of recursive and recursively enumerable problem, Turing Machine and undecidable problem, Rice theorem, Tool for proving CFL undecidable, Greibach's Theorem.

The Chomsky : Regular Grammars, Unrestricted Grammars, Context – Sensitive languages, Relation between classes of languages.

### Unit-3 :

Introduction to Compilers :

Compilers and translators, need, the structure of a compiler, Lexical Analysis, Syntax analysis, Intermediate code Generation, Optimization, Code Generation, Book keeping, Error Handling, Compiler writing tools. Basic parsing Techniques: Parsers, Shift-reduce parsing, Operator precedence parsing, Top-down parsing, predictive parsers, automatic construction of efficient parsers : LR parsers the canonical collection of LF (O) items, constructing SLR parsing tables, constructing LALR parsing tables, Ambiguous grammar.

### Unit-4 :

Syntax directed translation : syntax directed translation schemes, implementation, intermediate code, postfix notation, parse tree and syntax trees, tree- address code, quadruple, triple, translation of Symbol Table: Data Structure, Representation of Scope Information,

Code Optimization: The principal source optimization, Loop optimization, The DAG Representation of basic blocks, Value number and algebraic laws, Global data-flow analysis.

Code Generation : Object Programmers Problems in code generation, A machine model, a simple code generator, Register Allocation and assignment, Code Generation from DAG's Peephole Optimization.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Books :**

1. Introduction to Automata Theory, Languages and Computation: John E. Hopcroft & Jeffrey D. Ullman.
2. Compilers Principles, Techniques and Tools Aho, Ullman, Ravi Sethi, Pearson Education.
3. Theory of Computer Science : E. V. Krishnamoorthy.
4. Theory of computer Science : K. L. P. Mishra.

**Reference Books:**

1. D. I. A. Cohen : Introduction to Computer Theory (JW)
2. H. R. Lewis & C. H. Papadimitriou : Elements of Theory Of Computation (PHI)
3. J. Carroll and D. Long : Theory of Finite Automata (PHI)
4. M. Davis & Weyuker : Computability, Complexity & Languages.
5. M. Machtey & P. R. Young : An introduction to General Theory of Algorithm ( Elsevier).
6. Zvi L. Lempel : Switching and Finite Automata Theory (TMH).

## **Paper III : Computer Architecture and Organization**

**Hours/Week : 4**

**Credits : 4**

### **Unit-1 :**

Principle of computer design : Software, hardware interaction, layers in computer architecture, central processing and machine language instruction, addressing modes, instruction types, instruction set selection, instruction and execution cycle.

### **Unit-2 :**

Control Unit : Data path and control path design, microprogramming v/s hardwired control, pipelining in CPU design, RISC v/s CISC, superscalar processors.

### **Unit-3 :**

Memory subsystem : Storage technologies, memory array organization, memory hierarchy, interleaving , cache memory and virtual memory including architectural aids to implement these.

### **Unit-4 :**

Input/ Output Processing : Bus Interface, Data transfer techniques, I/O interrupts and channels., Performance evaluation : SPECmarks , Transaction Processing Benchmarks.

### **Books :**

1. Computer Architecture and Organization by Tenenbaum
2. Computer Architecture and Organization by J. P. Hayes.
3. Parallel Processing by Hwang
4. Computer Organization by Hamacher, Vranesic, Zaky (TMH)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper IV : Computer Graphics

Hours/Week : 4

Credits : 4

### Unit-1 :

Introduction of computer Graphics and its applications, Overview of Graphics systems, Video display devices, Raster scan display, Raster scan systems, video controller, Raster scan display processor, Random scan display, random scan systems, color CRT monitor, Flat panel display, Interactive input devices, Logical classification of input devices, Keyboard, mouse, Trackball and spaceball, Joysticks, Image scanner, Light pens, Graphics software, Coordinates representations, Graphics functions.

### Unit-2 :

Line drawing algorithms, DDA, Bresenham's, Circle generating, Mid-point circle algorithm, Ellipse generating, Polygon, Scan-line polygon fill, Boundary fill.

### Unit-3 :

Basic transformation's, Translation, Rotation, Scaling, Matrix representation's & homogeneous co-ordinates, Composite transformation's, Reflection, Two dimensional viewing, Two dimensional clipping, Line, Polygon, Curve, Text. 3D-transformation, Projection, Viewing, Clipping.

Spline representation, Cubic spline, Bezier curve, Bezier surfaces, Beta spline, B-spline surfaces, B-spline curve, Hidden surfaces, Hidden lines, Z-buffer.

### Unit-4 :

Fractal's geometry Fractal generation procedure, Classification of Fractal, Fractal dimension, Fractal construction methods. Color models, XYZ, RGB, YIQ, CMY & HSV, Shading algorithms, Shading model, Illumination model, Gouraud shading, Phong shading.

### Books :

1. Computer Graphics by M. Pauline Baker, Donald Hearn, 2<sup>nd</sup> Edition PHI.
2. Mathematical Element for Computer Graphics By. David F. Roger., J. Alan Adams, 2<sup>nd</sup> Edition, Tata McGHill.

### Reference Books:

1. Principles of Interactive Computer Graphics By. William. M. Newmann. 2<sup>nd</sup> Edition Mc. Graw Hill.
2. Procedural Element for Computer Graphics By. David F. Roger. Mc. Graw Hill.
3. Computer Graphics By A.P. Godse, 2<sup>nd</sup> Editio TPPublication,
4. Computer Graphics By V.K. Pachghare, 2<sup>nd</sup> Edition, Laxmi Publication
5. Computer Graphics By Apurva Desai (PHI)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**M.Sc. Final**  
**Semester -3**  
**Paper I : Data Communication and Network**

**Hours/Week : 4**

**Credits : 4**

**Unit-1 :**

Introduction: Network structure and architectures and services OSI reference model.

The Physical Layer: theoretical basis for data communication, transmission media. Analog Transmission, Digital Transmission, Transmission and Switching, ISDN.

The Data Link Layer: Design issues, Error detection and correction, Elementary data link protocols, sliding window protocol, protocols performance, protocols specification and verification. Examples of the Data link layer.

Network Layer: Design issues, routing algorithms, Congestion control algorithms, Internet working, Examples of the network layer.

**Unit-2 :**

The Transport Layer: Design issues, Connection Management.

The session layer: Design issues and remote procedure call.

The Presentation Layer: Design issues, data compression techniques, cryptography.

The Application Layer: Design issues, file transfer, access and management, virtual terminals.

**Unit-3 :**

Network Security Fundamentals: Introduction, security Vulnerabilities and Threats, Classification of Security Services.

Cryptography: Encryption principles, Conventional Encryption DES, IDEA, Algorithms, CBC, Location of Encryption Devices key Distribution.

**Unit-4 :**

Message Digests and Checksums, Message Authentication, Message Digests, Hash Functions and SHA, CRCs. Public key Systems: RSA Diffie-Hellman, DSS, Key Management.

Intruders: Intrusion Techniques, Intrusion Detection, Authentication, Password- Based Authentication, Address- Based Authentication, Certificates, Authentication Services, Email Security, Firewalls, Design Principles, Packet Filtering, Access Control, Trusted Systems, Monitoring and Management.

**Books :**

1. Computer Networks – Andrew S Tanenbum (PHI)
2. Network Security and Essentials: Application and standers
3. Willam Stalling – Pearson Education.
4. Cryptography and network security
5. Willam Stalling – Pearson Education.

**Reference Books:**

1. Internet Security: Timspeed, Juanita Ellis, Digital Press Publication
2. Internet Security: Jan L. Harington, Morgan Kaufmann Publication
3. Firewall Network System: John R. Vacca, Scott R. Ellis, Digital Press
4. Network Algorithm, George Varghese, Morgan Kaufmann Publication
5. TCP/IP Addressing: Buck Graham, Morgan Kaufmann Publication
6. Data Communication and Networking: Behrouz A. Forouzan, TMH.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



## Paper II : Software Engineering

Hours/Week : 4

Credits : 4

### Unit-1 :

Introduction to Software Engineering : The evolving role of software, Changing Nature of Software, Software myths.

A Generic view of process : Software engineering- A layered technology, a process framework, The Capability Maturity Model Integration (CMMI), Process patterns, process assessment, personal and team process models.

Process models : The waterfall model, Incremental process models, Evolutionary process models, The Unified process. Software Requirements : Functional and non-functional requirements, User requirements, System requirements, Interface specification, the software requirements document.

### Unit-2 :

Requirements engineering process : Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management. System models : Context Models, Behavioral models, Data models, Object models, structured methods. Modeling with UML .

Design Engineering : Design process and Design quality, Design concepts, the design model.

Creating an architectural design : Software architecture, Data design, Architectural styles and patterns, Architectural Design.

### Unit-3 :

Object-Oriented Design : Objects and object classes, An Object-Oriented design process, Design evolution. Performing User interface design : Golden rules, User interface analysis and design, interface analysis, interface design steps, Design evaluation.

Testing Strategies : A strategic approach to software testing, test strategies for conventional software, Black-Box and White-Box testing, Validation testing, System testing, the art of Debugging. Product metrics : Software Quality, Metrics for Analysis Model, Metrics for Design Model, Metrics for source code, Metrics for testing, Metrics for maintenance.

### Unit-4 :

Metrics for Process and Products : Software Measurement, Metrics for software quality.

Risk management : Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM Plan.

Quality Management : Quality concepts, Software quality assurance, Software Reviews, Formal technical reviews, Statistical Software quality Assurance, Software reliability, The ISO 9000 quality standards.

### Books :

1. Software Engineering, A practitioner's Approach- Roger S. Pressman, 6th edition. McGrawHill International Edition.

2. Software Engineering- Sommerville, 7th edition, Pearson education.

### Reference Books:

1. Software Engineering- K.K. Agarwal & Yogesh Singh, New Age International Publishers

2. Software Engineering an Engineering approach- James F. Peters, Witold Pedrycz, John Wiely.

3. Systems Analysis and Design- Shely Cashman Rosenblatt, Thomson Publications.

4. Software Engineering principles and practice- Waman S Jawadekar, The McGraw-Hill.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper III : Neural Network

Hours/Week : 4

Credits : 4

### Unit-1 :

Introduction: Feedforward Neural Networks: Artificial Neurons, Neural Networks and Architectures: Neuron Abstraction, Neuron Signal Functions, Mathematical Preliminaries, Neural Networks Defined, Architectures: Feed forward and Feedback, Salient Properties and Application Domains of Neural Network Geometry of Binary Threshold Neurons and Their Network: Patterns Recognition and Data Classification, Convex Sets, Convex Hulls and Linear Separability, Space of Boolean Functions, Binary Neurons are pattern Dichotomizes, Non-linearly separable Problems, Capacity of a simple Threshold Logic Neuron, Revisiting the XOR Problem, Multilayer Networks.

### Unit-2 :

Supervised Learning I: Perceptrons and LMS: Learning and Memory, From Synapses to Behaviour: The Case of Aplysia, Learning Algorithms, Error Correction and Gradient Descent Rules, The Learning Objective for TLNs, Pattern space and Weight Space, Perceptron Learning Algorithm, Perceptron Convergence Theorem, Perceptron learning and Non-separable Sets, Handling Linearly Non-Separable sets,  $\alpha$ -Least Mean Square Learning, MSE Error Surface and its Geometry, Steepest Descent Search with Exact Gradient Information,  $\mu$ -LMS: Approximate Gradient Descent, Application of LMS to Noise Cancellation

### Unit-3 :

Supervised Learning II: Backpropagation and Beyond: Multilayered Network Architectures, Backpropagation Learning Algorithm, Structure Growing Algorithms, Fast Relatives of Backpropagation, Universal Function Approximation and Neural Networks, Applications of Feedforward Neural Networks, Reinforcement Learning

### Unit-4 :

Neural Networks: A Statistical Pattern Recognition Perspective: Introduction, Bayes Theorem, Classification Decisions With Bayes Theorem, Probabilistic Interpretation Of A Neuron Discriminant Function, Interpreting Neuron Signals As Probabilities, Multilayered Networks, Error Functions And Posterior Probabilities, Error Functions For Classification Problems  
Generalization: Support Vector Machines and Radial Basis Function Networks: Learning from Examples and Generalization, Statistical Learning Theory Briefer, Support Vector Machines, Radial Basis Function Networks, Regularization Theory Route to RRBFNs, Generalized Radial Basis Function Network, Learning In RRBFNs, Image Classification Application, Other Models for Valid Generalization

### Books :

1. Neural Network- A Classroom Approach, Satish Kumar, Tata McGraw Hill
2. Introduction to neural networks using MATLAB 6.0 by Sivanandam, S Sumathi, S N Deepa, Tata Mcgraw Hill

### Reference Books:

1. Neural networks A comprehensive foundations, Simon Hhaykin, Pearson Education 2<sup>nd</sup> edition 2004
2. Artificial neural networks - B.Yegnanarayana, Prentice Hall of India P Ltd 2005.
3. Neural networks in Computer intelligence, Li Min Fu, TMH 2003.
4. Neural networks James A Freeman David M S kapura, Pearson education 2004.
5. C++ Neural Network and Fuzzy Logic 2nd Edition, Valluru B. Rao, Hayagriva V. Rao, Henry Holt and Co.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper IV :

### Elective-1

#### Paper 1.1 : Mobile Computing

Hours/Week : 4

Credits : 4

##### Unit-1 :

Mobile Communications: An Overview: Mobile Communication, Mobile Computing, Mobile Computing Architecture, Mobile Devices, Mobile System Networks, Data Dissemination, Mobility Management, Security Mobile Devices and Systems: Mobile Phones, Digital Music Players, Handheld Pocket Computers, Handheld Devices: Operating Systems, Smart Systems, Limitations of Mobile Devices, Automotive Systems GSM and Similar Architectures: GSM-Services and System, Architecture, Radio Interfaces, Protocols, Localization, Calling Handover, Security, New Data Services, General Packet Radio Service, High-speed Circuit Switched Data, DECT

##### Unit-2 :

Wireless Medium Access Control and CDMA based Communication: Medium Access Control, Introduction to CDMA-based Systems, Spread Spectrum in CDMA Systems, Coding Methods in CDMA, IS-95 cdma One System, IMT- 2000, i - m o d e , O F D M , Mobile IP Network Layer: IP and Mobile IP Network Layers, Packet Delivery and Handover Management, Location Management, Registration, Tunnelling and Encapsulation Route Optimization, Dynamic Host Configuration Protocol, Mobile Transport Layer, Conventional TCP/IP Transport, Layer Protocols, Indirect TCP, Snooping TCP, Mobile TCP, Other Methods of TCP-layer Transmission for Mobile Networks, TCP Over 2.5G/3G Mobile Networks

##### Unit-3 :

Databases: Database Hoarding Techniques, Data Caching, Client-Server Computing and Adaptation, Transactional Models, Query Processing, Data Recovery Process, Issues relating to Quality of Service, Data Dissemination and Broadcasting Systems: Communication Asymmetry, Classification of Data-Delivery Mechanisms, Data Dissemination Broadcast Models, Selective Tuning and Indexing Techniques, Digital Audio Broadcasting, Digital Video Broadcasting, Data Synchronization in Mobile Computing Systems: Synchronization, Synchronization Software for Mobile Devices, Synchronization Protocols, SyncML Synchronization Language for Mobile Computing, Sync4J (Funambol), Synchronized Multimedia ,Markup Language (SMIL)

##### Unit-4 :

Mobile Devices Server and Management: Mobile Agent, Application Server, Gateways, Portals, Service Discovery, Device Management, Mobile File Systems, Security, Mobile Adhoc and Sensor Networks: Introduction to Mobile Ad-hoc Network, MANET, Wireless Sensor Networks, Applications Wireless LAN, Mobile Internet Connectivity, and Personal Area Network: Wireless LAN (WiFi) Architecture and Protocol Layers, WAP 1.1 and WAP 2.0, Architectures, XHTML-MP (Extensible Hypertext Markup Language Mobile Profile), Bluetooth-enabled Devices Network, Layers in Bluetooth Protocol, Security in Bluetooth Protocol, IrDA, ZigBee Mobile Application Languages XML, Java, J2ME, and Java Card: Introduction, XML, JAVA, Java 2 Micro Edition (J2ME), JavaCard, Mobile Operating Systems : Operating System PalmOS, Windows CE, Symbian OS, Linux for Mobile Devices 530

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Books :**

1. Mobile Computing, Raj Kamal, Oxford University Press

**Reference Books:**

1. Mobile Communications Jochen Schiller, Addison-Wesley.
2. Handbook of Wireless Networks and Mobile Computing, Stojmenovic and Cacute, Wiley,
3. Mobile Computing Principles: Designing and Developing Mobile
4. Applications with UML and XML, Reza Behravanfar, Cambridge University Press,

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper IV :

### Elective-1

#### Paper 1.2 : Multimedia Technologies

Hours/Week : 4

Credits : 4

##### Unit-1 :

Fundamental concepts in Text and Image: Multimedia and hypermedia, world wide web, overview of multimedia software tools. Graphics and image data representation graphics/image data types, file formats, Color in image and video: color science, color models in images, color models in video. Fundamental concepts in video and digital audio: Types of video signals, analog video, digital video, digitization of sound, MIDI, quantization and transmission of audio.

##### Unit-2 :

Action Script I : ActionScript Features, Object-Oriented ActionScript, Datatypes and Type Checking, Classes, Authoring an ActionScript Class Action Script II : Inheritance, Authoring an ActionScript 2.0 Subclass, Interfaces, Packages, Exceptions.

##### Unit-3 :

Application Development : An OOP Application Frame work, Using Components with ActionScript MovieClip Subclasses.

Multimedia data compression: Lossless compression algorithm: Run-Length Coding, Variable Length Coding, Dictionary Based Coding, Arithmetic Coding, Lossless Image Compression, Lossy compression algorithm: Quantization, Transform Coding, Wavelet-Based Coding, Embedded Zerotree of Wavelet Coefficients Set Partitioning in Hierarchical Trees (SPIHT).

##### Unit-4 :

Basic Video Compression Techniques: Introduction to video compression, video compression based on motion compensation, search for motion vectors, MPEG, Basic Audio Compression Techniques.

Multimedia Networks: Basics of Multimedia Networks, Multimedia Network Communications and Applications : Quality of Multimedia Data Transmission, Multimedia over IP, Multimedia over ATM Networks, Transport of MPEG-4, Media-on-Demand(MOD).

##### Books :

1. Fundamentals of Multimedia by Ze-Nian Li and Mark S. Drew PHI/Pearson Education.
2. Essentials ActionScript 2.0, Colin Moock, SPD O,REILLY.

##### Reference Books:

1. Digital Multimedia, Nigel chapman and jenny chapman, Wiley-Dreamtech
2. Macromedia Flash MX Professional 2004 Unleashed, Pearson.
3. Multimedia and communications Technology, Steve Heath, Elsevier(Focal Press).
4. Multimedia Applications, Steinmetz, Nahrstedt, Springer.
5. Multimedia Basics by Weixel Thomson.
6. Multimedia Technology and Applications, David Hilman , Galgotia.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Paper IV :  
Elective-1**

**Paper 1.3 : ASP.Net**

**Hours/Week : 4**

**Credits : 4**

**Unit-1 :**

ASP.NET programming model: Introduction, event driven programming over http, http protocol, structure of ASP.NET page, ASP.NET component model, ASP.NET Provider model, Anatomy of ASP.Net Page: Invoking page, Page class, Page Life cycle.

ASP.NET Core Server controls: Generalities of Server Controls, Properties, events and methods of Control class, HTML controls: Generalities of HTML controls, HTML Containers, HTML input controls.

**Unit-2 :**

Web controls: Generalities of Web Control, core web control, misc web control, Validation controls: Generalities of validation controls, Gallery of controls, Programming with Web forms; HtmlFrom Class, Multiple forms, cross page postings, Page errors, Page Personalization.

Ritch Page Composition: Working with master page, working with themes, working with wizards, ADO.NET data Providers, Connecting to data sources: connection strings, connection pooling, Executing commands: ADO Data Readers, Data Adapters, working with transactions, procedures etc. Data container objects: Data sets, Data tables, Data Relations, Data binding models: expressions and components.

**Unit-3 :**

Creating bindable grid of data: DataGrid Control, GridView control, Managing list of records: ListView control and Managing views of records: DetailView Control, FromView Control, Initialization of Application: HttpApplicationClass, Application module, methods and events of HttpApplication Class, The global.asax file, HttpContext Class, Server Object, HttpResponse Object, HttpRequest Object.

**Unit-4 :**

ASP.NET state management: Application state, Session State: working with session state, customizing session state, view state of page. ASP.NET caching: Caching Application data, the Cache Class, ASP.NET Security: Using Form authentication, membership and role management API, Security related controls, AJAX Enabled web services: Web services as application specific services, remote call via web services,

**Books :**

1. Programming with Microsoft ASP.NET 3.5 by Dino Esposito, Microsoft Press
2. Programming with Microsoft ASP.NET 4.0 by Microsoft Press
3. The Complete Reference ASP.NET by MacDonald(TMh)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**M.Sc. Final  
Semester -4**

**Paper I : Data Mining**

**Hours/Week : 4**

**Credits : 4**

**Unit-1 :**

Introduction to Data Mining: Why Mine Data? Commercial Viewpoint, Scientific Viewpoint Motivation, Definitions, Origins of Data Mining, Data Mining Tasks, Classification, Clustering, Association Rule Discovery, Sequential Pattern Discovery, Regression, Challenges of Data Mining, Data Mining-Data: What is Data? Attribute Values, Measurement of Length, Types and Properties of Attributes, Discrete and Continuous Attributes, Types of data sets, Data Quality, Data Preprocessing, Aggregation, Sampling, Dimensionality Reduction, Feature subset selection, Feature creation, Discretization and Binarization, Attribute Transformation, Density.

**Unit-2 :**

Data Mining: Exploring Data: Data Exploration Techniques, Summary Statistics, Frequency and Mode, Percentiles, Measures of Location: Mean and Median, Measures of Spread: Range and Variance, Visualization, Representation, Arrangement, Selection, Visualization Techniques: Histograms, , Box Plots, Scatter Plots, Contour Plots, Matrix Plots, Parallel Coordinates, Other Visualization Techniques, OLAP : OLAP Operations, Data Mining Classification: Basic Concepts, Decision Trees, and Model Evaluation: Classification: Definition, Classification Techniques, Tree Induction, Measures of Node Impurity, Practical Issues of Classification, ROC curve, Confidence Interval for Accuracy, Comparing Performance of Two Models, Comparing Performance of Two Algorithms.

**Unit-3 :**

Data Mining Classification: Alternative Techniques: Rule-Based Classifier, Rule Ordering Schemes, Building Classification Rules, Instance-Based Classifiers, Nearest Neighbor Classifiers, Bayes Classifier, Naive Bayes Classifier, Artificial Neural Networks (ANN), Support Vector Machines. Data Mining Association Analysis: Basic Concepts and Algorithms: Association Rule Mining, Frequent Itemset Generation, Association Rule Discovery : Hash tree, Factors Affecting Complexity, Maximal Frequent Horrible Closed Itemset, Alternative Methods for Frequent Itemset Generation, FPgrowth Algorithm, Tree Projection, Rule Generation, Pattern Evaluation, Statistical Independence, Properties of A Good Measure, Support-based Pruning, Subjective Interestingness Measure.

**Unit-4 :**

Data Mining Cluster Analysis: Basic Concepts and Algorithms: Applications of Cluster Analysis, Types of Clusters, Clustering Algorithms: 'K-means and its variants, Hierarchical clustering, Density based clustering. Graph-Based Clustering, Limitations of Current Merging Schemes, Characteristics of Spatial Data Sets, Shared Near Neighbor Approach, ROCK (RObust Clustering using linKs), Jarvis Patrick Clustering, SNN Clustering Algorithm, Data Mining Anomaly Detection: Anomaly jOutlier Detection, Importance, Anomaly Detection Schemes, Density-based: LOF approach

**Books :**

1. Introduction to Data Mining by Tan, Steinbach, Kumar.
2. Data Mining: Concepts and Techniques by Jiawei Han, Micheline Kamber, Morgan Kaufmann

**Reference Books:**

1. Data Mining: Practical Machine Learning Tools and Techniques by Ian H. Witten and Eibe Frank, Morgan Kaufmann, 2nd Edition (2005).
2. Principles of Data Mining: David Hand, Heikki Mannila & Padhraic Smyth, PHP Publ

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## Paper II : Artificial Intelligence & Expert System

Hours/Week : 4

Credits : 4

### Unit-1 :

AI problems, AI Techniques, Tic-tac-toe, Question Answering, Problem as a state space search, A water jug problem, production system, Control strategies, Heuristic Search, Problem Characteristics, Production system characteristics, Design of search programs

AI Search techniques :- Depth-first, Breadth-first search, Generate-and-test, Hill climbing, Best-first search, Constraint satisfaction, Mean-ends-analysis, A\* Algorithm, AO\* algorithm.

### Unit-2 :

Knowledge Representation:- Representations and mappings, Knowledge Representations, Issues in Knowledge Representation, Predicate Logic:- Representing Instance and Isa Relationships, Computable Functions and predicates, Resolution, Natural Deduction, Logic programming, Forward versus Backward Reasoning, Matching, Control knowledge, Expert System.

### Unit-3 :

Games playing : Minimax search procedure , adding alpha-beta cutoffs, additional refinements, Planning :- Component of a planning system, Goal task planning, Nonlinear planning, Hierarchical Planning.

### Unit-4 :

Understanding, Understanding as Constraint satisfaction, Natural Language Processing, Syntactic Processing, Unification grammars, Semantic Analysis, Introduction to pattern recognition, Parallel and Distributed AI, Psychological Modeling, Distributed Reasoning Systems,

### Books :

1. Artificial Intelligence by Elaine Rich, Mcgrawhill Inc.
2. Artificial Intelligence and Expert Systems – Jankiraman, Sarukes (M)

### Reference Books:

1. Expert System : Theory and Practice- Ermine (PHI)
2. Lisp Programming – Rajeo Sangal – (TMH)
3. Rule based Expert System – M.Sasikumar (Narosa)
4. Artificial intelligence – Russell-Pearson- Ist Text book.
5. Principles of AI- Nils Nilson
6. A.I. by R.J.Winston - Pearson
7. ES : Theory and Practice- Ermine – PHI.
8. Int. ti Expert System – Jackson – Pearson.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



## Paper III : Design and Analysis of Algorithm

Hours/Week : 4

Credits : 4

### Unit-1 :

Elementary Algorithmics: Introduction- Problems and Instances- The Efficiency of algorithms- Average and worst case Analysis. Asymptotic Notation: A notation for the order of – Other asymptotic notation- Conditional asymptotic notation- Asymptotic notation with several parameters- Operations on asymptotic notation.

Analysis of Algorithms: Introduction- Analyzing control structures- Average case analysis- Amortized Analysis- Solving recurrences.

### Unit-2 :

Greedy Algorithms: Making change- General Characteristics of Greedy algorithms- Minimum spanning trees and shortest paths- Knapsack Problems- Scheduling.

Divide and Conquer: Introduction- Multiplying large numbers- The general template- binary search- sorting- Finding the median- Matrix multiplication- Introduction to cryptography.

### Unit-3 :

Dynamic Programming: The Principle of Optimality- making change the knapsack problem- shortest paths- Chained matrix multiplication- approaches using recursion- Memory functions.

### Unit-4 :

Back tracking & Branch Bound: Traversing trees- Depth first search of directed and undirected graph- Breadth first search- Back tracking- Branch and bound- The minimax principle, Introduction to NP- Completeness; Classes P and NP- Polynomial reductions- NP- Complete Problems NP- Hard problems- Non- Deterministic algorithms.

### Books :

1. Fundamentals of Algorithms - Gilles Brassard & Paul Bratley. Prentice-Hall (India)Ltd.

### Reference Books:

1. Fundamentals of Computer Algorithms by Ellis Horowitz & Sartaj Sahani. Galgotia Publication.
2. Computer Algorithms: Introduction to Design & Analysis. Sara Baase & Alien Van Gelder. Addison Wesley Publishing Company.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Paper IV :**  
**Elective-2**  
**Paper 2.1 : Embedded System**

**Hours/Week : 4**  
**Credits : 4**

**Unit-1 :**

Introduction to Embedded Systems: Embedded Systems, Processor Embedded into a System, Embedded Hardware Units and Devices in a System, Embedded Software in a System, Examples of Embedded Systems, Embedded System-on-chip (Soc) and Use of VLSI Circuit Design Technology, Complex Systems Design and Processors, Design Process in Embedded System, Formalization of System Design, Design Process and Design Examples, Classification of Embedded Systems, Skills Required for an Embedded System Designer 8051 and Advanced Processor Architectures, Memory Organization and Realworld Interfacing:

8051 architecture, Real World Interfacing, Introduction to Advanced Architectures, Processor and Memory Organization, Instruction-Level Parallelism, Performance Metrics, Memory-Types, Memory-Maps and Addresses, Processor Selection, Memory Selection, Devices and Communication Buses for Devices Network :Types and Examples, Serial Communication Devices, Parallel Device Ports, Sophisticated Interfacing Features in Device Ports, Wireless Devices, Timer and Counting Devices, Watchdog Timer, Real Time Clock, Networked Embedded Systems, Serial Bus Communication Protocols, Parallel Bus Device Protocols-Parallel Communication Network Using ISA, PCI, PCI-X and Advanced Buses, Internet Enabled Systems-Network Protocols, Wireless and Mobile System Protocols

**Unit-2 :**

Device Drivers and Interrupts Service Mechanism: Programmed-I/O Busy-wait Approach without Interrupt Service Mechanism, ISR Concept, Interrupt Sources, Interrupt Servicing (Handling) Mechanism, Multiple Interrupts, Context and the Periods for Context Switching, Interrupt Latency and Deadline, Classification of Processors Interrupt Service Mechanism from Context-Saving Angle, Direct Memory Access, Device Driver Programming,

Programming Concepts and Embedded Programming in C, C++ and Java: Software Programming in Assembly Language (ALP) and in High-Level Language 'C' 235 , C Program Elements: Header and Source Files and Preprocessor Directives, Program Elements:

Macros and Functions, Program Elements: Data Types, Data Structures, Modifiers, Statements, Loops and Pointers, Object-Oriented Programming, Embedded Programming in C++, Embedded Programming in Java,

Program Modeling Concepts: Program Models, DFG Models, State Machine Programming

Models for Event-controlled Program Flow, Modeling of Multiprocessor Systems, UML Modelling

**Unit-3 :**

Interprocess Communication and Synchronization of Processes, Threads and Tasks: Multiple Processes in an Application, Multiple Threads in an Application, Tasks, Task States, Task and Data, Clearcut Distinction between Functions, ISRS and Tasks by their Characteristics, Concept of Semaphores, Shared Data, Interprocess Communication, Signal Function, Semaphore Functions, Message Queue Functions, Mailbox Functions, Pipe Functions, Socket Functions, RPC Functions,

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Real Time Operating Systems : OS Services, Process Management, Timer Functions, Event Functions, Memory Management, Device, File and I/O Subsystems Management, Interrupt Routines in RTOS Environment and Handling of Interrupt Source Calls, Real-time Operating Systems, Basic Design Using an RTOS, Real-time Task Scheduling Models, Interrupt Latency and Response of the Tasks as Performance Metrics, OS Security Issues,

#### **Unit-4 :**

Real time Operating System ProgrammingI:

MicroDOS-II and VxWorks, Basic Functions and Types of RTOSes, RTOS mCOS-II, RTOS VxWorks,

Realtime Operating System ProgrammingII:

Windows CE, OSEK and Real-time Linux Functions, Windows CE, OSEK, Linux 2.6.x and RTLinux,

Design Examples and Case Studies of Program Modeling and Programming with RTOS I: Case Study of Embedded System Design and Coding for an Automatic, Chocolate Vending Machine (ACYM) Using Mucos RTOS, Case Study of Digital Camera Hardware and Software Architecture, Case Study of Coding for Sending Application Layer Byte Streams on a TCP/IP Network Using RTOS Vxworks

Design Examples and Case Studies of Program Modeling and Programming with RTOS 2:

Case Study of Communication Between Orchestra Robots, Embedded Systems in Automobile, Case Study of an Embedded System for an Adaptive Cruise Control (ACC) System in a Car, Case Study of an Embedded System for a Smart Card, Case Study of a Mobile Phone Software for Key Inputs,

Embedded Software Development Process and Tools: Introduction to Embedded Software Development Process and Tools, Host and Target Machines, Linking and Locating Software, Getting Embedded Software into the Target System, Issues in Hardware-Software Design and Co-design,

Testing, Simulation and Debugging Techniques and Tools: Testing on Host Machine: Simulators, Laboratory Tools

#### **Books :**

1. Embedded Systems: Architecture, Programming and Design, Raj Kamal, McGraw Hill

#### **Reference Books:**

1. Embedded System Design” Frank Vahid&Tony Givargis; John Wiley &sons, Inc.
2. Real – Time Systems and software” Alan C. Shaw ; John Wiley &Sons Inc
3. Fundamentals of embedded Software”, Daniel W. Lewis, Pearson
4. Real time Systems”, J. W. S. Liu, Pearson
5. Embedded Realtime System Programming”, S. V. Iyer and P. Gupta, TMH
6. An Embedded System Primer” David E. Simon; Addison-Wesley Pub
7. Embedded System Design” Steve Heath; Butterworth-Heinemann Pub.
8. Embedded System Computer Architecture” Graham Wilson, Butterworth-Heinemann
9. Introduction to Embedded Systems by Shibu K V (TMH)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Paper IV :**  
**Elective-2**  
**Paper 2.2 : Pattern Recognition**

**Hours/Week : 4**  
**Credits : 4**

**Unit-1 :**

Introduction to Pattern Recognition, Bayesian decision theory: Classifiers, Discriminant functions, Decision surfaces, Normal density and Discriminant functions, discrete features

**Unit-2 :**

Maximum Likelihood and Bayesian Estimation: Parameter estimation methods, Maximum-Likelihood estimation, Bayesian estimation, Bayesian Parameter Estimation, Gaussian Case, General Theory, Problem of Dimensionality, Accuracy, Dimension, and Training Sample Size, Computational Complexity and Overfitting, Component Analysis and Discriminants, Principal Component Analysis (PCA), Expectation Maximization (EM), Hidden Markov models for sequential pattern classification, First-Order Markov Models, First-Order Hidden Markov Models, Hidden Markov Model Computation, Evaluation, Decoding and Learning.

**Unit-3 :**

Non-parametric: Density estimation, Parzen-window method, Probabilistic Neural Networks (PNNs), K-nearest Neighbour, Estimation and rules, Nearest Neighbour and Fuzzy Classification. Linear Discriminant function based classifiers: Perceptron, Linear Programming Algorithm, Support Vector Machines (SVM)

**Unit-4 :**

Multilayer Neural Network: Feed Forward Classification, Back Propagation Algorithm, Error Surface Stochastic Data: Stochastic search, Boltzmann Learning, Evolutionary method and Genetic Programming. Non-metric methods for pattern classification: Decision trees, Classification and Regression Trees (CART) and other tree methods, String recognition and Rule Based method. Unsupervised learning and clustering : Mixture Densities and Identifiability, Maximum Likelihood estimation, Application Normal Mixture, Unsupervised Bayesian Learning, Data Description and Clustering, Hierarchical Clustering, Graph theory method, Problem of validity, Component analysis

**Books :**

1. R.O.Duda, P.E.Hart and D.G.Stork, "Pattern Classification 2nd Edition", John Wiley, 2007
2. Christopher M. Bishop, "Neural Network for Pattern Recognition", Oxford Ohio Press.

**Reference Books:**

1. E. Gose, R. Johansonbargh, "Pattern Recognition and Image Analysis", PHI
2. Ethen Alpaydin, "Introduction to Machine Learning", PHI
3. SatishKumar, "Neural Network- A Classroom Approach", McGraw Hill.
4. Dr. Rao & Rao, Neural Network & Fuzzy Logic
5. S. S.Theodoridis and K.Koutroumbas, "Pattern Recognition", 4th Ed., Academic Press,
6. C.M. Bishop, "Pattern Recognition and Machine Learning", Springer, 2006
7. Rajjan Shinghal : Pattern Recognition (TMH)

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Paper IV :**  
**Elective-2**  
**Paper 2.3 : Parallel Computing**

**Hours/Week : 4**  
**Credits : 4**

**Unit-1 :**

Introduction to Parallel Computing: Motivating Parallelism, Scope, Applications, Parallel Programming Platforms: Implicit Parallelism: Limitations of Memory System Performance, Dichotomy of Parallel Computing Platforms, Physical Organization of Parallel Platforms, Communication Costs in Parallel Machines, Routing Mechanisms for Interconnection Networks, Impact of Process-Processor Mapping and Mapping Techniques

**Unit-2 :**

Principles of Parallel Algorithm Design: Preliminaries ,Decomposition Techniques, Characteristics of Tasks and Interactions, Mapping Techniques for Load Balancing, Methods for Containing Interaction Overheads, Parallel Algorithm Models, Basic Communication operations:One-to-All Broadcast and All-to-One Reduction, All-to-All Broadcast and Reduction, All-Reduce and Prefix-Sum Operations, Scatter and Gather, All-to-All Personalized Communication, Circular Shift , Improving the Speed of Some Communication Operations

**Unit-3 :**

Analytical Modeling of Parallel Programs: Performance Metrics for Parallel Systems, The Effect of Granularity on Performance, Scalability of Parallel Systems, Minimum Execution Time and Minimum Cost-Optimal Execution Time, Asymptotic Analysis of Parallel Programs, Other Scalability Metrics, Programming Using the Message Passing Paradigm: Principles of Message-Passing Programming, The Building Blocks: Send and Receive Operations , MPI: the Message Passing Interface, Topologies and Embedding, Overlapping Communication with Computation, Collective Communication and Computation Operations, Groups and Communicators,

**Unit-4 :**

Programming Shared Address Space Platforms: Thread Basics, Why Threads? The POSIX Thread API, Thread Basics: Creation and Termination, Synchronization Primitives in Pthreads, Controlling Thread and Synchronization Attributes, Thread Cancellation, Composite Synchronization Constructs, Tips for Designing Asynchronous Programs, OpenMP: a Standard for Directive Based Parallel Programming, Dense Matrix Algorithms: Matrix- Vector Multiplication, Matrix-Matrix Multiplication, Solving a System of Linear Equations Sorting: Issues in Sorting on Parallel Computers, Sorting Networks, Bubble Sort and its Variants, Quicksort, Bucket and Sample Sort, Other Sorting Algorithms, Graph Algorithms: Minimum spanning tree Prim's Algorithm, Single-Source Shortest Paths: Dijkstra's Algorithm Search Algorithms for Discrete Optimization Problems: Sequential Search Algorithms, Search Overhead Factor, Parallel Depth-First Search, Parallel Best-First Search, Speedup Anomalies in Parallel Search Algorithms, Dynamic Programming: Overview of Dynamic Programming, Serial Monadic DP Formulations, Monadic DP Formulations, The Longest-Common- Subsequence Problem, Serial Polyadic DP Formulations, Floyd's All-Pairs Shortest-Paths Algorithm, Nonserial Polyadic DP Formulations, The Optimal Matrix-Parentesization Problem, Fast Fourier Transform: The Serial Algorithm, The Binary-Exchange Algorithm, The Transpose Algorithm

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Books :**

1. Introduction to Parallel Computing, Ananth Grama, Pearson Education

**Reference Books:**

1. Fundamental of Paralle Processing, Harry F. Jordan, Gita Alaghband, Pearson Education
2. Parallel Programming, Michael Allen, Barry Wilkinson, Pearson Education

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKADOJI MAHARAJ  
NAGPUR UNIVERSITY, NAGPUR**

# **ORDINANCE BOOK**

**EDITION 2006**

**Price Rs. : 60/-**

*[Handwritten Signature]*  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur



**RASHTRASANT TUKADOJI MAHARAJ  
NAGPUR UNIVERSITY, NAGPUR**

# **ORDINANCE BOOK**

**EDITION 2006**

**Price Rs. : 60/-**

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



Published By :

**Subhash Belsare**  
**Registrar,**  
**Rashtrasant Tukadoji Maharaj Nagpur University.**

Chhatrapati Shivaji Maharaj Administrative Premises,  
Opp. Maharaj Bagh, Ravindranath Tagore Marg.  
R.T.M. Nagpur University, NAGPUR – 440 001.

(c) **Rashtrasant Tukadoji Maharaj Nagpur University.**

**Edition, 2006**

**Printed By :**

**M. R. Baig**  
**Manager,**  
**R.T.M. Nagpur University Press,**

Chhatrapati Shivaji Maharaj Administrative Premises,  
Opp. Maharaj Bagh, Ravindranath Tagore Marg.  
R.T.M. Nagpur University, NAGPUR – 440 001.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**RASHTRASANT TUKADOJI MAHARAJ  
NAGPUR UNIVERSITY, NAGPUR**

**I N D E X**

<b>S.N.</b>	<b>ORDINANCE NO. &amp; YEAR</b>	<b>SHORT TITLE OR SUBJECT OF ORDINANCE</b>	<b>PAGE NO.</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1	1 of 2006	An Ordinance Pertaining to the Chargeable Fees from Students, Towards Promotion of Inter University Sports and Cultural Activities.	1
2	2 of 2006	Ordinance to provide for examination leading to the Diploma in Sericulture (Amendment Ordinance No. 10 of 1987.) in the Faculty of Science.	3
3	3 of 2006	Ordinance to provide for examination leading to the degree of विज्ञान पारंगत (रेशिम) Master of science in sericulture in the Faculty of science.	4
4	4 of 2006	Ordinance to provide for examinations leading to the degree of Bachelor of science (Information Technology) (Three year degree course) in the Faculty of science.	8
5	5 of 2006	Ordinance to provide for examinations leading to the degree of विज्ञान पारंगत (माहिती तंत्रान) [Master of science (Information Technology)] (Semester pattern) in the Faculty of science,	15
6	6 of 2006	Ordinance relating to examination leading to the Degree of Bachelor of Pharmacy (New), in the Faculty of Medicine.	19
7	7 of 2006	Ordinance governing admission to Master of Pharmaceutical Sciences course in the Faculty of Medicine.	33
8	8 of 2006	Ordinance governing procedure and modalities for admission to B.Pharm.-I and II i.e. Bachelor of Pharmaceutical Sciences course in the University department of Pharmaceutical Sciences and affiliated colleges in the Faculty of Medicine.	41

  
 20/03/2007  
 Off. Principal,  
 S.S. Maniar College, Nagpur

9	9 of 2006	Ordinance to provide for examination leading to the Degree of Bachelor of Applied Electronics (Amendment Ordinance No. 2 of 1995) in the Faculty of Home Science.	47
10	10 of 2006	Ordinance to provide for examination leading to the Degree of Bachelor of House & Interior Design (Amendment Ordinance No. 3 of 1995) in the Faculty of Home Science.	48
11	11 of 2006	Ordinance governing examinations leading to the Bachelor of Science (Home Science), in the Faculty of Home Science.	49
12	12 of 2006	Ordinance leading to the award of the Certificate in "Clinical Nutrition & Patient Counseling" In the Faculty of Home Science.	57
13	13 of 2006	Ordinance to provide for examination leading to the Higher Diploma in English, French, German, Russian, Bengali, Telgu, and Urdu Languages in the Faculty of Arts.	60
14	14 of 2006	Ordinance to provide for examinations leading to the degree of Master of Fine Arts in the Faculty of Arts.	61
15	15 OF 2006	Ordinance to provide for examination leading to the certificate, diploma and higher diploma in pali language in the Faculty of Arts,	66
16	16 of 2006	Ordinance leading to the examination for award of the Degree of Master of Science in the Faculty of Home Science.	69
17	17 of 2006	Nagpur university teachers' service and conditions of employment (amendment Ordinance No. 122) Ordinance, 2006	77
18	18 of 2006	Ordinance examination leading to the Degree of Post Basic B.Sc. Nursing in the Faculty of Medicine.	79
19	19 of 2006	Ordinance governing recognition of Post-Graduate Teacher(s) in the stream of Dental Sciences and fixation of intake capacity for Master of Dental Surgery courses under the Faculty of Medicine	82
20	20 of 2006	Ordinance providing for condonation of deficiency of marks for passing Part-I, II and Final M.B.B.S. examination in the faculty of Medicine.	84

  
 20/03/2007  
 Off. Principal,  
 S.S. Manjar College, Nagpur

21	21 of 2006	Ordinance Recognition of Post graduate Teacher(s) in the stream of Occupational Therapy and Physio Therapy and fixation of intake capacity for Master course in Physio Therapy and Master course in Occupational Therapy under the Faculty of Medicine	85
22	22 of 2006	Ordinance to provide for examination leading to the Degree of Master of Public Health in the Faculty of Medicine.	87
23	23 of 2006	Ordinance governing examination of Masters Degree of Business Administration (M.B.A.)(Semester pattern) in the Faculty of Commerce.	91
24	24 of 2006	Ordinance to provide for examination leading to the Degree of Bachelor of Commerce (Computer application) in Faculty of Commerce.	100
25	25 of 2006	Ordinance to provide for examination leading to the Degree of Master of Commerce in the Faculty of Commerce.	108
26	26 of 2006	Ordinance to provide for examination leading to the Degree of Bachelor of Business Administration (B.B.A.) in the Faculty of Commerce.	113
27	27 of 2006	Ordinance to provide for examination leading to the P.G. Diploma in Business Management (D.B.M. in the Faculty of Commerce.	122
28	28 of 2006	Ordinance to provide for examination leading to the Degree of Bachelor of Engineering in Fire Engineering in Faculty of Engg./Tech.	128
29	29 of 2006	Ordinance relating to University Affiliation Fee (Amendment Ordinance No. 3 of 1994)	135
30	30 of 2006	Ordinance relating to Improvement of Division/Grade (Amendment Ordinance No. 4 of 1996)	136

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 1 OF 2006**

**AN ORDINANCE PERTAINING TO THE CHARGEABLE FEES FROM STUDENTS,  
TOWARDS PROMOTION OF INTER UNIVERSITY SPORTS  
AND CULTURAL ACTIVITIES.**

**Whereas** it is expedient to provide for an Ordinance pertaining to chargeable fees from students, towards promotion of Inter University Sports and Cultural Activities, for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following Ordinance:

1. This ordinance may be called “Chargeable fees from students, towards promotion of Inter University Sports and Cultural Activities, Ordinance, 2005”.
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. In this Ordinance, unless the context requires :
  - i) “Act” means the Maharashtra Universities Act, 1994.
  - ii) “Conducted College” means a college maintained and managed by the University.
  - iii) “Affiliated College” means a college affiliated to the University.
  - iv) “Principal/Director of a conducted/affiliated College, means a head of a conducted/affiliated college and recognized to be so by the University.
  - v) “Academic Year” means an year commencing on such date in June/July and ending with such date in March/April of the year following as may be decided by the Academic Council.
4. Every conducted/affiliated college shall charge a fee of Rs. 20/- from each student per Academic year right at the time of his/her admission to any of the courses of study in the Rashtrasant Tukadoji Maharaj Nagpur University, towards the promotion of Inter University Sports and Cultural Activities.

Provided that fee of Rs. 20/- collected from each student per academic year shall be utilized as under :

- i) Rs. 4/- per student per academic year to be contributed to the host University for Inter University Sports meet Ashwamedh.

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 26, under the draft Ordinance No. 47 of 2005 & approved by the Hon'ble Chancellor on 28<sup>th</sup> March, 2006, vide letter No. CS/NU/ORD/42/06/(6344)876.

  
20/03/2006  
Off. Principal,  
S.S. Maniar College, Nagpur

- ii) Rs. 2/- per student per academic year to be contributed to the host University for Inter-University Cultural Activities. (Indradhanushya)
- iii) Rs. 6/- per student per academic year as college share for sports, cultural and other activities including at least Rs. 3/- for development of sports infrastructure. The same to be monitored periodically by the University Committee formed for the purpose with special emphasis to ensure that the colleges develop sports infrastructure.
- iv) Rs. 8/- to be retained by the University for the following :
  - a) Rs. 4/- to be shared equally between Cultural & Sports activities including development of Sports infrastructure of the University.
  - b) Rs. 4/- for the Corpus Fund to be utilized later for the activities planned by the Advisory Board in future.

Provided that each Principal of the conducted college/affiliated college shall remit to the Registrar, Rashtrasant Tukadoji Maharaj Nagpur University, Rs. 14/- of the fees chargeable per student on or before 30 September, each year by a demand draft drawn in favour of the Registrar, Rashtrasant Tukadoji Maharaj Nagpur University, and shall retain the remaining Rs. 6/- with the college.

Provided further that Principal of the conducted / affiliated college shall earmark the amount so collected & retained for its utilization towards generating and developing the infrastructural facilities for sports, in the college.

- 5. Out of the total amount of Rs. 14/- received by the University from Conducted/Affiliated colleges the University shall subscribe a share of Rs. 4/- per student for Maharashtra State Inter University Sports Meet (Ashwamedh) and Rs. 2/- per student for Maharashtra State Inter University Cultural Festival (Indradhanushya) during the academic year.
- 6. The changes in fees will be implemented from the academic year 2006-07.
- 7. Upon promulgation of this Ordinance, Ordinance No. 1 of 1999, shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

As suggested by the advisory board at its meeting held on 7<sup>th</sup> July, 2005 at Raj Bhavan, Mumbai and as communicated by the Dy. Secretary to the Chancellor vide letter No. CS/Ashwamedh/05/ 2107, dated 8<sup>th</sup> August, 2005, Ashwamedh fee needs to be increased to rs. 20/-. hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 2 OF 2006**

**AN ORDINANCE (FURTHER\*) TO AMEND THE  
ORDINANCE NO. 10 OF 1987**

Whereas it is expedient to amend ordinance no. 10 of 1987, i.e. Examination leading to the diploma in sericulture for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following ordinance;

1. This ordinance may be called 'Examination leading to the Diploma in Sericulture (amendment) Ordinance, 2005.
2. This ordinance shall come into force with effect from the date of its approval by the Management Council.
3. In para 4(i) of the main ordinance for the words-

"Pass at least XIIth standard examination of Maharashtra State Board of Secondary and Higher Secondary Education (Science stream with Biology) or any other statutory university or Board or an examination recognized as equivalent thereto, and"

Shall be substituted by the words

"Passed XII standard examination (Science stream) of Maharashtra State Board of Secondary and Higher Secondary Education or an examination equivalent thereto, from any other statutory Board."

**STATEMENT OF OBJECT AND REASONS**

It was imperative to broaden the scope of the eligibility so as to facilitate the desirous and deserving applicant students to avail the opportunity in terms of their admission to the course the Academic Council in its meeting held on 28<sup>th</sup> July, 2005 vide item No. 199 & Management Council 27<sup>th</sup> February, 2006 vide item No. 7 considered & approved this amendment Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future and is in consonance with the orders of the State Government and guidelines of the University Grants Commission.

Hence the amendment.

---

\*Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. No. 7, under the draft Ordinance No. 2/2005.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 3 OF 2006**

**EXAMINATION LEADING TO THE DEGREE OF विज्ञान पारंगत ( रेशीम) MASTER OF SCIENCE (SERICULTURE) IN THE FACULTY OF SCIENCE**

Whereas it is expedient to provide for an Ordinance for the examination leading to the degree of विज्ञान पारंगत ( रेशीम) Master of Science in Sericulture in the Faculty of Science, the Management Council is hereby pleased to make the following ordinance. :

1. This ordinance may be called "Examination leading to the degree of विज्ञान पारंगत (रेशीम) Master of Science in Sericulture in the Faculty of Science Ordinance, 2005."
2. This ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. The duration of the course shall be Two academic years with university examination at the end of each year namely
  - a) विज्ञान पारंगत (रेशीम) भाग १ [ M.Sc. (Sericulture) Part I ]
  - b) विज्ञान पारंगत (रेशीम) भाग २ [ M.Sc. (Sericulture) Part II ]
4. The examination shall be held at such places and on such dates as may be notified by the university.
5. Subject to the compliance with the provisions of this ordinance and of other directions/ordinances in force from time to time, the following candidates shall be eligible for admission to Master of Science (Sericulture) examination, namely:-

**A] For विज्ञान पारंगत (रेशीम) भाग १ [ M.Sc. (Sericulture) Part I ]:**

- i) a candidate admitted to the degree of Bachelor of Science of the Rashtrasant Tukadoji Maharaj Nagpur University or of any other statutory university recognized equivalent thereto who had offered Sericulture OR Botany OR Zoology OR Microbiology as one of the subjects at the qualifying examination.

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 8, under the draft Ordinance No. 4 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)100.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur



**AND**

- ii)** should have prosecuted a regular course of study in a college affiliated to Rashtrasant Tukadoji Maharaj Nagpur University for the conduct of the course or a Department/Center of Rashtrasant Tukadoji Maharaj Nagpur University conducting the course for not less than one academic year in the subject in which he/she offers for the examination.

**B] For** विज्ञान पारंगत (रेशीम) भाग २ [ **M.Sc. (Sericulture) Part II** ] :

- i)** a candidate who has passed the M.Sc. (Sericulture) Part I examination of Rashtrasant Tukadoji Maharaj Nagpur University or its equivalent, and
- ii)** should have prosecuted a regular course of study in a college affiliated to Rashtrasant Tukadoji Maharaj Nagpur University for the conduct of the course or a Department/ Center of the Rashtrasant Tukadoji Maharaj Nagpur University for the conduct of the course for not less than one academic year in the subjects in which he/she offers for the examination.
6. Without prejudice to the other provisions of ordinance No. 6 relating to the examinations in general, the provisions of paragraphs 5, 8, 9, 10, 26, 31 and 32 of the said ordinance shall apply to every collegiate candidate.
7. The fees for the examination shall be as prescribed by the University from time to time.
8. **(a)** The scope of the subjects shall be as indicated in the syllabus.  
**(b)** The medium of instruction shall be English. The question papers will be set in English. However, it is open to the examinees to write their answers in English, Marathi or Hindi. The candidate should indicate the same in the examination form.
9. The number of papers and the maximum marks assigned to each paper and the minimum marks an examinee must obtain in order to pass the examination shall be as indicated in the Appendix.
10. An examinee at each of the examinations shall have the option of not being declared successful at the examination in case he/she does not secure a minimum of second division or 55% marks at the examination. The option will have to be exercised every time an application is submitted to any of the examinations and shall be in the proforma printed on the application form itself. Once exercised, the option shall be binding upon the examinee and it shall not be revoked under any circumstance.

11. There shall be no classification of examinees successful at the M.Sc.(Sericulture) Part I examination.
12. Examinees who are successful in the विज्ञान पारंगत (रेशीम) भाग २ [M.Sc. (Sericulture) Part II ] examination and have obtained not less than 60% marks in the aggregate of the M. Sc. (Sericulture) Part I and II examinations taken together shall be placed in the first division, those who obtained less than 60% but not less than 48% marks in the second division, and all other successful examinees in the third division.
13. Provisions of Direction No. 9 of 2002 relating to the award of grace marks for passing an examination, securing higher division/class and for securing distinction in subjects as updated from time to time shall apply to the examination under this Ordinance.
14. The names of examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in each subject in the first or second division shall be arranged in order of merit as provided in the Ordinance no.6 related to examinations in general.
15. No person shall be admitted to an examination under this Ordinance, if he/she has already passed the same examination of this university or of any other statutory university.
16. Examinees successful at the final examination on payment of the prescribed fees be entitled for the award of the degree in the prescribed form signed by the Vice-Chancellor.
17. Upon promulgation of this Ordinance, Direction No. 2 of 2004 shall stand repealed.

### **STATEMENT OF OBJECTS & REASONS**

In order to incorporate a Master's course in the speciality of Sericulture, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 201 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 8 considered & approved this Ordinance No. 3 of 2006.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX****TEACHING AND EXAMINATION SCHEMES****A] MASTER OF SCIENCE (SERICULTURE) Part I :****a) THEORY PAPERS**

Sr. No	Paper	Title of Paper	Teaching Scheme Hrs/Week	Examination Scheme		
				Duration of Paper /Hrs.	Max. Marks	Min. Pass Marks
1.	I	General Sericulture and Silkworm Biology	4	3	75	
2.	II	Biology of Silkworm Host Plants	4	3	75	
3.	III	Pests and Diseases of Silkworm and Host Plants	4	3	75	
4.	IV	Molecular Cell Biology and Biotechnology	4	3	75	
Total			16	12	300	108

**b) PRACTICAL PAPERS**

5	I	Biology of Silkworms and their Host Plants	8	6	100	
6	II	Pests and Diseases of Silkworm and Host Plants, Molecular Cell Biology and Biotechnology	8	6	100	
Total			16	12	200	72

**B] MASTER OF SCIENCE (SERICULTURE) Part II****a) THEORY PAPERS**

Sr. No	Paper	Title of Paper	Teaching Scheme Hrs/Week	Examination Scheme		
				Duration of Paper/Hrs.	Max Marks	Min Pass Marks
1.	I	Silkworm Seed and Rearing Technology	4	3	75	
2.	II	Genetics and Breeding of Silkworms and their Host Plants	4	3	75	
3.	III	Silk Technology	4	3	75	
4.	IV	Economics, Marketing, Management, Extension of Sericulture and Bio-statistics	4	3	75	
Total			16	12	300	108

**b) PRACTICAL PAPERS**

5	I	Silkworm Seed and Rearing Technology and Genetics and Breeding of Silkworms and their Host Plants	8	6	75	
6	II	Silk Technology and Economics, Marketing, Management, Extension of Sericulture and Bio-statistics	8	6	75	
7		Project			50	
Total			16	12	200	72

- Note:-**
1. The student must complete the project and submit it before the final examination of M.Sc. Part II (Sericulture).
  2. In the project 25 Marks will be awarded by the Supervisor/Guide and 25 marks will be awarded by the external examiner.

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 4 OF 2006**

**EXAMINATIONS LEADING TO THE DEGREE OF BACHELOR OF SCIENCE  
(INFORMATION TECHNOLOGY) (THREE YEAR DEGREE COURSES) THE  
FACULTY OF SCIENCE**

Whereas it is expedient to provide for an ordinance for the Examinations Leading to the Degree of Bachelor of Science (Information Technology) (Three Year Degree Course) in the Faculty of Science, the Management Council is hereby pleased to make the following ordinance. :

1. This Ordinance may be called “ Examinations leading to the Degree of Bachelor of Science (Information Technology) (Three Year Degree Course) in the Faculty of Science, Ordinance, 2005.”
2. This ordinance shall come into force with effect, from the date of its approval by the Management Council.
3. The course for the Degree of B.Sc. (Information Technology) under this Direction shall extend over a period of three academic years. At the end of each academic year there shall be a university examination known respectively as
  - (a) The Bachelor of Science (Information Technology) Part – I examination,
  - (b) The Bachelor of Science (Information Technology) Part – II examination
  - (c) The Bachelor of Science (Information Technology) Part – III examination.
4. The examination specified in the preceding paragraph shall be held annually at such places and on such dates as may be notified by the University.
5. Subject to the compliance with the provisions of this Ordinance and of other directions/ordinances in force from time to time, the candidate who has prosecuted a regular course of study for not less than one academic year prior to the examination shall be eligible for admission to the examination.

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 9, under the draft Ordinance No. 6 of 2005& approved by the Hon’ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

6. Every applicant for admission to examination shall -

(A) In case of the Bachelor of Science (Information Technology) Part – I examination:

have passed not less than one academic year previously the 12<sup>th</sup> standard examination of the Maharashtra State Board of Secondary and Higher Secondary Education with English and Mathematics or an examination recognized as equivalent thereto in such subjects and with such standards of attainments as may be prescribed.

Provided that students passing the 12<sup>th</sup> standard examination of the Maharashtra State Board of Secondary and Higher Secondary Education and offering Vocational Stream with Mathematics shall be eligible for admission to the Bachelor of Science (Information Technology) Part – I course.

(B) In case of the Bachelor of Science (Information Technology) Part – II examination:

have passed not less than one academic year previously the Bachelor of Science (Information Technology) Part – I examination of the university or an examination recognized as equivalent thereto, and

(C) In case of the Bachelor of Science (Information Technology) Part –III examination:

have passed not less than one academic year previously the Bachelor of Science (Information Technology) Part – II examination of the University or an examination recognized as equivalent thereto.

7. Without prejudice to the other provisions of ordinance No. 6 relating to the Examinations in General the provisions of paragraph 5,8,10,31 and 32 of the said ordinance shall apply to every collegiate candidate

8. The fees for the examination shall be as prescribed by the university from time to time.

9. The scope of the subject of Bachelor of Science (Information Technology) Part – I, Part-II, and final shall be as indicated in the respective syllabi in force from time to time. The medium of the instruction shall be English

  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

10. The paper and practical in which an examinee is to be examined, the maximum marks prescribed for each paper and practical and the minimum marks for passing, which the examinee must obtain in order to pass in the subject and the examination shall be as prescribed in appendix A, B & C.
11. Successful examinees at the Bachelor of Science (Information Technology) examination who obtains not less than 60% marks in aggregate of Bachelor of Science (Information Technology) Part – I, Part-II and final examinations taken together shall be placed in the first division, those who obtaining less than 60% but not less than 50% in the second division, and all other successful examinees in the third division.

**Explanation :**

Division at the Bachelor of Science (Information Technology) final examination shall be declared on the basis of the marks obtained in the Science subjects at the Bachelor of Science (Information Technology) Part – I, Part-II and final examinations taken together.

12. There shall be no classification of successful examinee at the Bachelor of Science (Information Technology) Part – I and Part-II examinations.
13. An examinee successful in the minimum period prescribed for the examination obtaining not less than 75% of the maximum marks prescribed in the subject shall be declared to have passed the examination with Distinction in the subject.

**Explanation :**

- i) Distinction shall be awarded only in Science subjects.
  - ii) Distinction at the Bachelor of Science (Information Technology) examination shall be awarded on the basis of the marks obtained at the Bachelor of Science (Information Technology) Part – I, Part-II and final examination taken together.
  - iii) Distinction shall not be awarded to an examinee availing of the provision of exemptions and compartments at any of the examination.
14. Provisions of Direction No. 9 of 2002 relating to the award of grace marks for passing an examination, securing higher division/class and for securing distinction in subject(s) as updated from time to time shall apply to the examination under this Ordinance.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

15. As soon as possible after the examination, the university will publish a list of successful examinees at the Bachelor of Science (Information Technology) Part – I Part-II and final examination. Such list at the Bachelor of Science (Information Technology) final examination shall be arranged in three divisions. The names of the examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in first or second division shall be arranged in order of merit as provided in the ordinance No. 6 - Examinations in General
16. No person shall be admitted to the Bachelor of Science (Information Technology) Part – I Part-II and final examination, if he has already passed the corresponding or an equivalent examination of other statutory university.
17. Successful examinee at the Bachelor of Science (Information Technology) final examination shall on payment of the prescribed fee, receive a degree in the prescribed form, signed by the Vice-Chancellor.
18. Upon promulgation of this Ordinance, Direction No. 29 of 2002 shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Bachelor's course in the speciality of Information Technology, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 203 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 9 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**Appendix – A**

**Bachelor of Science (Information Technology) Three Year Degree Course**

**FIRST YEAR**

**T : Theory Tu : Tutorial P : Practical**

Sr. No	Subject	Paper	Title of Paper	Teaching Scheme			Examination Scheme						
				T+ Tu	P	Total periods per week	Dur. of paper (Hrs)		Max. Marks		Min. Pass Marks		Total
							T	P	T	P	T	P	
1	Information Technology	I	Components of I.T.	2	-	2	3	-	40				40
		II	Prog in C ++ & OOPS	2	-	2	3	-	40		42		40
		III	Database Management System	2	-	2	3	-	40				40
		IV	Practical	-	6	6	-	6	--	30		11	30
2	Systems & Hardware	I	Fundamentals of Digital Electronics	2	-	2	3	-	40	-		-	40
		II	System Analysis & Design	2	-	2	3	-	40	-	42	-	40
		III	Introduction to Operating System	2	-	2	3	-	40	-		-	40
		IV	Practical	-	6	6	-	6	--	30	-	11	30
3	Analytic Computation	I	Discrete Mathematics	2	-	2	3	-	40	-		-	40
		II	Computer Oriented Statistical Methods	2	-	2	3	-	40	-	42	-	40
		III	Operation Research	2	-	2	3	-	40	-		-	40
		IV	Practical	-	6	6	-	6	--	30	--	11	30
4	Compulsory English		Communication Skills	4+1*	-	4+1*	3	-	100	-	30	-	100
6	Languages (Any One)	I	Marathi, Hindi, Suppl. English.	3	-	3	3	-	100	-	30	-	100
			Total						560	90			650

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional of 10% with the permission of Hon'ble Vice-Chancellor.

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur



**Appendix – B**

**Bachelor of Science (Information Technology) Three Year Degree Course**

**SECOND YEAR**

**T : Theory**

**Tu : Tutorial**

**P : Practical**

Sr. No	Subject	Paper	Title of Paper	Teaching Scheme			Examination Scheme						
				T+ Tu	P	Total periods per week	Dur. of paper (Hrs)		Max. Marks		Min. Pass Marks		Total
							T	P	T	P	T	P	
1	Computer Science	I	Principles of Multimedia	2	-	2	3	-	40	--	42	-	40
		II	ORACLE	2	-	2	3	-	40	--		-	40
		III	System Analysis and Design	2	-	2	3	-	40	--		-	40
		IV	Practical	-	6	6	-	6	--	30		11	30
2	Application Software	I	E-Commerce	2	-	2	3	-	40	-	42	-	40
		II	ORACLE	2	-	2	3	-	40	-		-	40
		III	JAVA Programming	2	-	2	3	-	40	-		-	40
		IV	Practical	-	6	6	-	6	--	30	--	11	30
3	Computational Tools	I	Windows Programming	2	-	2	3	-	40	-	42	-	40
		II	Data Structure	2	-	2	3	-	40	-		-	40
		III	Linux Operating System	2	-	2	3	-	40	-		-	40
		IV	Practical	-	6	6	-	6	--	30	-	11	30
			Total						360	90			450

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional of 10% with the permission of Hon'ble Vice-Chancellor.

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Appendix – C**

**Bachelor of Science (Information Technology) Three Year Degree Course**

**THIRD YEAR**

**T : Theory**

**Tu : Tutorial**

**P : Practical**

Sr. No	Subject	Paper	Title of Paper	Teaching Scheme			Examination Scheme						
				T+ Tu	P	Total periods per week	Dur. of paper (Hrs)		Max. Marks		Min. Pass Marks		Total
							T	P	T	P	T	P	
1	Programming Tools	I	Visual Basic Programming	2	-	2	3	-	40	--	42	-	40
		II	Dot Net & C Sharp	2	-	2	3	-	40	--		-	40
		III	SQL Server	2	-	2	3	-	40	--		-	40
		IV	Practical	-	6	6	-	6	--	30	--	11	30
2	Network Techniques	I	Data Communication & Networks	2	-	2	3	-	40	-	42	-	40
		II	System Simulation	2	-	2	3	-	40	-		-	40
		III	Software Engineering	2	-	2	3	-	40	-		-	40
		IV	Practical	-	6	6	--	6	--	30	--	11	30
3	I.T. Application s	I	Project Management	2	-	2	3	-	40	-	42	-	40
		II	Data Warehousing & Mining	2	-	2	3	-	40	-		-	40
		III	Legal Aspect of I.T	2	-	2	3	-	40	-		-	40
		IV	Practical	-	6	6	-	6	--	30	--	11	30
			Total						360	90			450

- The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 5 OF 2006**

**EXAMINATION LEADING TO THE DEGREE OF विज्ञान पारंगत (माहिती तंत्रज्ञान)  
[MASTER OF SCIENCE (INFORMATION TECHNOLOGY)]  
(SEMESTER PATTERN)**

Whereas it is expedient to provide for an ordinance for the Examinations leading to the degree of विज्ञान पारंगत (माहिती तंत्रज्ञान) [Master of Science (Information Technology)] (Semester Pattern) in the Faculty of Science, the Management Council is hereby pleased to make the following ordinance. :

1. This Ordinance may be called "Examinations leading to the degree of विज्ञान पारंगत (माहिती तंत्रज्ञान) [Master of Science (Information Technology)] (Semester Pattern) in the Faculty of Science, Ordinance, 2005."
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. The duration of the course shall be of TWO academic years consisting of four semesters with university examinations at the end of each semester namely
  - a) विज्ञान पारंगत (माहिती तंत्रज्ञान) सत्र-१ [M.Sc.(Information Technology) Semester-I Exam.]
  - b) विज्ञान पारंगत (माहिती तंत्रज्ञान)सत्र-२ [M.Sc. (Information Technology) Semester-II Exam.]
  - c) विज्ञान पारंगत (माहिती तंत्रज्ञान)सत्र-३ [M.Sc. (Information Technology) Semester-III Exam.]
  - a) विज्ञान पारंगत (माहिती तंत्रज्ञान) सत्र-४ (अंत्य) [M.Sc. (Information Technology) Semester-IV (Final) Examination]
4. The examination specified in the preceding paragraph shall be held at such places and on such dates as may be notified by the university.
5. Subject to their compliance with the provisions of this ordinance and of other ordinances in force from time to time, the following persons shall be eligible for admission to Master of Science (Information Technology) course/examination.
  - a) have passed not less than one academic year previously the B.Sc. (Computer Science)/B.Sc. (Information Technology)/B.Sc. (with Information Technology as an Optional Subject)/Bachelor of Computer Application/Bachelor of Computer Science with 50% marks.

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 10, under the draft Ordinance No. 7 of 2006 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

- b) should have prosecuted a regular course of study in a college affiliated to the R.T.M. Nagpur University for conduct of the course or a University Department/Centre for not less than one semester in the subjects in which he/she offers for examination-

6. The A.T.K.T. rules shall be as under for admission to M.Sc. (Information Technology) course (Theory and Practical as separate passing head)

Admission to Semester	Candidates should have passed in all the subjects of the following examination of R.T.M.Nagpur University	Candidates should have passed at least two-third of the passing heads of the following examinations
Semester - I	As provided under para 4 of the Direction	----
Semester – II	----	Semester – I
Semester – III	Semester – I	Semester – II
*Semester – IV	Semester – II	Semester – III

(Note: \*The candidate admitted to Fourth Semester (Final) shall prosecute his/her studies, however, he/she shall not be eligible to fill in the examination form for the final semester examination unless he/she clears all the lower examinations.)

7. Without prejudice to the other provisions of ordinance No. 6 relating to the Examinations in General, the provisions of paragraphs 5, 8, 9,10, 26, 31 and 32 of the said ordinance shall apply to every collegiate candidate.
8. The fees for the examination shall be as prescribed by the university from time to time.
9. (a) The scope of the subjects shall be as indicated in the Syllabus.
- (b) The medium of instruction shall be English. The question papers will be set in English. However, it is open to the examinees to write their answers in any of the three medium, namely- English, Marathi or Hindi irrespective of the medium of their instruction. The candidate should indicate the same in the examination form.
10. The number of papers and the maximum marks assigned to each paper and the minimum marks an examinee must obtain in order to pass the examinations shall be as indicated in Appendix.
11. An examinee at each of the examinations shall have the option of not being declared successful at the examination in case he does not secure a minimum of second division or 55% marks at the examination. The option will have to be exercised every time the application is submitted to any of the examinations and shall be on the Proforma printed on the application form itself. Once exercised, the option shall be binding upon the examinee and it shall not be revoked under any circumstances.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

12. There shall be no classification of examinees successful at the semesters I, II and III examinations.
13. Examinees who are successful in the विज्ञान पारंगत (माहिती तंत्रज्ञान) सत्र-४ (अंत्य) [M.Sc. (Information Technology) Semester-IV (Final) Examination] examination and have obtained not less than 60% marks in the aggregate of the M.Sc. examinations taken together shall be placed in the first division, those obtained less than 60% but not less than 48% marks in the second division, and all other successful examinees, in the third division.
14. Provisions of direction No. 9 of 2002 relating to the award of grace marks for passing an examination, securing higher division/class and for securing distinction in subject(s) as updated from time to time shall apply to the examination under this Ordinance.
15. The names of examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in each subject in the first or second division, shall be arranged in order of merit as provided in the Ordinance No. 6 relating to Examinations in General.
16. No person shall be admitted to an examination under this Ordinance, if he has already passed the same examination of this university or of any other statutory university.
17. Examinees successful at the final examinations shall on payment of the prescribed fees be entitled for the award of the degree in the prescribed form signed by the Vice-Chancellor.
18. Upon promulgation of this Ordinance, Direction No. 32 of 2002 shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Master's course in the speciality of Information Technology, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 204 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 10 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX – A**  
**SCHEME FOR MASTER OF SCIENCE IN INFORMATION TECHNOLOGY**

Sr. No.	1 <sup>st</sup> Year Semester – I	Teaching Scheme Per Week (Hours)				Examination Scheme Marks			
		L/T	P	Total	Duration of Paper / pract.	Ext	Int.	Total	Min Pass-ing
1.	<b>Windows Programming Through VC++</b>	6	-	6	3	80	20	100	40
2.	Database Administration	6	-	6	3	80	20	100	40
3.	Theory of Computation	6	-	6	3	80	20	100	40
4.	Practical Based on VC++	-	7	7	3	80	20	100	50
5.	Practical Based on Database Administration	-	7	7	3	80	20	100	50
<b>Total</b>		<b>18</b>	<b>14</b>	<b>32</b>	<b>15</b>	<b>500</b>			

Sr. No.	1 <sup>st</sup> Year Semester – II	Teaching Scheme Per Week (Hours)				Examination Scheme Marks			
		L/T	P	Total	Duration of Paper / pract.	Ext	Int.	Total	Min Pass-ing
1.	System Programming	6	-	6	3	80	20	100	40
2.	Embedded Systems	6	-	6	3	80	20	100	40
3.	System Management	6	-	6	3	80	20	100	40
4.	Practical Based on System Programming	-	7	7	3	80	20	100	50
5.	Practical Based on Embedded System	-	7	7	3	80	20	100	50
<b>Total</b>		<b>18</b>	<b>14</b>	<b>32</b>	<b>15</b>	<b>500</b>			

Sr. No.	2 <sup>nd</sup> Year Semester – I	Teaching Scheme Per Week (Hours)				Examination Scheme Marks			
		L/T	P	Total	Duration of Paper / pract.	Ext	Int.	Total	Min Pass-ing
1.	<b>Enterprise Computing</b>	6	-	6	3	80	20	100	40
2.	Advance Concept in Communication	6	-	6	3	80	20	100	40
3.	Computer Graphics	6	-	6	3	80	20	100	40
4.	Practical Based Enterprise Computing	-	7	7	3	80	20	100	50
5.	Practical Based on Computer Graphics	-	7	7	3	80	20	100	50
<b>Total</b>		<b>18</b>	<b>14</b>	<b>32</b>	<b>15</b>	<b>500</b>			

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

**2<sup>nd</sup> Year (Semester – II)**

<b>Project Work</b>	<b>Marks</b>
<b><u>Break-Up</u></b>	
1. Topics Synopsis Seminar	100
(a) Defining and Outlining of the topic	
(b) Literature Survey	
(c) Tools to be used for carrying out the work	
2. Mid term Seminar for evaluating the progress	100
3. End Semester evaluation of the project work	200
	.....
Total Marks	400

- NOTE:
1. All the evaluation for project work mentioned at 1,2 & 3 will be done By Internal Guide & External Supervisor/Examiner.
  2. The minimum passing marks in project work shall be 250 out of 400.
  3. The project for Fourth semester will be based on the subjects studied in previous semesters alongwith their pre-defined application area.

\* **ORDINANCE NO. 6 OF 2006**

**EXAMINATION LEADING TO THE DEGREE OF BACHELOR OF PHARMACY  
(भेषजी स्नातक) (New).”**

Whereas it is expedient to provide for an Ordinance for examination leading to the Degree of Bachelor of Pharmacy भेषजी स्नातक (New) in the Faculty of Medicine, the Management Council is hereby pleased to make the following ordinance. :-

1. This Ordinance may be called, “Examination leading to the Degree of Bachelor of Pharmacy (New) in the faculty of Medicine, Ordinance, 2005 ”.
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. There shall be four examinations leading to the Degree (Bachelor of Pharmacy), namely :-
  - i) The First B.Pharm. examination (प्रथम भेषजी स्नातक) at the end of the first year;

Accepted by the Management Council dt. 27/2/2006, vide item No. 14, under the draft Ordinance No. 13 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

- ii) The Second B.Pharm. examination (द्वितीय भेषजी स्नातक) at the end of the second year;
  - iii) The Third B.Pharm. examination (तृतीय भेषजी स्नातक) at the end of the third year;
  - iv) The Final B.Pharm. examination (अंत्य भेषजी स्नातक) at the end of the fourth year.
4. The examination specified in paragraph 3 shall be held twice a year at such places and on such dates as may be fixed by the Board of Examinations.
  5. An applicant for admission to an examination specified in paragraph 3 shall prosecute a regular course of study in the courses prescribed for the examination concerned for not less than one academic year in University Department of Pharmaceutical Sciences or a College of Pharmacy recognized by the University.
  6. Subject to his compliance with the provisions of this Direction and of other Ordinances in force from time to time, an applicant for admission to :
    - A) the first B.Pharm. examination (प्रथम भेषजी स्नातक) shall have passed not less than one academic year previously –
      - i) the Diploma in Pharmacy Examination from an Institution recognized by the Pharmacy Council of India with minimum 50% marks.
      - OR
      - ii) the 12<sup>th</sup> Standard examination of the Maharashtra State Board of Secondary and Higher Secondary Education with English, Physics, Chemistry, Biology or Mathematics as subjects of study at the 12<sup>th</sup> Standard securing minimum 50% marks (45% marks for backward class candidates from Maharashtra) in the said subjects taken together and passed in the same sitting;
      - OR
      - iii) An examination recognized as equivalent thereto in such subjects and with such standards of attainments as may be prescribed.
    - B) the second B.Pharm. examination (द्वितीय भेषजी स्नातक) shall have passed not less than one academic year previously -
      - i) the first B.Pharm. examination (प्रथम भेषजी स्नातक ) of the University.



OR

- ii) The post H.S.S.C. (i.e. 12<sup>th</sup> standard examination of Maharashtra State Board of Secondary and Higher Secondary Education) Diploma in Pharmacy (i.e. according to Education Regulation 1991 of Pharmacy Council of India) from the Board of Technical Education or equivalent from an Institute approved by Pharmacy Council of India in first attempt scoring not less than 600 marks out of 1000 marks at Part-II examination, provided they appear and pass in the theory papers of Pharmaceutical Chemistry-I (organic) (1 T-2), and Mathematics, Statistics & Computer Science (1 T-6) of first B.Pharm. examination, otherwise their result of the third B.Pharm. examination shall not be declared.
- C) the third B.Pharm. examination (तृतीय भेषजी स्नातक) shall have passed the second B.Pharm. examination (द्वितीय भेषजी स्नातक) of the university not less than one academic year previously.
- D) the final B.Pharm. examination (अंत्य भेषजी स्नातक) shall have passed the third B.Pharm. examination (तृतीय भेषजी स्नातक) of the University not less than one academic year previously.
7. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of paragraphs 5,7,8,10,26 and 31 of the said Ordinance shall apply to every collegiate candidate.
- Provided further that notwithstanding anything contained at Section 29(2) in Ordinance No. 9 governing conduct of examinations of R.T.M. Nagpur University, Nagpur, the theory papers of B.Pharm. University examinations shall not have separate sections A & B.
8. The fees for the examination shall be as prescribed by the Management Council from time to time and whenever any change is made in the fees prescribed for any particular examination, that shall be notified through a notification for information of the examinees concerned.
9. An applicant for admission to an examination shall satisfy the Head of the Department/Principal in the Terminal and other Tests conducted during the academic year regarding his suitability to take the examination.
10. The maximum marks allotted to the sessional examination in each paper, the written part and the practical part for each of the four examinations shall be as indicated in Appendices A,B,C and D and A1, B1, C1 & D1.
11. The scope of the subjects shall be as indicated in the syllabus.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

12. The Head of the Department of Pharmaceutical Science/Principal shall maintain in his office a complete record of the marks obtained by the candidates in the sessional examinations. He shall, not less than 15 days before the commencement of the Examination, send to the Controller of Examinations, in a sealed cover the final marks obtained in sessional examinations by every applicant. No collegiate candidate shall be allowed to appear at an examination unless he obtains 40% of the total marks allotted to the sessionals of all subjects taken together for that examination.
13. In order to pass an examination an examinee –
  - i) shall obtain not less than 45% of the total marks allotted to each written paper and the sessional examination taken together as shown in the concerned Appendix.
  - ii) shall obtain not less than 50% of the total marks allotted in the practical examination and sessional examinations taken together as shown in the concerned Appendix.
14. There shall be no classification of successful examinees at First, Second and Third B.Pharm. examinations (प्रथम, द्वितीय व तृतीय भेषजी स्नातक)
15. Division of successful examinees at the final B.Pharm. examination (अंत्य भेषजी स्नातक) shall be determined on the basis of the aggregate marks obtained at the third and final B.Pharm. examinations (तृतीय व अंत्य भेषजी स्नातक) taken together.
16. Those obtaining 60% or more marks in the aggregate shall be placed in the First Division and all other successful examinees in the Second Division.
17. An examinee who is successful at an examination and obtains not less than 75% of the total marks prescribed in a subject shall be declared to have passed the examination with Distinction in that subject.  
(Explanation : Distinction shall be awarded at the third and final B.Pharm. examinations (तृतीय व अंत्य भेषजी स्नातक) separately.
18. An unsuccessful examinee at the first, second or third B.Pharm. examination (प्रथम, द्वितीय व तृतीय भेषजी स्नातक) who fails to secure the prescribed minimum marks in not more than two theory papers, and not more than two practical examinations may, at his option, be admitted to a subsequent examination in that paper or practical only on payment of a fresh fee. An examinee under this provision shall be allowed to keep terms in the next higher class. He may take both examinations simultaneously, but his result at the higher examination shall not be declared unless he is declared successful at the lower examination.

19. An examinee failing in more than two theory papers and not more than two practicals may, at his option, appear as an ex-student at a subsequent examination in the subjects in which he has failed, on payment of fresh fee. If he clears the subject in which he has failed he shall be declared to have passed the examination. An examinee availing of exemptions under the provisions of this paragraph shall not be allowed to keep terms at the next higher class :

Provided that an examinee, in the event of failing to pass the examination not succeeding in clearing enough number of subjects to bring him within the ambit of paragraph 18, shall be allowed to keep terms at the next higher class after the declaration of his subsequent result.

20. An unsuccessful examinee may, at the discretion of the Head of the Department, be permitted, for such period as the Head of the Department/Principal consider necessary, to attend a further course of instruction in a Paper on Practical, as the case may be. In such a case the Head of the Department/Principal shall award fresh sessional marks on the basis of his fresh performance.
21. Students successful at the first, second and the third B.Pharm. old course examinations shall be admitted to the next higher class B.Pharm. new course, but shall be permitted to appear at the higher class new course examinations provided that they submit a certificate from the Head of the Deptt./Principal of the College (Pharmacy) stating that they have satisfactorily undergone a course of study in all the subjects of new course of earlier old B.Pharm. classes.
22. Provisions of Direction No. 9 of 2002 relating to "Award of grace marks for passing an examination, securing higher division/class and for securing distinction in the subject(s) shall apply to the examinations under this Ordinance.
23. As soon as possible after the examination, but not later than 30<sup>th</sup> June next following in case of examinations held in March/April and 28<sup>th</sup> February next following in case of examinations held in October/November, the Management Council shall publish a list of successful examinees. The list of successful examinees at the Final B.Pharm. (अंत्य भेषजी स्नातक) examination shall be arranged in the first and second divisions, as envisaged in Paragraph 15 of this Direction and the names of examinees passing the B.Pharm. examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in the first or second division shall be arranged in order of merit as provided in the examinations in general Ordinance No. 6.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

24. Notwithstanding anything to the contrary in this Ordinance, the Degree of Bachelor of Pharmacy shall not be conferred upon a person unless :

He/She undergoes a practical training of not less than 6 weeks after taking the third or final B.Pharm. examination in a Pharmaceutical concern approved by the Head of the Department/ Principal and unless the Head of the Department/Principal certifies that the person has satisfactorily completed the said practical or industrial training as the case may be.

25. Notwithstanding any thing to the contrary in this Ordinance, no person shall be admitted to any of the examinations under this Ordinance, if he/she has already passed the same examination or an equivalent examination of any other statutory University.
26. Successful examinees at the final B.Pharm. examination (अंत्य भेषजी स्नातक) shall on payment of the prescribed fees receive a Degree, in the prescribed form, signed by the Vice-Chancellor.
27. Upon promulgation of this Ordinance, Direction No. 1 of 2003 shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Bachelor's course in the speciality of Pharmacy, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 210 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 14 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

**Appendix-A****First examination for the Degree of Bachelor of Pharmacy  
(Four Year Integrated Course)**

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	<b>THEORY PAPERS:</b>					
1T-1	Pharmaceutics – I (General & Dispensing)	20	80	100	45	3
1T-2	Pharmaceutical Chemistry-I (Organic)	20	80	100	45	3
1T-3	Pharmaceutical Chemistry-II (Physical)	20	80	100	45	3
1T-4	Pharmacology-I (Physiology & Anatomy)	20	80	100	45	3
1T-5	Pharmacognosy and Phytochemistry-I	20	80	100	45	3
1T-6	Mathematics, Statistics & Computer Science.	20	80	100	45	3
	<b>PRACTICALS</b>					
1P-1	Pharmaceutics - I	20	80	100	50	6
1P-2	Pharmaceutical Chemistry-I	20	80	100	50	6
1P-3	Pharmaceutical Chemistry-II	20	80	100	50	6
1P-4	Pharmacology-I	20	80	100	50	6
1P-5	Pharmacognosy and Phytochemistry-I	20	80	100	50	6

- Note :
- In order to be eligible for admission to the examination a candidate must obtain not less than 88 marks out of 220 marks in sessionals.
  - Students admitted on the basis of Diploma course in Pharmacy shall have to appear only for two theory papers viz.: I) IT – 2 : Pharmaceutical Chemistry – I (Organic) and ii) IT – 6 : Mathematics, Statistics and Computer Science.
  - In order to pass, the examinee must obtain the minimum pass marks as above.
  - The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  - The sessional marks in practicals shall be allotted on the following basis
    - Actual performance in the sessional examination - 10 marks
    - Day to day assessment in the practical class work - 10 marks
  - Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Appendix-B**  
**Second examination for the Degree of Bachelor of Pharmacy**  
**(Four Year Integrated Course)**

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	<b>THEORY PAPERS:</b>					
2T-1	Pharmaceutics – II (Engineering)	20	80	100	45	3
2T-2	Pharmaceutical Chemistry-III (Organic)	20	80	100	45	3
2T-3	Pharmaceutical Chemistry-IV (Analysis)	20	80	100	45	3
2T-4	Pharmacology-II (Biochemistry)	20	80	100	45	3
2T-5	Pharmacognosy and Phytochemistry-II	20	80	100	45	3
2T-6	Physics and Biophysicss	20	80	100	45	3
	<b>PRACTICALS</b>					
2P-1	Pharmaceutics - II	20	80	100	50	6
2P-2	Pharmaceutical Chemistry-III	20	80	100	50	8
2P-3	Pharmaceutical Chemistry-IV	20	80	100	50	6
2P-4	Pharmacognosy and Phytochemistry-II	20	80	100	50	6
2P-5	Physics, Biophysics and Computer Science	20	80	100	50	6

- Note :
1. In order to be eligible for admission to the examination a candidate must obtain not less than 88 marks out of 220 marks in sessionals.
  2. In order to pass, the examinee must obtain the minimum pass marks as above.
  3. The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  4. The sessional marks in practicals shall be allotted on the following basis
    - i) Actual performance in the sessional examination - 10 **marks**
    - ii) Day to day assessment in the practical class work - 10 marks
  5. Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

## Appendix-C

### Third examination for the Degree of Bachelor of Pharmacy (Four Year Integrated Course)

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	THEORY PAPERS:					
3T-1	Pharmaceutics – III (Physical)	20	80	100	45	3
3T-2	Pharmaceutical Chemistry-V	20	80	100	45	3
3T-3	Pharmaceutical Chemistry-VI	20	80	100	45	3
3T-4	(Analysis)	20	80	100	45	3
3T-5	Pharmacology-III	20	80	100	45	3
3T-6	Pharmaceutical Microbiology Pharmaceutical Laws and Management	20	80	100	45	3
	<b>PRACTICALS</b>					
3P-1	Pharmaceutics - III	20	80	100	50	6
3P-2	Pharmaceutical Chemistry-V	20	80	100	50	6
3P-3	Pharmaceutical Chemistry-VI	20	80	100	50	6
3P-4	Pharmacology	20	80	100	50	6
3P-5	Pharmaceutical Microbiology	20	80	100	50	12 (in 2 days)

- Note :
1. In order to be eligible for admission to the examination a candidate must obtain not less than 88 marks out of 220 marks in sessionals.
  2. In order to pass, the examinee must obtain the minimum pass marks as above.
  3. The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  4. The sessional marks in practicals shall be allotted on the following basis
    - i) Actual performance in the sessional examination - 10 marks
    - ii) Day to day assessment in the practical class work - 10 marks
  5. Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

## Appendix-D

**Final examination for the Degree of Bachelor of Pharmacy  
(Four Year Integrated Course)**

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	<b>THEORY PAPERS:</b>					
4T-1	Pharmaceutics – IV (Dosage Form Technology)	20	80	100	45	3
4T-2	Pharmaceutical Chemistry-VII (Medical)	20	80	100	45	3
4T-3	Pharmaceutical Chemistry-VII (Medical)	20	80	100	45	3
4T-4	Pharmacology-IV	20	80	100	45	3
4T-5	Pharmacognosy and Phytochemistry-III	20	80	100	45	3
4T-6	Biopharmaceutics PRACTICALS	20	80	100	45	3
4P-1	Pharmaceutics – IV	20	80	100	50	12 (in 2 days)
4P-2	Pharmaceutical Chemistry-VII	20	80	100	50	6
4P-3	Pharmaceutical Chemistry-VIII	20	80	100	50	12 (in 2 days)
4P-4	Pharmacology	20	80	100	50	6
4P-5	Pharmaceutical and Phytochemistry-III	20	80	100	50	6

- Note :
1. In order to be eligible for admission to the examination a candidate must obtain not less than 88 marks out of 220 marks in sessionals.
  2. In order to pass, the examinee must obtain the minimum pass marks as above.
  3. The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  4. The sessional marks in practicals shall be allotted on the following basis
    - i) Actual performance in the sessional examination - 10 marks
    - ii) Day to day assessment in the practical class work - 10 marks
  5. Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur



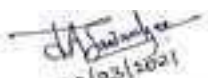
## Appendix-AI

### First examination for the Degree of Bachelor of Pharmacy (Four Year Integrated Course) (As per MUHS Syllabus)

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	<b>THEORY PAPERS:</b>					
IT-1	Pharmaceutics – I	20	80	100	45	3
IT-2	Dispensing of Medication and Hospital Inorganic Chemistry.	20	80	100	45	3
IT-3	Pharmaceutical Inorganic Chemistry	20	80	100	45	3
IT-4	Anatomy, Physiology and Health Education	20	80	100	45	3
IT-5	Biochemistry	20	80	100	45	3
IT-6	Industrial Psychology	20	80	100	45	3
IT-7	Drug Store and Business Management	20	80	100	45	3
IT-8	Remedial Mathematics*					
	<b>PRACTICALS</b>					
IP-1	Pharmaceutics – I	20	80	100	50	6
IP-2	Dispensing of Medication and Hospital Pharmacy	20	80	100	50	6
IP-3	Pharmaceutical Inorganic Chemistry	20	80	100	50	6
IP-4	Anatomy, Physiology and Health Education	20	80	100	50	6
IP-5	Biochemistry	20	80	100	50	6

\* Wherever applicable, Applicable only to those students who have not offered/passed the subject of Mathematics at 12<sup>th</sup> standard, these marks will not be considered in aggregate.

- Note :
1. In order to be eligible for admission to the examination a candidate must obtain not less than 96 marks out of 240 marks in sessionals.
  2. In order to pass, the examinee must obtain the minimum pass marks as above.
  3. The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  4. The sessional marks in practicals shall be allotted on the following basis
    - i) Actual performance in the sessional examination - 10 marks
    - ii) Day to day assessment in the practical class work - 10 marks
  5. Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

**Appendix-B1**  
**Second examination for the Degree of Bachelor of Pharmacy**  
**(Four Year Integrated Course)**  
**(As per MUHS Syllabus)**

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
<b>THEORY PAPERS:</b>						
2T-1	Physical Pharmacy	20	80	100	45	3
2T-2	Pathophysiology and Clinical Biochemistry	20	80	100	45	3
2T-3	Organic Chemistry - I	20	80	100	45	3
2T-4	Pharmaceutical Analysis - I	20	80	100	45	3
2T-5	Elements of Calculus and Biostatistics	20	80	100	45	3
2T-6	Computer Applications	20	80	100	45	3
2T-7	Microbiology and Immunology	20	80	100	45	3
2T-8	Business Mathematics					
<b>PRACTICALS</b>						
2P-1	Physical Pharmacy	20	80	100	50	6
2P-2	Pathophysiology and Clinical Biochemistry	20	80	100	50	6
2P-3	Organic Chemistry - I	20	80	100	50	6
2P-4	Pharmaceutical Analysis - I	20	80	100	50	6
2P-5	Microbiology and Immunology	20	80	100	50	6 in 2 days

- Note :
1. In order to be eligible for admission to the examination a candidate must obtain not less than 104 marks out of 260 marks in sessionals.
  2. In order to pass, the examinee must obtain the minimum pass marks as above.
  3. The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  4. The sessional marks in practicals shall be allotted on the following basis
    - i) Actual performance in the sessional examination - 10 marks
    - ii) Day to day assessment in the practical class work - 10 marks
  5. Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

## Appendix-C1

### Third examination for the Degree of Bachelor of Pharmacy (Four Year Integrated Course) (As per MUHS Syllabus)

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	THEORY PAPERS:					
3T-1	Pharmaceutics – II	20	80	100	45	3
3T-2	Pharmaceutical	20	80	100	45	3
3T-3	Engineering	20	80	100	45	3
3T-4	Organic Chemistry - II	20	80	100	45	3
3T-5	Pharmaceutical (Medicinal)	20	80	100	45	3
3T-6	Chemistry - I	20	80	100	45	3
3T-7	Pharmaceutical Analysis - II	20	80	100	45	3
3T-8	Pharmacology and Toxicology	20	80	100	45	3
	Pharmacognosy and Phytochemistry - I					
	Biotechnology and Fermentation Process					
	<b>PRACTICALS</b>					
3P-1	Pharmaceutics – II	20	80	100	50	6
3P-2	Organic Chemistry - II	20	80	100	50	6
3P-3	Pharmaceutical (Medicinal)	20	80	100	50	6
3P-4	Chemistry - I	20	80	100	50	6
3P-5	Pharmaceutical Analysis II	20	80	100	50	6
	Pharmacognosy and Phytochemistry - I					

- Note :
- In order to be eligible for admission to the examination a candidate must obtain not less than 104 marks out of 260 marks in sessionals.
  - In order to pass, the examinee must obtain the minimum pass marks as above.
  - The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  - The sessional marks in practicals shall be allotted on the following basis
    - Actual performance in the sessional examination - 10 marks
    - Day to day assessment in the practical class work - 10 marks
  - Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

**Appendix-D1**  
**Final examination for the Degree of Bachelor of Pharmacy**  
**(Four Year Integrated Course)**  
**(As per MUHS Syllabus)**

Sr. No.	Subject	Maximum Marks			Minimum Marks For passing	Time in Hours allowed for Exam.
		Sessional	Paper or Practical	Total		
	THEORY PAPERS:					
4T-1	Pharmaceutics – III	20	80	100	45	3
4T-2	Biopharmaceutical and Pharmacokinetics	20	80	100	45	3
4T-3	Pharmaceutical (Medicinal) Chemistry – II	20	80	100	45	3
4T-4	Pharmaceutical Analysis - III	20	80	100	45	3
4T-5	Pharmacology & Bioassay	20	80	100	45	3
4T-6	Pharmacognosy and Phytochemistry-II	20	80	100	45	3
4T-7	Pharmaceutical Jurisprudence (Practice of Pharmacy)	20	80	100	45	3
4T-8	Pharmaceutical Marketing	20	80	100	45	3
4T-9	Clinical Pharmacy and Drug Interaction	20	80	100	45	3
	<b>PRACTICALS</b>					
4P-1	Pharmaceutics – III	20	80	100	50	6
4P-2	Pharmaceutical (Medicinal) Chemistry – II	20	80	100	50	6
4P-3	Pharmaceutical Analysis - III	20	80	100	50	6
4P-4	Pharmacology & Bioassay	20	80	100	50	6
4P-5	Pharmacognosy and Phytochemistry-II	20	80	100	50	6

- Note :
- In order to be eligible for admission to the examination a candidate must obtain not less than 112 marks out of 280 marks in sessionals.
  - In order to pass, the examinee must obtain the minimum pass marks as above.
  - The sessional marks in theory will normally be based on three tests conducted during the academic year by the teachers and in practicals on evaluation of the experiments done during the academic year conducted by the teachers.
  - The sessional marks in practicals shall be allotted on the following basis
    - Actual performance in the sessional examination - 10 marks
    - Day to day assessment in the practical class work - 10 marks
  - Practical examination shall also consist of a viva-voce (oral) examination of 20 marks.

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 7 OF 2006**

**ORDINANCE GOVERNING ADMISSIONS TO MASTER OF PHARMACEUTICAL SCIENCES COURSE IN THE RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY.**

Whereas it is expedient to provide for an ordinance for the governing admission to Master of Pharmaceutical Sciences course in the University Department of Pharmaceutical Sciences and colleges affiliated to it running the said course, in the faculty of Medicine, the Management Council is hereby pleased to make the following ordinance. :

1. This Ordinance may be called "Ordinance governing procedure and modalities for admissions to M. Pharm. i.e. Master of Pharmaceutical Sciences course in the University Department of Pharmaceutical Sciences and colleges affiliated to it running the said course, in the faculty of Medicine Ordinance, 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. Nomenclature and Duration of the Course :-
  - (i) The course shall be designated as M.Pharm. / Master of Pharmaceutical Sciences or by any other nomenclature as decided by the respective Universities and be of four semesters ( 24 months ) duration partly by papers as per AICTE rules. The course shall be conducted only in the institutions approved by the AICTE.
  - (ii) Structure, syllabus, examination scheme and duration of these courses will be such as prescribed by the R.T.M. Nagpur University, Nagpur.
4. The intake to these courses will be as approved by AICTE, Government of Maharashtra and R.T.M. Nagpur University from time to time.

As sanctioned, the normal intake shall be as follows:-

- i) No. of seats in Open category and SC/ST categories will be as per the approval given by AICTE for respective institutes.
- ii) In addition to this, over and above the sanctioned intake, 15% seats on the basis of total intake capacity, shall be reserved for foreign national and PIOs and 5% for NRI ( only under sponsored category). In case there are no applicants in this category (foreign national, PIOs & NRIs ), the seats shall remain vacant.

---

\*Accepted by the Management Council dt. 27/2/2006, vide item No. 15, under the draft Ordinance No. 14 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

5. It will be obligatory for every post-graduate student to undertake 8 to 10 hours (per week) of work related to teaching and research activities as assigned to him/her by the Institute. This could include tutorials, laboratory, classes, development and maintenance of laboratories, assistance in research and development activities computers and other facilities, assistance in library, etc.
6. All students shall be required to give an undertaking to the effect that he/she would not leave the course midway or appear any competitive examination in order to be eligible to receive scholarship.
7. During the course of studies, the students shall not receive any emoluments, salary, stipend etc. from any other source while receiving stipend from AICTE.
8. The students shall be entitled for leave for a maximum period of 30 days per year in addition to general holidays but is not entitled to vacations i.e. summer, winter, pooja etc.
9. Seats reserved for SC/ST will be available to candidates belonging to these categories. Out of three seats reserved for SC/ST, two shall be reserved for SC and one for ST. In case the candidates from either, of the categories are not available, these seats shall remain vacant. In the event of non availability of candidates in one of the categories and availability of more number of applicants in the other category, there will be conversion permitted within 3 seats allotted and maximum of 3 seats in either of the SC or ST could be permitted to be filled.
10. To take care of different reserved categories, the seats shall be distributed as follows:-

For a normal intake of 10 as sanctioned by AICTE

(a)	Open category	10
(b)	SC/ST converted to Buddhism (SC)	02
(c)	S.T. including those living outside specified areas ( S.T. )	01
(d)	NRI ( 5% of 10+3+5=18)	01
(e)	Foreign National & PIOs (15%of 10+3+5=18)	03

11. **Criteria for filling PIOs and Foreign Nationals Seats :-**

- (a) Under these Regulations fifteen percent ( 15% ) seats in all the institution/University Departments approved by AICTE offering technical course leading to post-graduate degree in Pharmacy, shall be allowed on supernumerary basis from amongst Foreign Nationals/persons of Indian Origin (PIOs) over and above the approved intake (10+3+5=18). This is subject to the availability of adequate infrastructural facilities in the respective institutes. These supernumerary seats shall be exclusively meant for the foreign

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

students in the post-graduate courses with a rider that under no circumstances a seat remaining unfilled shall be allocated to any candidate other than Foreign National/persons of Indian Origin ( PIO). Candidates admitted in an AICTE approved institutions through Indian Council for Culture Relations (ICCR) or as Government of India nominee shall be included within the 15% ceiling. The existing provision for admission up to five percent (5%) of the sanctioned intake ( 10+3+5=18) under "NRI" ( Non-Resident Indian ) quota in AICTE approved private unaided seats would be extended to institutions/University departments approved by AICTE. The expressions "Non-Resident" has the same meaning as assigned to it under the Income Tax Act, 1961.

- (b) The admissions under all the categories shall be made on merit amongst the applicants. Preference in sponsored category shall be given to those candidates who have sponsors letters, indicating that they will be employed by the sponsor on completion of the course.
- (c) In terms of provisions under sub-clause (a) seats for persons of Indian Origin and Foreign Nationals shall not be applicable to the Deptt. of Pharmaceutical Sciences in the R.T.M. Nagpur University.

12. **Authority for Admissions :-**

- (a) Head of the Institute, by whatever name called, shall be the authority for granting admissions to post-graduate courses in each institute shall be responsible for observance of the rules, procedures, etc. prescribed in these rules or as notified by the Government/Directorate from time to time. Head of the Institute shall be free to issue advertisement for admission to Post-graduate courses run in his/her institute. He will call for applications, publish merit list, and notify schedule of admissions and effect admissions as prescribed in these rules. Individual college/institute/universities will effect admissions under the supervision of Director of Technical Education/State Government.
- (b) Since Universities limit the registration of the students by guides/advisors ( for e.g. 10 students per research advisor) the seats will remain vacant in a subject of specialization if permitted number of students are already registered with the guide and no other recognized advisor in that branch is available.
- (c) Distribution of seats :-

The distribution of seats in open category shall be as follows:-

**For Non-sponsored category**

- (i) Parent University                      ....                      ....                      50%

  
Off. Principal,  
S.S. Maniar College, Nagpur

- (ii) Universities in Maharashtra which do not have post-graduate courses pharmacy (presently Babasaheb Ambedkar Technological Marathwada University, Aurangabad, Swami Ramanan Tirth Marathwada University, Nanded & North Maharashtra University, Jalgaon ) in the order of inter-se-merit 10%
- (iii) Other Universities on All India basis (Except parent universities) 40%

**As stated above, seats reserved for SC/ST shall be over and above the approved intake capacity by AICTE and the respective university.**

**For Sponsored category**

- (i) Parent University .... 60%
- (ii) All Other Universities except parent universities .... 40%

**(If the students of parent university are not available, then the seats shall be offered to students of other universities in the order of inter-se-merit)**

13. Admissions of Non-sponsored category candidates to M.Pharm Course.

Eligibility.

- i) Candidates fulfilling eligibility requirements specified by the concerned University for admission to M.Pharm from an AICTE approved institution will be considered for admission to M.Pharm.
- ii) Admission Procedure.

Admissions will be effected according to Merit list prepared on the basis of valid GATE score only. When enough GATE qualified candidates are not available, the vacant seats will be offered to the non GATE candidates, as per merit based on the basis of B.Pharm. marks considered by respective Universities for award of degree.

- (iii) Stipend/Scholarship:

A limited number of scholarships are available for each course at some institutes from AICTE funds. These scholarships will be offered to the GATE qualified candidate only strictly on the basis of GATE score MERIT and continue to receive the same, provided they fulfill the conditions prescribed by AICTE from time to time.

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur



For receiving Post-graduate scholarship a candidate must have qualified in GATE. However, a GATE qualified candidates does not automatically become eligible to receive a scholarship.

The students must pass in all the subjects during the first semester and the second semester examinations to become eligible for continuance of scholarship at the revised rate during the second semester and the third semester respectively. If a student fails in one or more subjects in a semester and is still allowed to continue in the next semester (in accordance with the rules of the affiliating university making provision for clearance of the subjects at a later stage) an amount of Rs. 1000/- shall be paid per month instead of Rs. 2500/- for rest of the duration of the programme, but not exceeding the total duration of 18 months starting from the date of admission.

14. Admission of sponsored category candidates to M.Pharm. Course :-

(i) Eligibility :-

(a) Candidates who possess Bachelors degree in Pharmacy specified by the concerned university for admissions to M.Pharm. from an AICTE approved institution, with minimum percentage of marks as prescribed by respective universities will be eligible for admission to respective course.

(b) The condition of minimum percentage of marks may be waived for those candidates who are teachers either in Pharmacy colleges/Pharmacy department in Polytechnic or in Pharmacy polytechnics approved by PCI and joined before 22-11-1993 provided they are eligible for admission to that course as per the respective University rules.

(c) The candidates preferably should have minimum of two years of full time work experience in a registered firm/ company/ industry/ educational and/or research institute/any Government Department or Government Autonomous Organization in the relevant field in which admission is being sought.

(ii) Admissions to sponsored candidates shall be given in the following order of preference.

(a) Candidates with GATE qualifications with 2 years experience

(b) Candidates with GATE qualifications only.

(c) Non-GATE candidates with minimum 2 years experience.

(d) Non-GATE candidates without experience.

In case of preferences ( a ) and ( b ), merit list will be prepared based on GATE score in case of preference ( c ) and ( d ) admissions shall be made on the basis of marks considered for award of degree by respective University.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Experience mentioned above of minimum 2 years shall be full time work experience in an industry, educational institute, research institute, regulatory agency, hospital, wholesale/retail pharmacy or any area of pharmacy profession other than ones mentioned above. A letter from the employer must be furnished stating that the candidate is being sponsored to seek admission to the post-graduate degree programme. The employer should also indicate that the candidate will not be withdrawn midway till the completion of the course. The candidates will be fully under the administrative control of the institute for the period of the course.

(iii) Admission procedure :

Admission to candidates under sponsored category will be effected according to merit list prepared on the basis of (i) GATE score or/and (ii) B.Pharm score considered for award of class by respective university. Admissions shall be made in the order of preferences mentioned above.

15. Stipend/Scholarship :

Sponsored candidates will not be eligible for any stipend/scholarship awarded by AICTE.

16. Reserved Seats :

No reservation is provided in the sponsored category. However, preference will be given to the candidates of reserved category in the case of equal merit.

17. Admission schedule :

The schedule for the acceptance of admission forms, display of merit list, etc. shall be notified by the individual institutions.

18. Hostel Accommodation :

Hostel accommodation cannot be guaranteed. Availability of hostel accommodation and the amount of hostel fees may be ascertained by the candidates from Head of the Deptt. or Principal of the concerned College/Department before taking an admission.

19. Fees :

The tuition fees for full time aided and non-aided course shall be as directed by the State Govt. from time to time. In addition, the institution may change "Other Fees" as applicable.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

20. Rules for cancellation of Admission and Refund of fees :

The admission can be cancelled by submitting an application to Head of the Institution giving reason in writing. The refund shall be made as per the Govt. rules.

21. Conduct and Discipline :-

- (a) Students while studying in any Pharmacy College/Deptt., if found indulging in anti-national activities contrary to the provisions of acts and laws enforced by Government and any activity contrary to the rules of discipline will be liable to be expelled from the college without any notice given by Principal of the College or Head of the Deptt. concerned.
- (b) Candidates applying for admission against the seats reserved for backward classes mentioned in these rules should note that only those candidates who actually belong to the castes and communities will be eligible for the concession.
- (c) Ragging is prohibited by law. Any student indulging in this activity shall be dealt with as per the rules.
- (d) If any of the statement made in application form or any information supplied by the candidate in connection with his/her admission, is found to be false or incorrect later on at any time, he/she may be expelled from the college/department by the Principal/Head of the Department and prosecuted, if deemed necessary. An appeal against the order of expulsion, however, may be referred to the Director of Technical Education, whose decision in such cases will be final.

22. **UNDERTAKING** :-

A student for admission to M.Pharm course shall be required to give the following undertaking.

- (a) I have read all Rules of Admission for the current year and after understanding these rules, I have filled in this form of application for admission for the current year.
- (b) The information given by me in my application is true to the best of my knowledge and belief.
- (c) I have not been debarred from appearing of any examination held by any Government constituted or statutory examination authority in India.

  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

- (d) I fully understand that the offer of subject of specialization and research advisor shall be done by the college depending on merit-inter-se and availability of a seat at the time of scrutiny of my application, when I report to the admission authority according to the schedule of admission.
  - (e) I understand that no other document, other than those attached to the application form before the last date of admission will be entertained for the purpose of claims/concessions etc. in connection with my admission.
  - (f) If admitted, I shall sign the undertaking as prescribed by AICTE.
  - (g) I hereby agree to confirm to any rules, acts and laws enforced by Government and I hereby undertake that so long as I am a student of the college, I will do nothing either inside or outside the college which may result in disciplinary action against me under the rules, acts and laws.
  - (h) I fully understand that Principal of the College/ Head of the Deptt. where I would be admitted will have right to expel/rusticate me from the college/department for my infringement of the Rules of conduct and discipline prescribed by the College/University (if any) and the undertaking given above.
23. Upon promulgation of this Ordinance, Direction No. 2 of 2003 shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Master's course in the speciality of Pharmaceutical Sciences, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 211 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 15 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 8 OF 2006**

**ORDINANCE GOVERNING ADMISSION TO B.PHARM. COURSE  
IN THE RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY**

Whereas it is expedient to provide for an ordinance for the governing procedure and modalities for admission to B. Pharm. – I and II i.e. Bachelor of Pharmaceutical Sciences Course in the university department of Pharmaceutical Sciences and affiliated colleges, in the faculty of Medicine, the Management Council is hereby pleased to make the following ordinance. :

- (1) This Ordinance may be called “Governing procedure and modalities for admission to B. Pharm. – I and II i.e. Bachelor of Pharmaceutical Sciences Course in the university department of Pharmaceutical Sciences and affiliated colleges, in the faculty of Medicine Ordinance, 2005.”
- (2) This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
- (3) Nomenclature and duration of the course :
  - i) The course shall be designated as B. Pharm. – I (Bachelor of Pharmaceutical Sciences or by any other nomenclature as may be decided by the respective universities and shall be of four years duration). The course will be conducted only at such institutes which are approved by the AICTE and affiliated to this university.
  - ii) Structure, Syllabus, Scheme of examination and duration of this course shall be such as prescribed by the university from time to time.
  - iii) Eligibility criteria: Bachelor of Pharmacy (four year degree course)

**1.1 Educational Qualification:**

In order to secure admission through CAP to first year of four year Degree course in Pharmacy, the candidate should have;

\* passed the HSC (Std.XII) examination of Maharashtra State Board of Secondary and Higher Secondary Education or its equivalent examination with

**\$ English as one of the subjects.**

**\$ All the subjects mentioned under Group – I  
and**

**\$ Any one of the subjects from Group – II**

**AND**

\* secured minimum 50% marks (45% for backward class candidates from Maharashtra) in Physics, Chemistry and the subject of maximum marks amongst the four subjects of Group-II, added together.

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 17, under the draft Ordinance No. 16 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**Group- I : (all subjects from this group are compulsory)**

1. Physics
2. Chemistry

**Group-II : (any one of the subjects from this group)**

1. Mathematics
2. Biology
3. Bio-Technology
4. Computer Science

**Note :**

1. Marks in the individual subjects will be converted to marks out of 100.
2. No rounding off of the marks secured by the candidate will be done in individual subject while converting marks of the individual subject out of 100 or total of 300. After conversion, if the figure of marks works out to be a fraction, fraction upto two decimal places will only be considered.

**Eligibility criteria for admission to Maharashtra State candidates for the seats coming under CAP:**

1. Basic qualification as specified in rule no. 1.1

**AND**

2. should have appeared for the Maharashtra – Pharmacy Common Entrance Test conducted by the competent authority for the concerned academic year and secured nonzero MAH-PH-CET score.

**1.2 Eligibility Criteria for 15% AIEEE seats coming under CAP:**

1. Basic qualification as specified in rule No. 1.1

**AND**

2. should have appeared and qualified in AIEEE examination conducted by CBSE, New Delhi for the concerned year.

**Note : AIEEE qualified candidates from Maharashtra as well as outside Maharashtra State are eligible to apply for these seats.**

**1.3 Eligibility criteria for admissions against seats for Foreign National / Foreign student / PIO/ Children of Indian workers in the Gulf countries:**

*[Handwritten Signature]*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

1. Basic qualification as specified in rule no. 1.1.

AND

2. should have appeared for the Maharashtra Pharmacy Common Entrance Test (MAH-PH-CET) conducted by the competent authority for the concerned academic year and secured nonzero MAH-PH-CET score.

OR

Common Entrance Test for Pharmacy Degree admissions conducted by agency, if any, (including Association of all colleges of a particular type in the State) approved by Pravesh Niyantran Samiti located at Bandra (E), Mumbai-51 for the concerned academic year.

OR

any other equivalent examination conducted for the concerned academic year and secured nonzero score.

**1.4 Eligibility Criteria for Minority / Management seats;**

1. Basic qualification as specified in rule no. 2.1

AND

2. should have appeared for the Maharashtra Pharmacy Common Entrance Test (MAH-PH-CET) conducted by the competent authority for the concerned academic year and secured nonzero MAH-PH-CET score.

OR

Common Entrance Test for Pharmacy Degree admissions conducted by agency, if any, (including Association of all colleges of a particular type in the State) approved by Pravesh Niyantran Samiti located at Bandra (E), Mumbai-51 for the concerned academic year.

3. In case of Minority seats, the candidate should belong to the minority group for which the institute has secured minority status.

4. No candidate including J & K migrants shall be eligible for admission to First year degree course in Pharmacy unless he/she appeared for the Pharmacy MAH-PH-CET conducted by the competent authority for the concerned academic year.

5. However G.O.I. nominee, as they are selected by their respective state for the course are exempted from appearing for the Pharmacy MAH-PH-CET conducted by the competent authority.

iv) D. Pharm. Students having a minimum of 50% (D.Pharm Part II level) may be admitted to B.Pharm against vacancies, if any, such candidates if admitted shall be governed in terms of notification No. Acad/03/S/975 dated 19-3-2003 of Nagpur University.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

- v) For second year of 4 year B.Pharm. course to be eligible to be admitted for second B.Pharm. the candidate should have passed first year B.Pharm. examination of the concerned university. However, candidates who have passed D. Pharm. with 60% marks under ER-91 from an institution of Maharashtra, which is recognized by PCI, may be admitted on merit against the vacant seats (5% of sanctioned intake or number of vacant seats whichever is higher) as per university rules.
- vi) For the third and fourth year of B. Pharm. Course to be eligible for admission the candidate should have passed second and third year B.Pharm. examination respectively of the concerned university.

4) Intake Capacity:

Intake capacity of B.Pharm. shall be 30 or such as may be prescribed by the university from time to time.

5) Allocation of seats:

State level: 30% seats will be allotted to the candidates who have passed qualifying examination from Maharashtra State.

R.T.M. Nagpur University area: 70% seats will be allotted to the candidates who have passed qualifying examination from Nagpur University area (i.e. Bhandara, Chandrapur, Gadchiroli, Gondia, Nagpur and Wardha districts).

6) Reservation Rules:

The reservation rules will be applicable to all the seats as under :

SC 13%

ST 7%

VJ AND DT 3%

NT (A) 2.5%

NT (B) 3.5%

NT (C) 2%

OBC 19%

The procedure for admission prescribed by university vide letter No. SCT/M/S/224 dated 28-6-2002 will be applicable for all admissions.

7) Venue of classes:

Classes for B. Pharm. courses will be held at the Department of Pharmaceutical Sciences, Nagpur University Campus, Nagpur-440 033.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



8) Fees:

Fees to be paid by the candidates shall be as follows and shall be such as may be prescribed from time to time.

Sr. No.	Particulars	B.Pharm-I and B.Pharm-II (direct admission) Rs.	B.Pharm. II,III & IV Rs.
01	Application form fee	25	25
02	Registration fee	50	50
03	Admission fee	50	50
04	Annual Fee	50	50
05	Tuition Fee	8000	8000
06	Laboratory Fee	500	500
07	Development Fee	6000	6000
08	Amalgamated fee	25	25
09	Students aid fund	25	25
10	Medical aid fund	1	1
11	Student welfare fund	1	1
12	Student activity fee	125	125
13	Caution money	500	-
14	Identity card	1	1
15	Miscellaneous (Stationary etc.)	7	7
16	Physical efficiency test fee	10	10
17	Medical Inspection fee	50	50
18	Student's Union fee	2	2
19	Game fee	10	10
20	Enrollment fee (for other than NU students only)	40	-
21	Immigration fee (for other than NU students only)	150	-
22	Library fee	300	300
23	Library deposit	500	-
24	Ashwamedh fee	10	10
25	Additional fee	10	10
26	Educational fair fee	75	75
27	Games, sport and Gymkhana fee	300	300
28.	Extra-curricular activities	30	30
29	Medical examination fee	10	10
30	College magazine fee	20	20
31	Internet and email facility	200	200
32	Training and Placement fee	75	75
33	Other fee	75	75
	Total	17227	16037

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

Provided that :

- a. The above rates should be charged from the students of Maharashtra State only
- b. Students out of Maharashtra State would be charged twice the tuition fee rates.
- c. Foreign students will be charged five times the tuition fee rates.
- d. Tuition fee may be paid in two equal installments.
- e. First installment must be paid at the time of admission
- f. Library deposit and caution money to be paid by B.Pharm-1 and B. Pharm – (directly admitted) students only.

9) Hostel :

Where the university maintains the hostel for the students, admission to the hostel shall be subject to the admission to the Department. Application forms etc. for the admission to the hostel may be obtained on the payment of Rs. 10/- cash/DD, from the Warden of the following university hostels.

- i. University Women's Hostel, North Ambazari Road, Nagpur University, Nagpur.
- ii. Post-graduate Teaching Department and Pharmacy Hostel, University Campus, Nagpur.

10) Authority for admission:

Head of the Institute by whatever name called, shall be the authority for granting admission to B.Pharm courses in each institute and shall be responsible for observance of the rules, procedures, prescribed or as identified by the competent authorities from time to time. The Head of the Institute shall be required to issue advertisement for admission to Bachelor of Pharmacy course run in his/her institute. He will call for applications, publish merit list and identify schedule of admissions and effect admissions as prescribed in this direction. The affiliated colleges will effect admissions under the supervision of the university/Director of Technical Education/ State Government as the case may be.

11. Upon promulgation of this Ordinance, Direction No. 7 of 2004 shall stand repealed.

#### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Bachelor's course in the speciality of Pharmaceutical Sciences, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 213 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 17 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 9 OF 2006**

**AN ORDINANCE TO AMEND THE ORDINANCE NO. 2 OF 1995 EXAMINATION LEADING TO THE DEGREE OF BACHELOR OF APPLIED ELECTRONICS IN THE FACULTY OF HOME SCIENCE**

whereas it is expedient to amend Ordinance no. 2 of 1995 Examination leading to the degree of bachelor of Applied Electronics in the Faculty of Home Science, for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following Ordinance;

1. This Ordinance may be called 'Examination leading to the Degree of Bachelor of Applied Electronics, in the Faculty of Home Science, (Amendment) Ordinance, 2005.
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. In para 5 of sub para (b) of the main ordinance no. 2 of 1995 Examination leading to the Degree of Bachelor of Applied Electronics after following be added :
  5. B-
    - i) That any one who holds a first class Diploma in Electronics and Telecommunications or Diploma in Electronics from any one of the Polytechnics in Maharashtra State shall be eligible for admission to II year of Bachelor of Applied Electronics under the Ordinance in Applied Electronics home science faculty.
    - ii) That any first class Diploma holder in Electronics or Electronics and Telecommunications from the State other than Maharashtra with English medium alone shall be eligible for admission to the II year of Bachelor of Applied Electronics course, provided the equivalence of Diploma Examination passed by him/her from Polytechnic in other state is established by the University.
    - iii) That Engineering Mathematics I (I-T-1) and Engineering Mathematics II (2-T-2) should be passed by the candidate before the award of the degree of Bachelor of Applied Electronics.

---

\* Accepted by the Management Council dt. 27/2/2006, vide item No. 18, under the draft Ordinance No. 20 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

4. In para 20 of the Main ordinance No. 2 of 1995, examination leading to the degree of Bachelor of Applied Electronics, in the faculty of Home Science, following shall be deleted.

“After completion of Part-III examination an Educational Tour comprising of 8-10 days shall be compulsory. A short tour/factory visit of 2-3 days shall be arranged for II/III Years students.

5. For para 20 of the Main Ordinance No. 2 of 1995, the following para shall be inserted, namely :-

“That Educational Tour comprising of 3-7 days shall be compulsory to the students after completion of Bachelor of Applied Electronics Technology Part-II examination. A short Tour/Factory Visit of maximum 3 days shall also be undertaken during Ist & IInd year.”

#### STATEMENT OF OBJECT AND REASONS

It was imperative to broaden the scope of the eligibility so as to facilitate the desirous and deserving applicant students to avail the opportunity in terms of their admission to the course the Academic Council in its meeting held on 28<sup>th</sup> July, 2005 vide item No. 217 & Management Council 27<sup>th</sup> February, 2006 vide item No. 18 considered & approved this amendment Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future and is in consonance with the orders of the State Government and guidelines of the University Grants Commission.

Hence the amendment.

---

#### **\* ORDINANCE NO. 10 OF 2006**

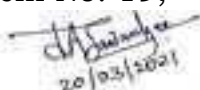
#### **AN ORDINANCE TO AMEND THE ORDINANCE NO. 3 OF 1995 EXAMINATION LEADING TO THE DEGREE OF BACHELOR OF HOUSE & INTERIOR DESIGN IN THE FACULTY OF HOME SCIENCE**

Whereas it is expedient to amend Ordinance no. 3 of 1995 Examination leading to the Degree of Bachelor of House & Interior Design in the Faculty of Home Science, for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following Ordinance;

1. This Ordinance may be called ‘Examination leading to the Degree of Bachelor of House & Interior Design, in the Faculty of Home Science, (Amendment) Ordinance, 2005.

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 19, under the draft Ordinance No. 21 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. In para 20 of the Main ordinance No. 3 of 1995, examination leading to the degree of Bachelor of House & Interior Design, in the faculty of Home Science, following shall be deleted.

“After completion of Part-III examination an educational tour comprising of 8-10 days shall be compulsory. A short tour/factory visit of 2-3 days shall be arranged for II/III Years students.

4. For para 20 of the Main Ordinance No. 3 of 1995, the following para shall be inserted, namely :-

“That, after completion of Part II examination of Bachelor of Interior Design Course an educational tour comprising 8-10 days shall be compulsory. A short tour of 2 to 3 days shall be arranged for II/III/IV year students..”

#### **STATEMENT OF OBJECT AND REASONS**

It was necessary to prescribe an Educational Tour for the IV year students for first hand appraisal and also the Academic Council in its meeting held on 28<sup>th</sup> July, 2005 vide item No. 218 & Management Council 27<sup>th</sup> February, 2006 vide item No. 19 considered & approved this amendment to the Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future and is in consonance with the orders of the State Government and guidelines of the University Grants Commission.

Hence the amendment.

---

#### **\* ORDINANCE NO. 11 OF 2006**

#### **ORDINANCE GOVERNING EXAMINATIONS LEADING TO THE BACHELOR OF SCIENCE (HOME SCIENCE)**

Whereas it is expedient to provide for an Ordinance for the governing examinations leading to the Bachelor of Science (Home Science) in the Faculty of Home Science, the Management Council is hereby pleased to make the following ordinance. :

1. This Ordinance may be called, “Ordinance governing Examinations leading to the Bachelor of Science (Home Science) in the Faculty of Home Science, Ordinance, 2005.”

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 20, under the draft Ordinance No. 22 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No.CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. The following shall be the examinations leading to the Degree of () Bachelor of Science (Home Science), namely --
  - (i) The B.Sc. (Home Science) Part-I () Examination
  - (ii) The B.Sc. (Home Science) Part-II () Examination and
  - (ii) The B.Sc. (Home Science) Final () Examination
4. The duration of the Degree Course under this Ordinance shall be of three academic years with the B.Sc. (Home Science) Part-I () Examination at the end of the first academic year; the B.Sc. (Home Science Part-II () Examination at the end of the second academic year and the B.Sc. (Home Science) Final () Examination at the end of the third academic year.
5. The examinations specified in the preceding Paragraph shall be held twice in a year at such places and on such dates as may be appointed by the Academic Council.
6. Subject to her compliance with the provisions of this Ordinance and of other Ordinances in force from time to time, a candidate for admission to the examination shall :-

(A) In the case of B.Sc. (Home Science) Part-I

- (i) have passed XII standard Examination of Maharashtra State Board of Secondary & Higher Secondary Education or an examination recognised as equivalent thereto under the following faculties – Science / Home Science / Commerce / Arts with English (Higher or Lower)

OR

- (ii) have passe the XII standard Examination of Maharashtra State Board of Secondary & Higher Secondary Education with i) English ii) any other language & iii) Vocational Subject (Paper I,II & III)

OR

- (iii) have passed an examination of a Council or Board outside Maharashtra State recognized by the university as equivalent to sub para's i) & ii) above; and shall have prosecuted a regular course of study for not less than one academic year in a college.

(B) In the case of B.Sc. (Home Science) Part -II-

- (i) have passed the B.Sc. (Home Science) Part-I Examination of the University with English as one of the subjects of passing or an examination recognised as equivalent thereto;

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- (C) In the case of B.Sc. (Home Science) Part-III-
- (i) have passed the B.Sc. (Home Science) Part-I and Part II Examination of the University or examination recognised as equivalent thereto.
7. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the Provisions of Paragraphs 5,7,8,10 and 31 of the said Ordinance shall apply to every Collegiate candidate.
8. The fees for the examination shall be as prescribed by the Management Council from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.
9. Every candidate for B.Sc. (Home Science) Part-I Examination shall be examined in the following subjects :-
- i) Food Science & Nutrition
  - ii) Human Development
  - iii) Introduction to Textiles & Clothing
  - iv) Family Resource Management (Interior Decoration & Design)
  - v) Home Science Extension
  - vi) Ecology & Environment
  - vii) Basic Chemistry
  - viii) Applied Physics
  - ix) English & Communication Skills
10. Every candidate for B.Sc. (Home Science) Part II Examination shall be examined in following subjects :-
- 1) Family & Community Nutrition
  - 2) Preschool Education & Management
  - 3) Textiles Designing & Printing Technology
  - 4) Housing & Home Furnishing
  - 5) Communication & Instructional Technology
  - 6) Applied Physiology
  - 7) Applied Chemistry
  - 8) Applied Physics
11. Every candidate for B.Sc. (Home Science) Part III Examination shall be examined in the following subjects :-
- 1) Diet Therapy
  - 2) Family Dynamics & Counseling
  - 3) Advanced Pattern Making & Fashion Designing
  - 4) Resource Management
  - 5) Extension Training Management]
  - 6) Community Health
  - 7) Nutritional Biochemistry

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

12. (i) The scope of the Subjects shall be as indicated in the Syllabus.  
(ii) Medium of instruction shall be English or Marathi  
(iii) Examination papers shall be set in English
13. In order to pass the examination, an examinee shall obtain in each subject not less than the minimum marks as Indicated in the Appendices A, B and C for the B.Sc. (Home Science) Part I, II and Final () Examinations, respectively.
14. There shall be no classification of examinees successful at the B.Sc. (Home Science) Parts-I and II () Examinations.
15. Examinees successful at the B.Sc. (Home Science) Final () Examination, obtaining not less than 60% marks in the aggregate shall be placed in the First Division; those obtaining less than 60% but not less than 45% in the Second Division, and all other successful examinees in the Third Division.  
  
Explanation : Division at the B.Sc. (Home Science) Final () Examination shall be declared on the basis of the marks obtained at the B.Sc. (Home Science) Part-I, II and Final () Examination taken together.
16. Provisions of Ordinance No. 7-A relating to the Condonation of Deficiency of Marks for Passing an Examination and of Ordinance No. 10 relating to Exemptions and Compartments shall apply to the Examinations under this Ordinance.
17. The names of the examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in the First or Second Division shall be arranged in Order of Merit as provided in the Examination in General Ordinance No. 6.
18. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to this examination, if she has already passed the same examination or an equivalent examination of any other Statutory University.
19. Successful examinees at the B.Sc. (Home Science) Part-I () and B.Sc. (Home Science) Part-II () Examinations shall be entitled to receive a Certificate signed by the Registrar and successful examinees at the B.Sc. (Home Science) Final () Examination shall on payment of the prescribed fees, receive a degree in the prescribed form, signed by the Vice-Chancellor.

  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur



- (a) Along with the DEGREE, the candidates shall receive additional CERTIFICATES, indicating the training they have undergone in the under mentioned areas of specialized studies.
- (1) Food Preservation
  - (2) Preschool Education & Management
  - (3) Fashion Designing
  - (4) Textile Designing & Printing Technology
  - (5) Interior Decoration and Design
  - (6) Communication Technology & Programme Planning
20. The Ordinance No. 145 of 1977 governing the Examination leading to the award of Bachelor of Science (Home Science) in the Faculty of Home Science shall stand repealed in a phasic manner.
21. Upon promulgation of this Ordinance, Direction No. 38 of 2001 shall stand repealed.

### **SATATEMENT OF OBJECT & REASONS**

In order to incorporate a Bachelor's course in the specialty of B.Sc. Home Sciences, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 219 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 20 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX - A**

**B.Sc. (Home Science) Part – 1**

S. No.	SUBJECT	THEORY	PRACTICAL/SESSIONAL	Total Marks	PERIOD/WEEK	
					THEORY	PRACTICAL
1.	Food Science & Nutrition	70	30	100	2	3
2.	Human Development	70	30	100	2	3
3.	Introduction to Textiles & Clothing	70	30	100	2	3
4.	Family Resource Management (Interior Decoration & Design)	70	30	100	2	3
5.	Home Science Extension	70	30	100	2	3
6.	Ecology & Environmental	50	25	75	2	3
7.	Basic Chemistry	50	25	75	2	2
8.	Applied Physics	50	25	75	2	2
9.	English & Communication Skills	70	30	100	4	0
		570	255	825	20 +	22 = 42

Notes :

1. Passing Marks 35% for all Theory papers and 50% marks for practicals/Sessional.
2. The marks for practical shall be allotted by Internal and External examiner together and Sessional Marks to be given by Internal but the articles prepared or reports to be presented before the External examiner and marks to be finalized.
3. For all parcticals the batch will be of 16 students.
4. All the Papers are of 3 hour's duration.
5. The Practical examination shall be of 20 marks and the Sessional of 10 marks for all the Home-Science subjects (Sr. No. 1 to 5). Breakup of marks shall be Practical examination – 15 marks, Record book – 5 marks, Sessional – 10 marks.
1. The Practical examination shall be of 25 marks for all the Home-Science subjects (Sr. No. 6 to 8). Break of marks shall be Practical examination – 15 marks. Record book – 5 marks, Viva – 5 marks.

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX - B**

**B.Sc. (Home Science) Part – 1I**

S. No.	SUBJECT	THEORY	PRACTICAL/SESSIONAL	Total Marks	PERIOD/WEEK	
					THEORY	PRACTICAL
1.	Family & Community Nutrition	70	30	100	3	3
2.	Preschool Education & Management	70	30	100	3	3
3.	Textiles Designing & Printing Technology	70	30	100	3	3
4.	Housing & Home Furnishing	70	30	100	3	3
5.	Communication & Instructional Technology	70	30	100	3	3
6.	Applied Physiology	50	25	75	2	3
7.	Applied Chemistry	50	25	75	2	3
8.	Applied Physics	50	25	75	2	3
		500	225	725	21 +	24 = 45

Notes :

1. Passing Marks 35% for all Theory papers and 50% marks for practicals/Sessional.
2. The marks for practical shall be allotted by Internal and External examiner together and Sessional Marks to be given by Internal but the articles prepared or reports to be presented before the External examiner and marks to be finalized.
3. For all practicals the batch will be of 16 students.
4. All the Papers are of 3 hour's duration.
5. The Practical examination shall be of 20 marks and the Sessional of 10 marks for all the Home Science subjects (Sr. No. 1 to 5). Breakup of marks shall be Practical examination – 15 marks, Record book – 5 marks, Sessional – 10 marks.
6. The Practical examination shall be of 25 marks for all the Home-Science subjects (Sr. No. 6 to 8). Break of marks shall be Practical examination – 15 marks. Record book – 5 marks, Viva – 5 marks.

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

**APPENDIX - C**

**B.Sc. (Home Science) Part – 1I**

S. No.	SUBJECT	THEORY	PRACTICAL/SESSIONAL	Total Marks	PERIOD/WEEK	
					THEORY	PRACTICAL
1.	Dict Therapy	70	30	100	3	3
2.	Family Dynamics & Counseling	70	30	100	3	3
3.	Advanced Pattern Making & Fashion Designing	70	30	100	3	3
4.	Resource Management	70	30	100	3	3
5.	Extension Training Management	70	30	100	3	3
6.	Community Health & Family Welfare	50	25	75	3	3
7.	Nutritional Biochemistry	50	25	75	3	3
		490	210	700	21 +	21 = 42

Notes :

1. Passing Marks 35% for all Theory papers and 50% marks for practicals/Sessional.
2. The marks for practical shall be allotted by Internal and External examiner together and Sessional Marks to be given by Internal but the articles prepared or reports to be presented before the External examiner and marks to be finalized.
3. For all parcticals the batch will be of 16 students.
4. All the Papers are of 3 hour's duration.
5. The Practical examination shall be of 15 marks and the Project (Sessional) of 15 marks for all the Home Science subjects (Sr. No. 1 to 5). Breakup of marks shall be Practical examination – 15 marks, Record book – 5 marks, Project (Sessional) – 12 marks.
6. The Practical examination shall be of 30 marks for all the Home-Science subjects (Sr. No. 6 to 7). Break of marks shall be Practical examination – 20 marks. Record book – 5 marks, Viva – 5 marks.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 12 OF 2006**

**ORDINANCE RELATING TO THE CERTIFICATE COURSE IN “CLINICAL NUTRITION AND PATIENT COUNSELLING” IN THE FACULTY OF HOME SCIENCE**

Whereas it is expedient to provide for an Ordinance for leading to the award of the Certificate in “Clinical Nutrition & Patient Counseling” in the Faculty of Home Science, the Management Council is hereby pleased to make the following ordinance. :

1. This Ordinance may be called, “ Ordinance leading to the award of the certificate in “CLINICAL NUTRITION & PATIENT COUNSELLING” in the Faculty of Home Science, Ordinance, 2005.”
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. The duration of the course shall be of six months with an examination held annually at such places and on such dates as may be fixed by the Academic Council.
4. Subject to compliance with the provisions of this Ordinance and of any other Ordinances in force from time to time an applicant for admission to the ‘Certificate Course in Clinical Nutrition and Patient Counseling’ shall have
  - i. Passed the M Sc Home Science examination in the subject Food Science and Nutrition or Dietetics of Nagpur University or any other statutory university equivalent there to.
  - ii. Passed B. Sc. Home Science with Diploma in Dietetics.
  - iii. Passed B. Sc. in Food and Nutrition with Diploma in Dietetics.
  - iv. Passed M.B.B.S. / B.H.M.S. / B.A.M.S. / Naturopathy / Nursing.with such standard of attainment as may be prescribed with minimum of 50% marks in the said examination.
5. The subjects for study for the examination shall be:
  - i. Clinical Nutrition
  - ii. Therapeutic Nutrition
  - iii. Patient Counselling
6. The scope of the subjects will be as indicated in the syllabus.
7. Students will be permitted to appear for the examination after successfully completing regular course of study including theory, practical work, fieldwork, internship and project work.

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 21, under the draft Ordinance No. 24 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

8. The fee for the examination shall be as prescribed by the Management Council from time to time.
9. The maximum marks which each subject carries and the minimum marks, which an examinee must obtain in order to pass the examination, shall be as indicated in Appendix A.

There will be separate marks for passing.

- a. Written papers
  - b. Practicals
  - c. Sessionals
  - d. Internship
10. A student shall have to work as an internee in a Hospital or an Institution approved by the university for at least 3 months and produce a certificate from the Head of the Department to the effect that she has satisfactorily completed internship training.
  11. Provision of Direction No. 9 of 2002 as updated from time to time relating to the award of grace marks for passing an examination, securing higher divisional class and for securing distinction in subject (s) shall apply to the examination under this Ordinance.
  12. Successful examinee obtaining 60% or more of the aggregate marks shall be declared to have passed the examination in first division. Those obtaining 50% or than more but less than 60% in the second division and those obtaining 40% or more but less than 50% in third division, those obtaining 75% or more of the total marks shall be declared to have passed the examination with distinction.
  13. Unsuccessful examinees shall be eligible for admission to subsequent examination on payment of a fresh fee and such other fee as may be prescribed.
  14. As soon as possible after the examination, the Board of Examinations shall publish a list of successful examinees arranged in the division as prescribed. The names of examinees passing the examination within the minimum prescribed period and obtaining the prescribed number of places in first division shall be arranged in order of merit as provided in the Examinations in General Ordinance No. 6.
  15. Notwithstanding anything to the contrary in this ordinance no person shall be admitted to this examination, if she has already passed this examination or an equivalent examination of any other statutory university.
  16. Examinees successful at the examination will receive certificate in the prescribed form signed by the Registrar.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

17. Upon promulgation of this Ordinance, Direction No. 9 of 2004 shall stand repealed.

### **SATATEMENT OF OBJECT & REASONS**

In order to incorporate a Certificate course in the specialty of Clinical Nutrition and Patient Counselling, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 221 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 21 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future and is in consonance with the orders of the State Government and guidelines of the University Grants Commission.

Hence this Ordinance.

## **SCHEME OF EXAMINATION**

### **CLINICAL NUTRITION & PATIENT COUNSELLING**

#### **APPENDIX A**

#### **CLASSES PER WEEK: -**

Sr.NO	SUBJECTS	THEORY/WEEK	PRACTICALS/WEEK
1.	<i>CLINICAL NUTRITION</i>	4	6
2.	<i>THERAPEUTIC NUTRITION</i>	4	-
3.	<i>PATIENT COUNSELLING</i>	4	-
	<i>TOTAL</i>	12	6

**TOTAL CLASSES PER WEEK: - 18**

#### **EXAMINATION PATTERN: -**

Sr.NO	SUBJECTS	TOTAL MARKS FOR THEORY	TOTAL MARKS FOR PRACTICALS/SESSIONALS
1.	<i>CLINICAL NUTRITION</i>	60	40
2.	<i>THERAPEUTIC NUTRITION</i>	60	40
3.	<i>PATIENT COUNSELLING</i>	60	40
	<i>TOTAL</i>	180	120

**TOTAL MARKS: -300**

- **STUDENTS WILL BE REQUESTED TO UNDERGO 1 ½ MONTHS INTERNSHIP AT AN APPROVED HOSPITAL/INSTITUTION.**
- **STUDENTS WILL BE REQUIRED TO PARTICIPATE IN DIET COUNSELLING CENTRE RUN BY NAGPUR UNIVERSITY DURING THE COURSE OF THE STUDY PERIOD.**

*Handwritten signature*  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 13 OF 2006**

**AN ORDINANCE TO AMEND THE ORDINANCE NO. 162, EXAMINATION LEADING TO THE HIGHER DIPLOMA IN ENGLISH, FRENCH, GERMAN, RUSSIAN, BENGALI, TELGU AND URDU LANGUAGES IN THE FACULTY OF ARTS.**

Whereas it is expedient to amend Ordinance no. 162, Examination leading to the Higher Diploma in English, French, German, Russian, Bengali, Telgu and Urdu Languages in the Faculty of Arts, for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following ordinance;

1. This Ordinance may be called 'Examination leading to the Higher Diploma in English, French, German, Russian, Bengali, Telgu and Urdu Languages in the Faculty of Arts (amendment) Ordinance, 2005.
8. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. in sub para (b) of para 4 of the main ordinance no. 162, after serial no. (ii) the following be added :

4(b) (iii)

“ The candidates who have passed the following examinations held by Rashtrasant Tukadoji Maharaj Nagpur University or any other statutory University be considered eligible for admission to Junior Diploma in French/German/Russian course :-

1. B.A. Part-I with French/German/Russian as second language
2. Hotel Management and Catering Technology with
3. French/German/Russian in the B.Tech. (Part II)
4. “0” level examination conducted by Alliance Francaise.
5. Second Semester B.A. (Hons.) in French/German/Russian from Jawaharlal Nehru University, Delhi.”

---

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item no. 23, under the draft Ordinance no. 27 of 2005.

  
20/03/2006  
Off. Principal,  
S.S. Maniar College, Nagpur



### STATEMENT OF OBJECT AND REASONS

It was imperative to broaden the scope of the eligibility so as to facilitate the desirous and deserving applicant students to avail the opportunity in terms of their admission to the course the Academic Council in its meeting held on 28<sup>th</sup> July, 2005 vide item No. 224 & Management Council 27<sup>th</sup> February, 2006 vide item No. 23 considered & approved this amendment to the Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future and is in consonance with the orders of the State Government and guidelines of the University Grants Commission.

Hence the amendment.

### \* ORDINANCE NO. 14 OF 2006

#### ORDINANCE TO PROVIDE FOR THE EXAMINATIONS LEADING TO THE DEGREE OF ललित कला पारंगत (MASTER OF FINE ARTS) IN THE FACULTY OF ARTS

Whereas it is expedient to provide for an Ordinance for the examinations leading to the degree of ललित कला पारंगत (Master of Fine Arts) in the Faculty of Arts, the Management Council is here by pleased to make the following Ordinance. :

1. This Ordinance may be called "Ordinance to provide for examinations leading to the degree of ललित कला पारंगत (Master of Fine Arts) in the faculty of Arts, 2005".
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. The duration of the course shall be of two academic years with the ललित कला पारंगत भाग-१ (M.F.A. Part-I) examination at the end of the first academic year and the ललित कला पारंगत भाग-२ (M. F.A. Part - II) examination at the end of the second academic year.
4. The examinations specified in paragraph 2 above shall be held annually at such places and on such dates as may be appointed by the university.
5. Every applicant for admission to the examination shall offer any one of the following subjects, namely :

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 24, under the draft Ordinance No. 28 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

- a) Dance : Bharatnatyam/ Kathak/Kuchipudi/  
Kathakali/ MohiniAttam/ Odissi/Manipuri
- b) Drama : Stage Acting/Stage Direction/Stage Technique
- c) Music : Classical Vocal/Classical Instrumental/Light Music
- d) Painting : Creative Painting/Portrait Painting/Mural
- e) Sculpture : Portraiture/Creative Sculpture/Traditional Indian  
Sculpture/ Architectural Sculpture
- f) Applied Art : Illustration/Photography/Typography
- g) Graphic Arts
- h) History of Art
- i) Art Criticism

6. Subject to his compliance with the provisions of this ordinance and of other ordinances/directions in force from time to time an applicant for admission to :-

A] ललित कला पारंगत भाग-१ (M.F.A. Part-I) shall have passed the first degree examination of this university or of any other statutory university as recognized equivalent thereto.

Provided that -

i) the students offering Drama as a specialization should have obtained a degree in Drama or degree in any Faculty of R.T.M.Nagpur University or of any statutory university and should have an aptitude for drama which will be judged by an aptitude test conducted by the Department of Fine Arts, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur or by the college/institute affiliated to Rashtrasant Tukadoji Maharaj Nagpur University for conduct of M.F.A. course in Drama.

ii) The student offering Dance as a specialization should have obtained a degree in Dance or a degree in any Faculty of Rashtrasant Tukadoji Maharaj Nagpur University or of any statutory university with Nritya Visharad from Dance Institutions recognized by Rashtrasant Tukadoji Maharaj Nagpur University.

iii) The student offering Music as a specialization should have offered Music as one of the optional subjects for his degree examination or should have obtained degree in any Faculty of Nagpur University or of any other statutory university with Sangeet Visharad from some institute of Music (e.g. Gandharva Mahavidyalaya Mandal etc.) recognized by Rashtrasant Tukadoji Maharaj Nagpur University.

iv) The student offering Painting / Sculpture / Applied Art /Graphic Arts/ History of Art/ Art Criticism as specialization should have obtained the degree of Bachelor of Fine Art (Visual Arts) in Painting/ Sculpture/ Applied Art/ Graphic Arts/ Art Criticism of Rashtrasant Tukadoji Maharaj Nagpur University or of any other statutory university or should have obtained G.D. Art (Govt. Diploma) of Directorate of Arts, Maharashtra State.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

v) The student offering Mural as specialization should have obtained the degree of Bachelor of Fine Arts (Visual Arts) or degree in Interior Designing or degree in any faculty with Diploma in Mural or Diploma in Interior Designing of R.T.M.Nagpur University or of any other statutory university or institution recognized by R.T.M.Nagpur University.

B] ललित कला पारंगत भाग-२ (M. F.A. Part – II) shall have passed ललित कला पारंगत भाग-१ (M.F.A. Part-I) examination of this university or of any other statutory university recognized equivalent thereto and shall have prosecuted a regular course of study in the subject for one full academic session after having passed the above qualifying examination.

7. Without prejudice to the other provisions of ordinance No. 6 relating to the Examinations in General, the provisions of paragraphs 5, 8, 9,10, 26, 31 and 32 of the said ordinance shall apply to every collegiate candidate.
8. The fees for the examination shall be as prescribed by the university from time to time.
9. The number of papers and the maximum marks assigned to each paper and the minimum marks an examinee must obtain in order to pass the examinations shall be as indicated in Appendix –A.
10. An examinee at the ललित कला पारंगत भाग-१ (M. F.A. Part – I) and ललित कला पारंगत भाग-२ (M.F.A. Part-II) examination shall have option of being not declared successful at the examination in case he/she does not secure a minimum of second division or 55% marks at the examination. The option shall have to be exercised every time an application is submitted to either of the two examinations, and shall be on the Proforma printed on the application form itself. Once exercised, the option shall be binding upon the examinee and it shall not be revoked under any circumstances.
11. (a) The scope of the subject shall be as indicated in the syllabus.  
(b) For practical examination a student shall offer any one of the practicals from the subject of his/her specialization.

Sr. No	Specialization Subject	Practical Subject (Any one of the following)
1.	Dance	Bharatnatyam / Kathak / Kuchipudi / Kathakali / Mohini Attam / Odissi / Manipuri
2.	Drama	Acting / Direction / Stage Technique
3.	Music	Classical Vocal / Classical Instrumental / Light Music
4.	Painting	Creative Painting / Portrait Painting / Mural
5.	Sculpture	Portraiture / Creating Sculpture / Traditional Indian Sculpture / Architectural Sculpture
6.	Applied Arts	Illustration / Photography / Typography
7.	Graphic Art	

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

12. (a) There shall be no classification of successful examinees at the ललित कला पारंगत भाग-१ (M. F.A. Part - I) examination.
- (b) Division at the ललित कला पारंगत भाग-२ (M.F.A. Part-II) examination shall be declared on the basis of the aggregate marks secured at the ललित कला पारंगत भाग-१ (M. F.A. Part - I) and ललित कला पारंगत भाग-२ (M.F.A. Part-II) examinations taken together. Successful examinees obtaining 60% or more marks in the aggregate of Part-I and Part-II examinations taken together shall be placed in the First division, those obtaining less than 60% but not less than 48% in the Second division and all other successful examinees in the Third division.
13. Provisions of Direction 9 of 2002 relating to the award of grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) as updated from time to time shall apply to the examination under this Ordinance.
14. The examinees passing the examinations as a whole in minimum period shall be arranged in order of merit as provided in the ordinance No. 6 relating to Examinations in General provided that the merit list shall only be published for summer examination and it will not be specialization wise.
15. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to an examination under this ordinance, if he/she has already passed the same examination or an equivalent examination of any other university.
16. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.
17. Examinees successful at ललित कला पारंगत भाग-२ (M.F.A. Part-II) examination shall on payment of the prescribed fees receive a degree in the prescribed form signed by the Vice-Chancellor.
18. The ordinance No. 13 of 1981 governing the existing course for Master of Fine Arts shall stand repealed physically on issuance of this Ordinance.
19. Upon promulgation of this Ordinance, Direction No. 25 of 2002, shall stand repealed.

**STATEMENT OF OBJECT & REASONS**

In order to incorporate a Master's course in the specialty of Fine Arts, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 225 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 24 considered & approved this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

**APPENDIX – A**

**STATEMENT OF PAPERS OF PART-I AND PART-II OF M.F.A. EXAMINATION**

Specialization Subject	Part-I Papers & Practical	Maxi. Marks	Min. passing Marks	Part-II Papers & Practical	Maxi. Marks	Min. passing Marks	Aggregate in Part-I & Part-II	Min. Passing Marks in Part-I & Part-II
Any one of the following Fine Arts/ Dance/Drama/ Music / Painting / Mural / Sculpture / Applied Arts / Graphic Arts	Paper –I	100	36	Paper –I	100	36	1000	360
	Paper-II	100	36	Paper-II	100	36		
	Practical	300	108	Practical	300	108		
		500	180		500	180		
History of Arts / Art Criticism	Paper –I	100	36	Paper –I	100	36	1000	360
	Paper-II	100	36	Paper-II	100	36		
	Paper –III	100	36	Paper –III	100	36		
	Paper –IV	100	36	Paper –IV	100	36		
	Paper –V	100	36	Paper –V	100	36		
	500	180		500	180			

**N.B. :** The break-up of marks in Dance, Drama, Music, Painting, Sculpture, Applied Art and Graphic Arts practical shall be as shown below :

Specialization Subject	M.F.A. Part-I	Marks	M.F.A. Part-II	Marks
Dance	Pract. I : Public Performance & Viva- Voce Pract.II : Project Report Internal Assessment	150 50 100	Pract. I : Public Performance & Viva-Voce Pract.II : Dissertation Internal Assessment	150 50 100
Drama	Pract. I : Public Performance & Viva- Voce Pract.II : <b>Project Report</b> Internal Assessment	150 50 100	Pract. I : Public Performance & Viva-Voce Pract.II : Dissertation Internal Assessment	150 50 100
Music	Pract. I : Public Performance & Viva- Voce Pract.II : Project Report Internal Assessment	150 50 100	Pract. I : Public Performance & Viva-Voce Pract.II : Dissertation Internal Assessment	150 50 100
Painting / Mural/ Sculpture / Applied Arts/Graphic Arts	Pract. I : Public Performance & Viva- Voce Pract.II : Project Report Internal Assessment	150 50 100	Pract. I : Public Performance & Viva-Voce Pract.II : Dissertation Internal Assessment	150 50 100

**Internal Assessment :** Internal Assessment means the assessment of the candidate during the academic session judged by the Head of the Department in consultation with the concerned teacher.

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 15 OF 2006**

**ORDINANCE TO PROVIDE FOR EXAMINATION LEADING TO THE CERTIFICATE, DIPLOMA AND HIGHER DIPLOMA IN PALI LANGUAGE IN THE FACULTY OF ARTS, RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

Whereas it is expedient to provide for an Ordinance for the examination leading to the certificate, diploma and higher diploma in Pali Language in the Faculty of Arts, the Management Council is hereby pleased to make the following Ordinance :

1. This ordinance may be called "Ordinance to provide for Examination leading to the Certificate, Diploma and Higher Diploma in Pali Language in the Faculty of Arts, 2005."
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. Subject to the compliance of the provisions of this Ordinance and other ordinances in force from time to time, an applicant for admission to
  - A. Certificate in Pali Language Examination shall have passed Higher Secondary School Examination or its equivalent.
  - B. Diploma in Pali Language Examination shall have passed the Certificate in Pali Language from Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
  - C. Higher Diploma in Pali Language Examination shall have passed the Diploma in Pali Language from Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
4. The duration of the course leading to the Certificate, Diploma and Higher Diploma in Pali Language shall be of one year each.
5. There shall be annual examination for Certificate, Diploma and Higher Diploma in Pali Language at the end of each academic session.
6. The theory paper for examination in Pali language shall be :-
  - A. Communicative Pali & Usage (Paper-I) for Certificate examination.
  - B. Text Comprehension & Written Expression (Paper-II) for Diploma examination.
  - C. Oral Expression & Dictation (Paper-III) for Higher Diploma examination.

\* Accepted by the Management Council dt. 27<sup>th</sup> February, 2006, vide item No. 25, under the draft Ordinance No. 29 of 2005 & approved by the Hon'ble Chancellor on 4<sup>th</sup> January, 2007, vide letter No. CS/NU/ORD/42/06/(6351)/100.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

7. Subject to the compliance of the provisions of this Ordinance and of other Ordinances in force from time to time, an applicant for admission to the Certificate, Diploma and Higher Diploma in Pali Language Examination shall have attended a regular course of study for an academic session each with not less than 75% of attendance.
8. The scope of courses shall be as indicated in the syllabi. The medium of instruction and the examination shall be English/Hindi/Marathi.
9. The examinations specified in paragraph 5 above shall be held annually at such places and on such dates as may be appointed by the university.
10. Without prejudice to the other provisions of ordinance No. 6 relating to the Examinations in General, the provisions of paragraphs 5, 8, 9, 10, 26, 31 and 32 of the said ordinance shall apply to every collegiate candidate.
11. The fees for the examination shall be as prescribed by the university from time to time.
12. The number of papers and the maximum marks assigned to each paper and the minimum marks an examinee must obtain in order to pass the examinations shall be as indicated in Appendix -A.
13. An examinee at the Certificate, Diploma and Higher Diploma in Pali Language shall have option of being not declared successful at the examination in case he/she does not secure a minimum of second division or 55% marks at the examination. The option shall have to be exercised every time and an application is submitted for the examinations, and shall be on the Proforma printed on the application form itself. Once exercised, the option shall be binding upon the examinee and it shall not be revoked under any circumstances.
14. (a) There shall be classification of successful examinees at the Certificate, Diploma and Higher Diploma in Pali Language.  
(b) Successful examinees obtaining 60% or more marks in each examination shall be placed in the First Division. Those obtaining less than 60% but not less than 48% in the Second Division and all other successful examinees in the Third Division.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

15. Provisions of Direction 9 of 2002 relating to the award of grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) as updated from time to time shall apply to the examinations under this Ordinance.
16. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to an examination under this ordinance, if he/she has already passed the same examination or an equivalent examination of any other university.
17. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.
18. Examinees successful at Certificate, Diploma and Higher Diploma in Pali Language examination shall on payment of the prescribed fees receive a Certificate/Diploma/Higher Diploma signed by the Vice-Chancellor.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Certificate, Diploma and Higher Diploma course in the specialty of Pali Language, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 226 and the Management Council in its meeting held on 27<sup>th</sup> February, 2006 vide item No. 25 considered & approved this Ordinance.

While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level at present or in future.

Hence this Ordinance.

### **APPENDIX – A** **Certificate/Diploma/Higher Diploma in Pali Language** **FACULTY OF ARTS**

Examination Scheme					Teaching Scheme
Course	Theory	Duration Hour	Max. Marks	Min. Marks for Passing	Lectures in hours per week
Certificate	Communicative Pali & Usage (Paper-I)	3	75	25	4
Diploma	Text Comprehension & Written Expression (Paper-II)	3	75	25	4
Higher Diploma	Oral Expression & Dictation (Paper-III)	3	50	25	2

*(Signature)*  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur



**\* ORDINANCE NO. 16 OF 2006**

**ORDINANCE RELATING TO THE EXAMINATION FOR AWARD OF  
DEGREE OF MASTER OF SCIENCE IN THE FACULTY OF HOME SCIENCE**

Whereas it is expedient to provide for an Ordinance for leading to the examination for award of the Degree of Master of Science in the Faculty of Home Science, the Management Council is hereby pleased to make the following ordinance. :

1. This Ordinance may be called, "Ordinance leading to the examination for award of the Degree of Master of Science in the Faculty of Home Science, Ordinance, 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. The course for the Degree of Master of Science under this ordinance shall extend over a period of two years. There shall be a university examination known respectively as M.Sc. (Home Science) Part-I examination, and M.Sc. (Home Science) Part-II (Final) examination at the end of each year.
- 4.. The examinations will be held annually at such places and on such dates as may be appointed by the university.
5. Every applicant for admission to the examination shall offer one of the following subjects, namely:
  - 1) Home Science Extension.
  - 2) Human Development.
  - 3) Resource management.
  - 4) Food Science and Nutrition.
  - 5) Textile and Clothing.
- 6.. Subject to the compliance with the provisions of this ordinance and of any other ordinances in force from time to time, a candidate who has been admitted to the following degree of the university or an equivalent degree of any other statutory university shall be eligible for admission to the Part-I course :-

**(a) For Food Science & Nutrition**

B.Sc. (Home Science), B.Sc. with Postgraduate Diploma in Dietetics, M.B.B.S., B.Sc. with Nutrition of the university or of any other statutory university recognized equivalent thereto.

**(b) For Human Development**

B.Sc. (Home Science), M.A. (Home Economics), M.S.W., M.B.B.S., M.A. (Psychology) of the university or of any other statutory university recognized equivalent thereto.

**(c) For Resource Management**

B.Sc. (Home Science), M.A. (Home Economics) of the university or of any other statutory university recognized equivalent thereto.

---

\*Accepted by the Management Council dt. 28<sup>th</sup> June 2006, vide item No. 135, under the draft Ordinance No. 23 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**(e) For Textile and Clothing**

B.Sc. (Home Science), Bachelor of Fashion Design, Bachelor of Textile Design of the university or of any other statutory university recognized equivalent thereto.

**(f) For Home Science Extension**

B.Sc. (Home Science), M.A. (Home Economics), B.S.W., B.V.Sc., B.A. (Rural Services), Postgraduate diploma in Mass Communications, B.Sc. (Agriculture) of the university or of any other statutory university recognized equivalent thereto.

7. Subject to her compliance with the provisions of this ordinance and of other ordinances in force from time to time, a candidate who has passed the M.Sc. Part-I (Home Science) examination shall be eligible for admission to the Part-II course in the subject which she has offered for the Part-I examination.
8. A candidate applying for admission to an examination under this ordinance shall prosecute a regular/full time course of study in respect of concerned examination during the relevant year in the Post Graduate Department of Home Science, R.T.M. Nagpur University or in a college affiliated to R.T.M. Nagpur University for conduct of M. Sc. (Home Science) courses.
9. Without prejudice to the provisions of ordinance No. 6 relating to the Examinations in General, the provisions of paragraphs 5, 8, 10, 27 and 32 of the said ordinance shall apply to every collegiate candidate.
10. The fees for the examination shall be as prescribed by the university from time to time.
11. The scope of the subjects will be as indicated in the syllabus.
12. The maximum marks allotted to each paper, practical, viva-voce, dissertation and sessionals, and the minimum marks which an examinee must obtain in order to pass the Part-I or Part-II examination, as the case may be, shall be as indicated in Appendices 'A' and 'B' respectively.
13. There shall be no classification of examinees successful in Part-I of the examination.
14. Examinee who are successful at the Part-II examination and who have obtained not less than 60% marks in the aggregate at the Part-I and Part-II examinations taken together, shall be placed in the First Division. All the other successful examinees shall be in the Second Division.
15. Provisions of Direction 9 of 2002 relating to the award of Grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) as updated from time to time shall apply to the examination under this Ordinance.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

16. The examinees passing the examinations as whole in minimum period shall be arranged in order of merit as provided in the ordinance No. 6 relating to Examinations in General provided that the merit lists shall only be published for summer examination.
17. Save as otherwise expressly provided in this ordinance, no person shall be admitted to an examination under this ordinance if she has already passed the same examination or an equivalent examination of any other statutory university.
18. Examinees successful at the Part-II examination shall on payment of the prescribed fees, receive a Degree in the prescribed format signed by the Vice-Chancellor.
19. The ordinance No. 154 governing the existing course for Master of Science (Home Science) shall stand repealed physically on issuance of this Ordinance.
20. Upon promulgation of this Ordinance, Direction No. 30 of 2002 shall stand repealed.

### **SATATEMENT OF OBJECT & REASONS**

In order to incorporate a Master's course in the specialty of Home Science, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 28<sup>th</sup> July, 2005, vide item No. 220 and the Management Council in its meeting held on 28<sup>th</sup> June, 2006 vide item No. 135 considered & approved this Ordinance.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX (A)**  
**M.Sc. Part-I (Home Science)**

**FOOD SCIENCE AND NUTRITION**

Sr. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs.
					Theory	Practical	Total	
I	Advanced Nutritional Biochemistry	75	50	---	4	6	10	3
II	Institutional Food Administration	75	--	25	4	--	4	
III	Advanced Food Science	75	50	--	4	6	10	3
IV	Research Method and Statistics	75	----	----	4	---	4	
	Current trends and issues in Food Sci. & Nutrition	--	--	25	-	3	3	
	Total	300	100	50	16	15	31	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- Four weeks internship in Food Industry / Hotel is compulsory.
- Paper IV is common for all specializations of Home Science.
- Current trends and issues in Food Science and Nutrition will have Seminar Presentation and carry sessional marks only

**RESOURCE MANAGEMENT**

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Theory of Management	75	50	---	4	6	10	3
II	Hospitality Administration & Services	75	--	25	4	--	4	
III	Housing and Interiors	75	50	--	4	6	10	3
IV	Research Methodology and Statistics	75	----	----	4	---	4	---
	Current trends and issues in Resource Management	--	--	25	-	3	3	
	Total	300	100	50	16	15	31	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- Four weeks internship in Front Office & House Keeping Department of any Hotel is compulsory.
- Paper IV is common for all specializations of Home Science.
- Current trends and issues in Resource Management will have Seminar Presentation and carry sessional marks only

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

### HUMAN DEVELOPMENT

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Management of Programmes for family & children	75	50	----	4	6	10	3
II	Psychology of Human Behaviour and testing	75	50	----	4	6	10	3
III	History of theories of Human Development	75	----	25	4	---	4	---
IV	Research Methods and Statistics	75	----	----	4	---	4	---
	Current trends and issues in Human development	--	--	25	--	3	3	--
	Total	300	100	50	16	15	31	----

**Note :**

- Every Examinee to be successful at the examination shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- Participation / internship of 4 weeks in a preschool / recreational center for children is compulsory.
- Paper IV is common for all specializations of Home Science.
- Current trends and issues in Human development will have Seminar Presentation and carry sessional marks only

### HOME SCIENCE EXTENSION

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Socio – Economic Environment	75	----	25	4	----	4	----
II	Communication Technology	75	50	----	4	6	10	3
III	Community Health & Development	75	50	----	4	6	10	3
IV	Research Methods & Statistics.	75	----	----	4	---	4	---
	Current trends & issues in Home Science Extension	----	----	25	----	3	3	----
	Total	300	100	50	16	15	31	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- Four weeks participation / field training in community health / welfare programme is compulsory.
- Paper IV is common for all specializations of Home Science.
- Current trends and issues in Home Science Extension will have Seminar Presentation and carry sessional marks only

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

**TEXTILE AND CLOTHING**

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Textile Testing and Quality Control	75	50	---	4	6	10	3
II	Advanced Pattern Making & Construction Techniques	75	50	---	4	6	10	3
III	Sociology & Psychological Aspects of Clothing & Historic Costume	75	----	25	4	----	4	
IV	Research Methodology and Statistics	75	----	----	4	---	4	---
	Current trends and issues in Textile & Clothing	----	----	25	----	3	3	----
	Total	300	100	50	16	15	31	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- Four weeks internship in Textile Industry is compulsory.
- Paper IV is common for all specialization's of Home Science.
- Current trends and issues in Textile & Clothing will have Seminar Presentation and carry sessional marks only

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

## APPENDIX (B)

### M.Sc. Part-II (Home Science)

#### FOOD SCIENCE AND NUTRITION

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Clinical & Therapeutic Nutrition	100	50	---	4	6	10	3
II	Advanced Nutrition	100	--	25	4	3	7	--
III	Community Nutrition & Public Health	100	--	25	4	3	7	--
IV	Dissertation / Viva-voce	100	50	--	4	---	4	---
	Total	400	100	50	16	12	28	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- 4 weeks internship in Hospitals with Food Service under a registered dietician is compulsory

#### RESOURCE MANAGEMENT

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Ergonomics	100	50	---	4	6	10	3
II	Entrepreneurship Management	100	--	25	4	3	7	
III	Residential Interior Space Design and Landscaping	100	--	25	4	3	7	
IV	Dissertation / Viva-voce	100	50	--	4	--	4	---
	Total	400	100	50	16	12	28	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%
- 4 weeks Entrepreneurship training.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

## HUMAN DEVELOPMENT

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Psychological Disorders	100	----	25	4	3	7	3
II	Care of children with Disabilities	100	----	25	4	3	7	
III	Guidance Counseling and Psychotherapeutics	100	50	----	4	6	10	
IV	Dissertation & Viva Voce	100	50	----	4	---	4	---
	Total	400	100	50	16	12	28	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%.
- 4 weeks internship in counseling units / Psychiatrists / Institute for handicapped is compulsory.

## HOME SCIENCE EXTENSION

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Adoption of Innovations	100	----	25	4	3	7	---
II	Non-formal Education	100	50	----	4	6	10	3
III	Programme Building & Extension	100	----	25	4	3	7	---
IV	Dissertation & Viva-Voce	100	50	----	4	----	4	---
	Total	400	100	50	16	12	28	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%.
- 4 weeks internship / participation in field training in community health / welfare programme is compulsory.

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur



### TEXTILE AND CLOTHING

S. No.	Paper	Theory Marks	Practical Marks	Sessional Marks	Teaching Scheme/week Hours of Instruction			Examination Scheme Practical Duration in Hrs
					Theory	Practical	Total	
I	Textile Chemistry	100	----	25	4	3	7	
II	Advance draping & Fashion Designing	100	50	----	4	6	10	3
III	Advanced Textile Designing	100	----	25	4	3	7	---
IV	Dissertation & Viva-Voce	100	50	----	4	----	4	---
	Total	400	100	50	16	12	28	----

**Note :**

- Every Examinee to be successful at the examination, shall be required to obtain not less than 45% of the maximum marks prescribed to each theory paper.
- Aggregate passing marks should be 50%.
- 4 weeks internship in Fashion Designing in export houses is compulsory.

**\* ORDINANCE NO. 17 OF 2006**

**An Ordinance to amend the Ordinance No. 122.**

Whereas it is expedient to amend the Ordinance No. 122 i.e. Nagpur University Teachers' Service and Conditions of Employment Ordinance, for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following Ordinance :-

1. This Ordinance may be called "Nagpur University Teachers' Service and Conditions of Employment (Amendment) Ordinance, 2006."
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. After para 17 of the Main Ordinance No. 122 the following para shall be inserted namely :-

17-A            i)        The teachers promoted to the post of Reader or Professor under Career Advancement Scheme shall be included in the seniority list of Reader or Professor of the Department as the case may be, from the date of their promotion in the cadre of Reader or Professor.

\* Accepted by the Management Council on date 30<sup>th</sup> November, 2006 vide item No. 241, under the Draft Ordinance No. 2 of 2006.

  
Off. Principal,  
S.S. Maniar College, Nagpur

- ii) A common seniority list of the cadres of teachers appointed through the process of direct recruitment as well as teachers promoted through the Process of C.A.S. shall be maintained Department wise for both the cadres of Readers and Professors.
- iii) The nomination of Head of the Department by rotation as per the provisions of Statute 55 from the cadre of Professor (if available) or from the cadre of Readers shall be made by operating common seniority list maintained as per clause (ii) above.
- iv) The teachers promoted to cadre of reader or professor as the case may be through the process of Career Advancement Scheme shall be entitled to all other benefits accruable for the concerned cadre as stipulated in this ordinance or as per the directions of State Government issued from time to time. Their work load will be as stipulated by the U.G.C. or State Government from time to time.

#### **STATEMENT OF OBJECTS AND REASONS**

That the University Grants Commission vide their letter dated 21<sup>st</sup> February, 2002 introduced the Scheme for promotion of Reader to Professor under CAS in University Departments & the same was accepted by the Government of Maharashtra.

That procedure for promotion of Reader to Professor under CAS is same as prescribed for recruitment of Professor as contemplated under Section 76 of M.U. Act, 1994 read with Direction No. 2 of 1996.

That considering this aspect the Management Council in its meeting held on 29<sup>th</sup> august, 2005 recommended to consider question of seniority of Professor appointed as per Section 76 of Act and those who are promoted under CAS at par to consider their seniority accordingly.

That with this decision of Management council there is a need to amend Ordinance No. 122 governing the Service Condition of University Teachers.

That by introduction of the said scheme there is no financial implication on State Government.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 18 OF 2006**

**EXAMINATION LEADING TO THE DEGREE OF POST BASIC B.SC. NURSING IN THE FACULTY OF MEDICINE.**

Whereas it is expedient to provide for an Ordinance for the Examination Leading to the Degree of Post Basic B.Sc. Nursing in the Faculty of Medicine, the Management Council is hereby pleased to make the following Ordinance. :

1. This Ordinance may be called "Examination Leading to the Degree of Post Basic B.Sc. Nursing in the faculty of Medicine Ordinance, 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. Subject to the compliance of the provisions of this Ordinance and other ordinances in force from time to time, an applicant for admission to the examination shall have:-
  - (a) Passed Higher Secondary School Certificate examination (10+2 pattern) conducted by statutory examining body with Physics, Chemistry, Biology and English as subjects of examination.
  - (b) Attained the age of 23 years at the time of admission and be below the age of 38 years in case of open category applicants and 43 years in case of applicants belonging to the reserved categories.
  - (c) Registered as Nurse/Midwife with the State Nursing Council.
  - (d) Minimum three years of practical experience in nursing in a public health organisation.
4. The duration of the course leading to the degree of Post Basic B.Sc. Nursing shall be of two years.
5. There shall be following examinations leading to the degree of Post Basic B.Sc. Nursing namely :-
  - (I) First Post Basic B.Sc. Nursing Examination, after two academic terms i.e. at the end of Ist year.
  - (II) The final Post Basic B.Sc. Nursing Examination after four academic terms i.e. at the end of IIInd year.
6. The examinee who is successful at the first Post Basic B.Sc. Nursing examination shall be eligible for admission to the second year of the course.
7. The facility of A.T.K.T. (allowed to keep term) shall not be accruable to an examinee passing first Post Basic B.Sc. Nursing examination in part.

---

Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No.275, under the draft ordinance No. 10 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

8. The examinations referred to in clause (4) shall be held twice a year at such places and on such dates as may be fixed by the Board of Examinations.
9. The subjects of study for the First Post Basic B.Sc. Nursing Examination shall be :-
  - (i) Physiology including Biochemistry
  - (ii) Pathology including Microbiology
  - (iii) Medical Nursing
  - (iv) Surgical Nursing.
10. Subject to the compliance of the provisions of this Ordinance and of other Ordinances in force from time to time, an applicant for admission to the Final Post Basic B.Sc. Nursing Examination shall have :-
  - (i) passed the First Post Basic B.Sc. Nursing examination of the University or an examination recognized as equivalent thereto, and
  - (ii) after passing the First Post Basic B.Sc. Nursing examination, attended a regular course of study for a period of not less than two academic terms in the college with the following subjects.
    - (a) Comprehensive Nursing (Maternity and Child Welfare)
    - (b) Comprehensive Nursing (E.N.T. Ophthalmology, and psychiatric Nursing).
    - (c) Community Nursing
    - (d) Nursing Education and Nursing Administration.
11. The scope of subjects shall be as indicated in the syllabus. The medium of instruction and the examination shall be English.
12. The maximum marks allotted to each subject, paper, practical clinical, oral and viva-voce examination and the minimum marks that an examinee must obtain in order to pass the examination shall be as indicated in "Appendix A and B" respectively, for the first and Final Post B.Sc. Nursing examinations.
13. A successful examinee passing the examination within the minimum prescribed period for the examination and obtaining not less than 75% of the total marks prescribed in the subject shall be declared to have passed the examination with distinction in that subject.
14. An examinee who passes the First and the Final examinations within the minimum prescribed period obtaining the required number of marks for passing as indicated in Appendix A and B shall be declared to have passed the said examination.
15. The fee for the examination shall be such as may be prescribed by the University from time to time.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

16. An unsuccessful examinee shall be eligible for admission to the next examination upon payment of such re-examination fee as may be prescribed by the University from time to time.
17. An unsuccessful examinee on his re-admission to the examination shall appear only in the subjects in which he has failed.

(Explanation :- Examinee on re-admission to an examination under this Ordinance shall be examined in the subject as a whole and not in a part thereof).

18. Without prejudice to the other provisions of ordinance No. 6 relating to the examination in general, the provisions of paras 5, 8, 10, 23 and 31 of the Ordinance shall apply to every candidate.
19. Provisions of Direction No. 9 of 2002 governing the award of Grace Marks for passing an examination, securing Higher Division/Class and for securing distinction in subject(s) shall apply to the examination under this Ordinance.
20. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to this examination, if he has already passed the same of this University or an examination equivalent thereto of any other statutory University.
21. Examinees successful at the First and Final Examinations shall be, on their being eligible for the award of degree and payment of the prescribed fees be awarded the degree in the prescribed format signed by the Vice-Chancellor.
22. Upon promulgation of this Ordinance, Direction No. 31 of 2001 shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate an eligibility criteria for admissions to the new Degree course in Post Basic B.Sc. Nursing, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 9 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 275 considered & approved Ordinance No. 18 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

**\* ORDINANCE NO. 19 OF 2006**

**GOVERNING RECOGNITION OF POST-GRADUATE TEACHER(S)  
IN THE STREAM OF DENTAL SCIENCES AND FIXATION OF INTAKE  
CAPACITY FOR MASTER OF DENTAL SURGERY COURSES UNDER THE  
FACULTY OF MEDICINE.**

Whereas it is expedient to provide for an Ordinance for the Governing Recognition of Post-Graduate Teacher(s) in the Stream of Dental Sciences and Fixation of Intake Capacity for Master of Dental Surgery Courses Under the Faculty of Medicine, the Management Council is hereby pleased to make the following Ordinance. :-

1. This Ordinance may be called "Governing Recognition of Post-Graduate Teacher(s) in the Stream of Dental Sciences and Fixation of Intake Capacity for Master of Dental Surgery Courses Under the Faculty of Medicine Ordinance, 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. The eligibility for a Professor and Head of the Post-Graduate Department in Dental Sciences to be recognized as Post Graduate Teacher in his/her subject/speciality shall be as under :
  - i) He/She must possess a Post-Graduate qualification in the subject of speciality, recognized by Dental Council of India, and should be a Full Time teacher,

Provided further that Part Time Professor may also be eligible, provided they put in 4 (four) hours a day in the college where they are working and shall have only one Post-Graduate candidate registered under them.

- ii) He/She shall have teaching experience of Ten years of which Five years should be as Reader/Senior Lecturer/Assistant Professor.

Provided further that where a Department is headed by an Assistant Professor/Reader/Senior Lecturer with the requisite qualification and experience as recommended for the Professor, permission may be granted for starting of Post-Graduate studies in the subject in case the other requirements prescribed/laid down by the Dental Council of India are met with.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No.276, under the draft ordinance No. 11 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

4. The eligibility for Assistant for Assistant Prof. For recognition as Post-Graduate teacher in his/her subject/speciality shall be as under :
  - i) He/she shall possess a Bachelor of Dental Sciences Degree of an Indian University or an equivalent qualification with Post-Graduate qualification in the subject/ specialization and shall have minimum three years teaching experience after Post-Graduation in the subject/specialization;
5.
  - i) The Number of admission to Master of Dental Surgery Courses in each speciality shall not be more than 2 (Two) students per Post-Graduate teacher per year.
  - ii) At any one time there shall be not more than 4 (Four) active students under one Post-Graduate teacher.
  - iii) No Post-Graduate teacher shall enroll candidates for a discipline other than the subject of his speciality for Post-Graduate programme and no Post-Graduate teacher shall be a Post-Graduate teacher for more than one speciality.
  - iv) When the Department is headed by a recognized Post-Graduate Professor, the Assistant Professor of the Department, who is in possession of the requisite qualification and teaching experience in the subject of speciality, may be permitted to enroll one student per year under him as a Post-Graduate teacher and guide.
6. Upon promulgation of this Ordinance, Direction No. 47 of 2001 shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate Regulations notified by the Dental Council of India in respect of Master's course in Dental Surgery, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 10 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 276 considered & approved Ordinance No. 19 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 20 OF 2006**

**ORDINANCE PROVIDING FOR CONDONATION OF DEFICIENCY OF MARKS  
FOR PASSING PART-I, II AND FINAL M.B.B.S. EXAMINATION  
IN THE FACULTY OF MEDICINE.**

Whereas it is expedient to provide for an Ordinance for condonation of deficiency of marks for passing Part-I,II and Final M.B.B.S. examination in the faculty of Medicine, the Management Council is hereby pleased to make the following ordinance. :-

1. This Ordinance may be called "Providing for condonation of deficiency of marks for passing Part-I, II and Final M.B.B.S. examination in the faculty of Medicine, Ordinance, 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. Grace marks up to a maximum of five marks shall be awarded to an examinee who has failed only in one subject, but has passed in all the other subjects at the part-I, II and final M.B.B.S. examination for the purposes in the passing the subject and thereby the concerned examination.
4. Examinee passing the examination in terms of grace marks awarded vide rule 2 shall not find place in the merit list.
5. Examinee passing an examination in terms of rule 3 shall not be eligible for any university scholarship, medals, prizes or any other university awards pertaining to that examination.
6. Statement of marks issued to the candidates shall show condonation of deficiency of marks as stipulated in rule 2 above mentioning the extent of condonation of deficiency in terms of marks.
7. Upon promulgation of this ordinance, direction No. 34 of 2002, shall stand repealed.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No.277, under the draft ordinance No. 12 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur



**STATEMENT OF OBJECT & REASONS**

In order to provide for the Regulations notified by the Medical Council of India in respect of condonation of deficiency of marks for passing Part- I,II and final M.B.B.S. examination in the Faculty of Medicine, that have binding effect the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006 vide item No.11 and Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 277 considered and approved the Ordinance.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

---

**\* ORDINANCE NO. 21 OF 2006**

**ORDINANCE GOVERNING RECOGNITION OF POST GRADUATE TEACHER(S)  
IN THE STREAM OF OCCUPATIONAL THERAPY AND PHYSIO THERAPY AND  
FIXATION OF INTAKE CAPACITY FOR MASTER OF OCCUPATIONAL  
THERAPY AND MASTER OF PHYSIO THERAPY COURSES IN THE FACULTY  
OF MEDICINE, RASHTRASANT TUKADOJI MAHARAJ  
NAGPUR UNIVERSITY, NAGPUR.**

Whereas it is expedient to provide for an Ordinance governing recognition of Post Graduate Teacher(s) in the stream of Occupational Therapy and Physio Therapy and fixation of intake capacity for Master of Occupational Therapy and Master of Physio Therapy course in the Faculty of Medicine, the Management Council is hereby pleased to make the following Ordinance :

1. This ordinance may be called " Recognition of Post Graduate Teacher(s) in the stream of Occupational Therapy and Physio Therapy and fixation of intake capacity for Master course in Physio Therapy and Master course in Occupational Therapy under the Faculty of Medicine Ordinance- 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 278, under the draft Ordinance No. 15 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

3. The eligibility for recognition as a post graduate Teacher in the stream of Occupational Therapy and Physio Therapy shall be as under :
  - A) The concerned person must possess a post graduate qualification in the subject of occupational therapy or physio therapy as the case may be from statutory university.
  - B) he/she should have a minimum teaching experience of at least three years of teaching concerned under graduate courses at a teaching institution after acquiring post graduate qualification.

provided further that a person not possessing p.g. qualification in the concerned speciality but having more than eight years of teaching experience of teaching under graduate courses pertaining to his speciality shall also be eligible for recognition as post graduate teacher.
4.
  - a) the number of admissions to master's degree in occupational therapy and physio therapy shall not be more than two students per speciality per post graduate teacher, annually.
  - b) At any one time there shall not be more than 4 active students under one Post Graduate teacher.
5. No post graduate teacher shall enroll a candidate for a discipline/speciality other than the subject of his speciality for post graduate programme and no post graduate teacher shall be recognized to be so, for more than one speciality.
6. Upon promulgation of this ordinance, direction no. 3 of 2004 shall stand repealed.

#### **STATEMENT OF OBJECGT & REASONS**

in order to provide for the prescribed eligibility made by the Board of University Teaching and Research in the Faculty of Medicine in respect of Recognition of Post Graduate Teacher(s) in the stream of Occupational Therapy and Physio Therapy and fixation of intake capacity for Master course in Physio Therapy and Master course in Occupational Therapy under the Faculty of Medicine, the Academic Council in its meeting held on 21<sup>st</sup> sept., 2006 vide item no.12 and Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item no. 278 considered and approved the ordinance.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**\*ORDINANCE NO. 22 OF 2006**

**ORDINANCE TO PROVIDE FOR EXAMINATION LEADING TO THE  
DEGREE OF MASTER OF PUBLIC HEALTH IN THE FACULTY OF MEDICINE,  
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR**

Whereas it is expedient to provide for an Ordinance for the examination leading to the Degree of Master of Public Health in the Faculty of Medicine, the Management Council is hereby pleased to make the following Ordinance :

1. This ordinance may be called "Ordinance to provide for examination leading to the Degree of Master of Public Health in the Faculty of Medicine, 2005."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. Subject to the compliance of the provisions of this Ordinance and other ordinances in force from time to time, an applicant for admission to the examination should have passed MBBS/B.D.S. Degree from a Statutory university.
4. The duration of the course leading to the degree of Master of Public Health shall be of 24 months.
5. There shall be final M.P.H. Examination after four academic terms i.e. at the end of II year.
6. The examinations referred to in clause (5) shall be held twice a year at such places and on such dates as may be fixed by the Board of Examinations.
7. The subjects of study for the M.P.H. examination shall be :-
  - i) Epidemiology
  - ii) Bio-Statistics
  - iii) Demography
  - iv) Use of Computers
  - v) Management Sciences including health management & community health administration.
  - vi) Social Sciences, IEC & Quality Assurance.
8. Subject to the compliance of the provisions of this Ordinance and of other Ordinances in force from time to time, an applicant for admission to the Final M.P.H. Examination shall have attended a regular course of study for a period of not less than four academic terms in the college with the following subjects.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 279, under the draft Ordinance No. 26 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

- a) Epidemiology & Biostatistics including Demography and use of Computers.
  - b) Social Sciences, IEC and Quality Assurance.
  - c) Health Management and Community Health Administration.
9. The scope of subjects shall be as indicated in the syllabus. The medium of instruction and the examination shall be English.
10. The Examination shall consist of –
- (a) a thesis embodying the results of the research work of the candidate;
  - (b) written examination comprising of four papers, each of three hours' duration, in subjects specified in the Appendix to this Ordinance.
  - (c) Viva-voce and practical examination.
11. The fee for the examination shall be such as prescribed by the Management Council from time to time.
12. A candidate shall submit his thesis through his Supervisor and Head of the College on or before the 1<sup>st</sup> of December or the 1<sup>st</sup> of July, as the case may be, preceding the written Examination.
13. A candidate whose thesis is not unanimously approved by the examiners shall not be admitted to the Written, Oral and Practical Examination.
- Provided that a candidate may, by special permission of the Vice-Chancellor, be permitted to take the examination in remaining parts in case the report on the thesis submitted by him is not received before the commencement of the written examination. In such a case, the result of his examination shall not be declared until the report on his thesis is received.
14. A candidate whose thesis is unanimously approved by the examiners and whose performance at the written examination, viva-voce and practical examination is unanimously reported by the Examiners to be of sufficient proficiency shall be declared successful at the examination by the Management Council.
15. An examinee whose thesis has been approved but who is not successful at the remaining part of the examination shall be eligible for readmission to that part at any subsequent examination on payment of full fresh fee.
16. A successful examinee passing the examination within the minimum prescribed period for the examination and obtaining not less than 75% of the total marks prescribed in the subject shall be declared to have passed the examination with distinction in that subject.

17. An examinee who passes the Final examinations within the minimum prescribed period obtaining the required number of marks for passing as indicated in Appendix A shall be declared to have passed the said examination.
18. An unsuccessful examinee shall be eligible for admission to the next examination upon payment of such re-examination fee as may be prescribed by the University from time to time.
19. Without prejudice to the other provisions of ordinance No. 6 relating to the examination in general, the provisions of paras 5, 8, 10, 23 and 31 of the Ordinance shall apply to every candidate.
20. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to this examination, if he has already passed the same of this University or an examination equivalent thereto of any other statutory University.
21. Examinees successful at the Final Examinations shall be, on their being eligible for the award of degree and payment of the prescribed fees be awarded the degree in the prescribed format signed by the Vice-Chancellor.

### **STATEMENT OF OBJECT & REASONS**

A new course in Master of Public Health for generating specialised managerial health personnel for an effective health care delivery system in the contemporary society the Faculty of Medicine and in order to incorporate a new Master's course in the speciality of Public Health, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 13 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 279 considered & approved the Ordinance No. 22 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

## APPENDIX-A

### EXAMINATION

#### Theory –

It will consist of 4 papers of 3 hours duration of 100 marks each.

Paper – I – Epidemiology & Biostatistics including Demography and use of Computers.

Paper – II – Social Sciences, IEC and quality assurance.

Paper – III – Health Management and Community health administration.

Paper – IV – Recent Advances.

Internal Assessment – 100 marks

Total – 500

#### Practical –

It will be of 200 marks will include

(I) Problem solving exercise on health Management /community health administration	-	100 marks
(II) Epidemiological/Statistical exercise	-	100 marks
(III) Communication/BCC exercise	-	100 marks
(IV) Viva	-	100 marks
Internal assessment	-	100 marks
Total	-	500
Grand Total		1000

The student should pass separately in theory & practical by securing minimum 50% marks each.

**\* ORDINANCE NO. 23 OF 2006**

**ORDINANCE GOVERNING EXAMINATION LEADING TO THE MASTERS  
DEGREE OF BUSINESS ADMINISTRATION (M.B.A.) (SEMESTER PATTERN) IN  
THE FACULTY OF COMMERCE**

Whereas it is expedient to provide for an Ordinance for governing the examination leading to the Masters degree of Business Administration (M.B.A.) (Semester pattern) in the Faculty of Commerce, the Management Council is here by pleased to make the following Ordinance. :

1. This Ordinance may be called “Ordinance governing examination of Masters degree of Business Administration (M.B.A.) (Semester pattern) in the Faculty of Commerce, Ordinance, 2005”.
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. The duration of M.B.A. course shall be of Two years consisting Semester – I & II in first year and Semester – III & IV in second year.
4. The Examinations of I, II, III & IV Semester of M.B.A. shall be held twice a year at such places and on such dates as may be fixed by the University.
5. Subject to compliance with the provisions of this ordinance and of other ordinances in force from time to time, an applicant for admission to the examination shall have passed degree examination of Nagpur University or any other recognized University equivalent thereto with 45% aggregate marks for open category and 40% marks aggregate for Backward Class candidates or as notified by the State Government from time to time. Provided that Students admitted through Common Entrance Test (C.E.T.) conducted by Directorate of Technical Education (D.T.E.), Mumbai and fulfilling the eligibility conditions prescribed by the University shall only be admitted for the examination to the Programme.
6. The fees for examination shall be as prescribed by the University from time to time.
7. Applicant for the examination prosecuting a regular course of study leading to the Master’s Degree in Business Administration shall not be permitted to join any other course in this University or any other University simultaneously.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 280, under the draft Ordinance No. 31 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

8. The A.T.K.T. rules shall be as under (Theory and sessionals shall be considered as separate passing heads)

<b>Admission to Semester</b>	<b>Candidate should have passed in all the subjects of following examinations of Nagpur University</b>	<b>Candidate should have passed in all subjects except in FOUR or less numbers of passing heads of the following examination</b>
I Sem.	Degree examination	--
II Sem.	--	Ist semester
III Sem	Ist semester	IInd semester
Final	II nd semester	III rd semester(*)

NOTE: (\*) The candidate admitted to Fourth Semester (Final) shall prosecute his studies, however, he/she shall not be eligible to fill in the Examination form for the Final semester examination unless he clears all the lower examinations.

9. (a) The examinee of Semester – I ( M.B.A.) examination shall be examined in the following subjects namely :

1. Management Process.
2. Managerial Skill Development.
3. Quantitative Methods.
4. Financial Accounting for Managers.
5. Computer Application in M.I.S.
6. Managerial Economics.
7. International Business.
8. Business Legislation.

- (b) An examinee of Semester – II (M.B.A.) examination shall be examined in the following subjects namely :

1. Human Resource Management.
2. Financial Management.
3. Production & Operations Management.
4. Marketing Management.
5. Applied Operations Research – I.
6. Organisational Behaviour & Change Management.
7. Management Accounting.
8. Research Methodology.

- (c) An examinee of Semester – III (M.B.A.) examination shall be examined in the following subjects namely :

1. Export Import Procedures and Documentation.
2. Business Policy and Strategic Analysis.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



3. Cost Accounting.
4. Applied Operations Research – II.
5. Entrepreneurial Development.
6. Environment Management.
7. Technology and R & D Management.
8. Business Ethics.

(d) The candidate of MBA Semester IV Examination shall Offer Any Two of the optional subjects. Each optional subject shall have Two papers of 100 marks each as Below :

1. Financial Management (Paper I & Paper II).
2. Marketing Management. (Paper I & Paper II).
3. Human Resource Development (Paper I & Paper II).
4. Information Technology Management. (Paper I & Paper II)

AND

5. Project Work (From the optional subjects offered).

10. All subjects of Semester I, II, III & IV (other than Project work) should have 3 periods a week of one hour duration each.

11. Each paper of Semester I, II, III & IV (M.B.A.) examination shall carry 100 marks and shall be distributed as under :

	<u>Marks</u>
(1) Written examination	80
(2) Internal assessment	20

Internal assessment marks shall be awarded by the Head of the Department in consultation with the faculty members subject to moderation by H.O.D./Director and shall be based on:

(1) Participation in seminars, case discussions & group work activities	- 5 marks
(2) Class tests, quizzes, individual and group oral presentations.	- 5 marks
(3) Submission of written assignments, term papers and viva-voce.	- 5 marks
(4) Class-room participation and attendance.	- 5 marks
<b>Total</b>	<b>- 20 marks</b>

The weightage given to each of these factors shall be decided and announced at the beginning of the Semester by individual faculty member responsible for the paper.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

12. Project Work will be compulsory for each student appearing at the Semester – IV (M.B.A.) Examination.

(i) Project shall carry 200 marks as follows –

	Marks
➤ Project work ( Evaluation by External Examiner )	: 100
➤ Seminar and open defence evaluation ( By External and Internal Examiner )	: 50
➤ Viva – voce by External & Internal Examiner	: <u>50</u>
	<u>200</u>

(ii) Two copies of Project work (Printed or Type Written) shall be submitted to the University through the Supervisor of the candidate and the Principal / Director / Head of the Institute/Department, at least one month prior to the date of commencement of Semester - IV Examination and one copy is to retained in the College / Department for internal evaluation purpose.

(iii) A Candidate shall submit with his/her project work, a certificate from the Supervisor to the effect –

(a) that the candidate has satisfactorily completed the Project work for not less than one session and

(b) that the Project work is the result of the candidate's own work and is of sufficiently high standard to warrant its presentation for examination.

(iv) Candidate shall submit his declaration that the Project is the result of his own research work and the same has not been previously submitted to any examination of this University or any other University. The Project shall be liable to be rejected and / or cancelled if found otherwise.

(v) The Project work shall be evaluated through seminar and open defense and Viva-voce at the College / Department by internal and external examiners appointed by the university after Semester – IV Examination.

(vi) A Student appearing for M.B.A. Semester IV examination will have to pay an additional fee of Rs. 500/- for Project in addition to usual examination fees.

13. The scope of the subject, percentage of passing in theory and project and Internal assessment will be governed as per following rules :

(i) In order to pass at the Semester I, II, III & IV examinations an examinee shall obtain not less than 50 % marks in each head of passing of every paper, that is to say separately in the written examination, in internal assessment and in three heads of passing of project Work.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

- (ii) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.
  - (iii) An examinee who has failed at the Sessional examination only shall be required to register himself afresh for doing the sessional work again in the Department / College in the subject/subjects/project work in which he has failed on payment of fresh sessional fee of Rs. 500/- per paper. Such registration shall be done on or before the beginning of the respective Semester. The Director shall on being satisfied about the completion of the sessional work of such a candidate send the fresh sessional marks to the University and these fresh sessional marks shall be taken into consideration for computing his/her result at the examination.
  - (iv) There shall be no classification of successful examinees at the Semester I, II, & III examinations.
  - (v) Successful examinees obtaining 60% or more marks in the aggregate of Semester I, II, III & IV examinations taken together i.e. out of 3000 marks shall be placed in the First Division and those obtaining less than 60% but not less than 50% in the Second Division.
  - (vi) Provision of Direction No. 9 of 2002 governing the award of grace marks for passing an examination, securing higher division/class and for securing distinction in the subjects shall apply to the examination.
  - (vii) No person shall be admitted to this examination, if he has already passed the same examination or an examination of any other statutory University (which has been recognised as equivalent to that examination).
  - (viii) Examinee successful at the Semester I, II, III & IV examinations shall, on payment of the prescribed fee, receive a Degree in the prescribed form signed by the Vice-Chancellor.
14. The Direction 4 of 2000 governing the Examinations leading to award of Master degree in Business Administration in the Faculty of Commerce shall stand repealed in a phasic manner.
15. Upon promulgation of this Ordinance, Direction No. 12 of 2002, shall stand repealed.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**STATEMENT OF OBJECT & REASONS**

In order to incorporate a Master's course in the speciality of Business Administration, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 15 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 280 considered & approved the Ordinance No. 23 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

**APPENDIX – A**

Semester – I (M. B. A.) Examination

Subject	Paper	Maximum Marks	Minimum Marks	
(1) Management Process	Paper	80	100	50
	Internal Assessment	20		
(2) Managerial Skill Development	Paper	80	100	50
	Internal Assessment	20		
(3) Quantitative Methods	Paper	80	100	50
	Internal Assessment	20		
(4) Financial Accounting for Managers	Paper	80	100	50
	Internal Assessment	20		
(5) Computer Application in M.I.S.	Paper	80	100	50
	Internal Assessment	20		
(6) Managerial Economics	Paper	80	100	50
	Internal Assessment	20		
(7) International Business	Paper	80	100	50
	Internal Assessment	20		
(8) Business Legislation	Paper	80	100	50
	Internal Assessment	20		

*[Signature]*  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

## APPENDIX – B

## Semester – II (M. B. A.) Examination

Subject	Paper	Maximum Marks	Minimum Marks
(1) Human Resource Management	Paper	80	50
	Internal Assessment	20	
(2) Financial Management	Paper	80	50
	Internal Assessment	20	
(3) Production & Operations Management	Paper	80	50
	Internal Assessment	20	
(4) Marketing Management	Paper	80	50
	Internal Assessment	20	
(5) Applied Operations Research - I	Paper	80	50
	Internal Assessment	20	
(6) Organisational Behaviour & Change Management	Paper	80	50
	Internal Assessment	20	
(7) Management Accounting	Paper	80	50
	Internal Assessment	20	
(8) Research Methodology	Paper	80	50
	Internal Assessment	20	

**APPENDIX – C**  
Semester – III (M. B. A.) Examination

Subject	Paper	Maximum Marks	Minimum Marks
(1) Export Import Procedures & Documentations	Paper	80	100
	Internal Assessment	20	
(2) Business Policy & Strategic Analysis	Paper	80	100
	Internal Assessment	20	
(3) Cost Accounting	Paper	80	100
	Internal Assessment	20	
(4) Applied Operations Research – II	Paper	80	100
	Internal Assessment	20	
(5) Entrepreneurial Development	Paper	80	100
	Internal Assessment	20	
(6) Environment Management	Paper	80	100
	Internal Assessment	20	
(7) Technology and R & D Management	Paper	80	100
	Internal Assessment	20	
(8) Business Ethics	Paper	80	100
	Internal Assessment	20	

## APPENDIX – D

**Semester – IV (M. B. A.) Examination**

The Candidate Of Semester IV (M.B.A.) Examination shall offer any TWO of the Optional Subjects.  
Each Optional Subject shall have TWO Papers as below:

Subject	Paper	Maximum Marks	Minimum Marks
<b>(1) FINANCIAL MANAGEMENT :</b>			
(a) Financial Management (Paper – I )	Paper	80	} 100
	Internal Assessment	20	
(b) Financial Management (Paper – II )	Paper	80	} 100
	Internal Assessment	20	
<b>(2) MARKETING MANAGEMENT :</b>			
(a) Marketing Management (Paper – I)	Paper	80	} 100
	Internal Assessment	20	
(b) Marketing Management (Paper – II)	Paper	80	} 100
	Internal Assessment	20	
<b>(3) HUMAN RESOURCE DEVELOPMENT:</b>			
(a) Human Resource Development (Paper – I )	Paper	80	} 100
	Internal Assessment	20	
(b) Human Resource Development ( Paper – II )	Paper	80	} 100
	Internal Assessment	20	
<b>(4) INFORMATION TECHNOLOGY MANAGEMENT :</b>			
(a) Information Technology Management ( Paper – I )	Paper	80	} 100
	Internal Assessment	20	
(b) Information Technology Management ( Paper – II )	Paper	80	} 100
	Internal Assessment	20	

**AND**

**Final Project (From the Optional Subjects offered ) of 200 Marks.**

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 24 OF 2006**

**ORDINANCE GOVERNING EXAMINATIONS LEADING TO THE DEGREE OF  
BACHELOR OF COMMERCE (COMPUTER APPLICATION)  
IN THE FACULTY OF COMMERCE**

**Whereas** it is expedient to provide for an Ordinance for the examinations leading to the degree of Bachelor of Commerce (Computer Application) in the Faculty of Commerce, the Management Council is hereby pleased to make the following Ordinance. :

1. This Ordinance may be called "Ordinance to provide for examinations leading to the degree of Bachelor of Commerce (Computer Application) in the Faculty of Commerce, 2005".
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. There shall be three examinations leading to the degree of Bachelor of Commerce (Computer Application) namely:
  - ( 1 ) the B. Com. (Computer Application) Part – I Examination,
  - ( 2 ) the B. Com. (Computer Application) Part – II Examination and
  - ( 3 ) the B. Com (Computer Application) final Examination.
4. The duration of the degree course shall be of three academic years with the B. Com. Part – I examination at the end of the first academic year, the B. Com. Part – II examination at the end of the second year and the B. Com. final examination at the end of the third year.
5. The examinations specified in paragraph 3 above shall be held twice a year at such places and on such dates as may be fixed by the university.
6. The details of procedure for admission as well as eligibility for examination of:-

(A) The B. Com. (Computer Application) Part – I examination shall have:

Passed the 12<sup>th</sup> standard examination of the Maharashtra State Board of Secondary and Higher Secondary Education, with English at higher or Lower level and Modern Indian Language at higher or lower level with any combination of optional subjects;

**OR**

XII standard Examination of Maharashtra State Board of Secondary and Higher Secondary Education in vocational stream with one language only;

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No.281, under the draft Ordinance No. 32 of 2005.]

*[Signature]*  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur



**OR**

Any other examination recognized as equivalent thereto in such subjects and with such standards of attainments as may be prescribed

- (B) The B. Com. (Computer Application) Part – II Examination shall have passed B. Com. (Computer Application) Part – I examination of the university.
- (C) B. Com. (Computer Application) final examination shall have passed B. Com. (Computer Application) Part–II examination of the university.
7. A collegiate candidate shall have pursued a regular course of study for not less than one academic year before being admitted to B. Com. (Computer Application) Part–I or the B. Com. (Computer Application) Part–II or the B. Com. (Computer Application) final examination in any recognized institution and or college affiliated to Nagpur University where the course is conducted.
8. An applicant for the B. Com. (Computer Application) Part – I or the B. Com. (Computer Application) Part – II or the B. Com. (Computer Application) final Examination shall have passed an examination specified in clauses (A), (B) and (C) of paragraph 6 respectively, not less than one academic year prior to his admission to the respective examination.
9. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said ordinance shall apply to every collegiate candidate.
10. The fees for the examination shall be as prescribed by the University from time to time.
11. (A) An examinee for the B. Com. (Computer Application) Part – I examination shall be examined in the following subjects, namely
- (a) Commerce Group:**
1. English & Business Communication.
  2. Principles of Business Management.
  3. Basic Economics & Business Environment.
  4. Financial Accounting.
- (b) Computer Application Group:**
5. Information Systems.
  6. Information Technology – I.

(B) An examinee for the B. Com (Computer Application) Part – II examination shall be examined in the following subjects :

**(a) Commerce Group:**

1. Cost & Management Accounting.
2. Statistics & Quantitative Techniques.

**(b) Computer Application Group:**

3. Software Development Methodology.
4. Internet and Electronic Commerce.
5. Database Management System.
6. Front End Development.

(C) An Examinee for B. Com. (Computer Application) final examination shall be examined in the following subjects :

**(a) Commerce Group:**

1. Business Laws.
2. Taxation and Auditing.

**(b) Computer Application Group:**

3. Software Product and Project Management.
4. Programming Skills.
5. Computerized Accounting.
6. Project.

12. (A) The scope of the subjects and pattern of examination shall be as indicated in syllabi

(B) The Medium of instructions and examinations shall be in ENGLISH only.

13. The maximum and minimum marks which each subject carries in B. Com (Computer Application) Part- I, Part- II and final examination shall be as indicated in Appendices “A”, “B”, and “C” respectively.

14. (a) There shall be no classification of examinees successful at the B. Com. (Computer Application) Part – I and B. Com. (Computer Application) Part– II examinations.

(b) Division at the B. Com. (Computer Application) final examination shall be declared on the basis of the aggregate marks at the B. Com. (Computer Application) Part–I examination, the B.Com. (Computer Application) Part–II examination and the final examination taken together.

(c) Successful examinees at the B. Com. (Computer Application) Part – I, Part–II and final examinations taken together and obtaining 60 % or more marks in the aggregate shall be placed in the first division, those obtaining less than 60 % but more than 45 % and above in the second division.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

15. Successful examinees in the B. Com. (Computer Application) Part – I , Part – II and final examinations shall be awarded Distinction in each subject of the respective group in which examinees obtain 75% or more marks in that subject at the respective examination.
16. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.
17. Provisions of Direction 9 of 2002 relating to the award of Grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) as amended up-to-date shall apply to the examinations under this Ordinance.
18. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to an examination, if he/she has already passed the same examination of this university or an equivalent examination of any other university.
19. Examinees successful at B. Com. final examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.
20. The ordinance No. 1 of 93 governing the existing course for Bachelor of Commerce (Computer Application) stand repealed physically on issuance of this Ordinance.
21. Upon promulgation of this Ordinance, Direction No. 16 of 2002, shall stand repealed.

#### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Bachelor's course in the speciality of Computer Application, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 16 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 281 considered & approved the Ordinance No. 24 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

APPENDIX – A

B. Com. (Computer Application) Part – I Examination

Subject	Paper	Max. Marks	Min. Marks
<b>(A) COMMERCE GROUP:</b>			
1. English & Business Communication	Paper	100	40
2. Principles of Business Management	Paper	100	40
3. Basic Economics & Business Environment	Paper	100	40
4. Financial Accounting	Paper	100	40
<b>(B) COMPUTER APPLICATION GROUP:</b>			
5. Information Systems	Paper	70	28
	Practical	30	
		}100	}40
6. Information Technology – I	Paper	70	28
	Practical	30	
		}100	}40

**Note:- Practical Examination:** At the time of Nagpur University Practical Examination a student is expected to perform TWO Practicals based on syllabus of respective papers. The distribution of marks for Practical examination will be as under:

	<b>Marks</b>
(a) Practical Record	06
(b) Practical ( P1 ) ( with Execution )	09
(c) Practical ( P2 )	06
(d) Viva	09
<b>Total</b>	----- 30 -----

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

APPENDIX – B

B. Com. (Computer Application) Part – II Examination

Subject	Paper	Max. Marks	Min. Marks
<b>(A) COMMERCE GROUP:</b>			
1. Cost & Management Accounting.	Paper	100	40
2. Statistics & Quantitative Techniques.	Paper	100	40
<b>(B) COMPUTER APPLICATION GROUP:</b>			
3. Software Development Methodology.	Paper	100	40
4. Internet & Electronics	Commerce Paper	70	28
	Practical	30	
		} 100	} 40
5. Database management System	Paper	70	28
	Practical	30	
		} 100	} 40
6. Front End Development	Paper	70	28
	Practical	30	
		} 100	} 40

**Note:- Practical Examination:** At the time of Nagpur University Practical Examination a student is expected to perform TWO Practicals based on syllabus of respective papers. The distribution of marks for Practical examination will be as under:

	<b>Marks</b>
(a) Practical Record	06
(b) Practical ( P1) ( with Execution )	09
(c) Practical ( P2 )	06
(d) Viva	09
<b>Total</b>	----- 30 -----

  
 20/03/2021  
 Off. Principal,  
 S.S. Maniar College, Nagpur

APPENDIX – C

**B. Com. (Computer Application) Part – III Examination**

Subject	Paper	Max. Marks	Min. Marks
<b>(A) COMMERCE GROUP:</b>			
1. Business Laws	Paper	100	40
2. Taxation and Auditing	Paper	100	40
<b>(B) COMPUTER APPLICATION GROUP:</b>			
3. Software Product and Project Management.	Paper	100	40
4. Programming Skills.	Paper	70	28
	Practical	30	
5. Computerised Accounting.	Paper	70	28
	Practical	30	
6. Project	-----	100	50

**Note:- Practical Examination:** At the time of Nagpur University Practical Examination a student is expected to perform TWO Practicals based on syllabus of respective papers. The distribution of marks for Practical examination will be as under:

	Marks
(a) Practical Record	06
(b) Practical ( P1) ( with Execution )	09
(c) Practical ( P2 )	06
(d) Viva	09
<b>Total</b>	----- 30 -----

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**THE FOLLOWING NORMS WOULD BE APPLICABLE TO IMPLEMENTATION OF THE PROGRAMME BACHELOR OF COMMERCE (COMPUTER APPLICATION) IN THE FACULTY OF COMMERCE**

**A. Teaching Schedule:**

**1. For Theory Papers:**

4 periods per week per paper of Theory subject @ 45 Min. / period.

**2. For Practical and Project:**

5 periods (3.45 Hrs.) practical per week per batch of 2 students on one computer.

**B. Infrastructure required for Bachelor of Commerce (Computer Application) in the faculty of Commerce.**

1. PC / XT, 1PC / AT for batch of 20 students.
2. 1 Printer of 132 column per batch of 20 students.

**Note: Computer systems given above should be multiplied proportionately for every additional batch of 20 students.**

3. Software and language packages included in the syllabus.
4. Separate Computer Laboratory with electric fitting, Air conditioner, adequate furniture and an Internet Connection.

**C. Qualification of Teachers:**

1. For teaching Commerce subjects and Languages.  
Qualifications prescribed by the University.
2. For Teaching Theory Papers of Computer subjects and conducting Practicals and Project Work.  
MCA or MCM or Master's Degree in any faculty and Post Graduate Diploma in Computer Application of any statutory University or Engineering Graduates / Science Post Graduates with related and appropriate expertise & experience in concerned subjects.

\*\*\*\*\*

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 25 OF 2006**

**ORDINANCE GOVERNING EXAMINATIONS LEADING TO THE DEGREE OF MASTER OF COMMERCE IN THE FACULTY OF COMMERCE**

Whereas it is expedient to provide for an Ordinance governing the examinations leading to the degree of Master of Commerce in the Faculty of commerce, the Management Council is hereby pleased to make the following Ordinance. :

1. This Ordinance may be called "Ordinance to provide for examinations leading to the degree of Master of commerce in the Faculty of Commerce, 2005".
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. The duration of the course shall be of two academic years with the M. Com. Part-I examination at the end of the first academic year and the M. Com. Part – II examination at the end of the second academic year.
4. The Examinations Specified in paragraph 3 above shall be held twice a year at such places and on such dates as may be appointed by the University.
5. Subject to compliance with the provisions of this Ordinance and of other ordinances in force from time to time a candidate for admission to the examination shall :

**(A) In the case of M. Com. Part – I Examination :**

- (i) have been admitted to the Degree of Bachelor of Commerce of the University or an equivalent degree of a statutory university, and
- (ii) have prosecuted a regular course of study for not less than one academic year in the subjects in which he offers himself for the M.Com. Part-I examination.

**(B) In the case of M. Com. Part – II Examination :**

Have been admitted to the Degree of Bachelor of Commerce and, have since passing the Part – I examination, prosecuted a regular course of study for not less than one academic year in the subjects which he offers for the Part – II examination.

6. Without prejudice to the other provisions of ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said ordinance shall apply to every collegiate candidate.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No.282, under the draft Ordinance No. 33 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur



7. The fees for the examination shall be as prescribed by the University from time to time.
8. Every examinee for the examination shall be examined in the following subjects :

(A) An examinee for M. Com. Part-I examination shall be examined in ANY THREE subjects from the Selective Group ( Group – A ) and one subject from Specialisation Group (Group – B ).

**GROUP – A ( Selective Group ):** Any Three subjects from the followings –

1. Management Concepts and Organizational Behaviour.
2. Advanced Financial Accounting.
3. Managerial Economics.
4. Business Taxation & Tax planning.
5. E – Commerce.
6. Marketing management.
7. Advanced Cost Accounting.

**GROUP– B (Specilisation Group) :** Any One subject from the followings

**Group I – Specialisation in Finance**

- (a) Finance - I ( Financial Institutions & Markets ),
- (b) Finance – II ( Security Analysis & Port folio Management ).

**Group II – Specialisation in Marketing**

- (a) Advertising, Sales Management & Marketing Research,
- (b) International Marketing.

**Group III - Specialisation in International Business.**

- (a) International Business Environment & Marketing,
- (b) Foreign Trade Policy and Procedures & Documentation.

- (B) An examinee for M. Com. Part-II examination shall be examined in ANY THREE subjects from the Selective Group (Group-A) and one subject from Specialization Group (Group-B) as selected in M. Com. Part – I examination.

**GROUP – A ( Selective Group ):**

Any **THREE** subjects from the following **OR** any **TWO** subjects & Dissertation :

1. Business Environment. ( Domestic and International ).
2. Banking and Insurance – Law and Practice.
3. Advanced Management Accounting.
4. Computer Application in Business.
5. Financial Management.
6. Statistical Analysis.
7. Operations Research.
8. Dissertation.

A student who opts for Dissertation will select the topic from the specialisation group offered by him.

**GROUP – B ( Specialisation Group ) :**

Paper – II from the group selected in M. Com. Part – I examination.

Provided further that every examinee shall be examined in the paper selected from specialisation group as has been offered in the M. Com. Part-I examination.

(C) The maximum marks which each paper shall carry and the minimum marks which an examinee must obtain in order to pass the examination shall be as given in Appendix – “A” and “B”.

9. In M. Com. Part-II examination, if a candidate opts dissertation he/she will have to :
- (a) Submit TWO copies of dissertation (Printed or Type Written) to the University through the supervisor / guide of the candidate before end of February.
- (b) A candidate who opt dissertation shall submit with his/her dissertation, a certificate from the supervisor to the effect –
- (i) that the candidate has satisfactorily completed the dissertation for not less than one session and
- (ii) that the dissertation is the result of the candidate's own work and is of sufficiently high standard to warrant its presentation for examination.
10. The dissertation shall be evaluated by the external examiner appointed by the university.
11. (A) The scope of the subjects shall be as indicated in the syllabus.
- (B) The question papers in the subjects Advanced Financial Accounting, Business Taxation & Tax planning, Advanced Cost Accounting, Advanced Management Accounting, Statistical Analysis and Operations Research at any of the examination for the M. Com. Degree will be set in ENGLISH / MARATHI / HINDI. However, the practicals / numericals will be set in ENGLISH only. The students of Marathi / Hindi medium will have the option to attempt the theory part in MARATHI / HINDI and practical problems / numericals in ENGLISH only.
12. An examinee at the (M. Com. Part-I or M. Com. Part-II) examination shall have option of being not declared successful at the examination in case he/she does not secure a minimum of second division or 55% marks at the examination. The option shall have to be exercised every time an application is submitted to either of the two examinations, and shall be on the Proforma printed on the application form itself. Once exercised the option shall be binding upon the examinee, and shall not be revoked under any circumstances.

  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

13. (a) There shall be no classification of successful examinees at the M. Com. Part-I examination.  
  
(b) Division at the M. Com. Part-II examination shall be declared on the basis of the aggregate marks secured at the M. Com. Part-I and M. Com. Part-II examinations taken together. Successful examinees obtaining 60% or more marks in the aggregate of Part-I and Part-II examinations taken together i.e. out of 800 marks shall be placed in the First division, those obtaining less than 60% but more than 45% in the Second division and all other successful examinees in the Third division.  
  
(c) Successful examinees in the M. Com. Part-I and M. Com. Part-II examinations shall be awarded Distinction in each subject in which examinee obtain 75 % or more marks in that subject at the respective examination.
14. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.
15. Provisions of Direction 9 of 2002 relating to the award of Grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) shall apply to the examination under this Ordinance.
16. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to an examination under this ordinance, if he has already passed the same examination or an equivalent examination of any other University.
17. Examinees successful at M. com. Part – II examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.
- 18.. The ordinance No. 68 governing the existing course for Master of Commerce shall stand repealed physically on issuance of this Ordinance.
19. Upon promulgation of this Ordinance, Direction No. 17 of 2002, shall stand repealed.

#### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Master's course in the speciality of Commerce, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 17 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 282 considered & approved the Ordinance No. 25 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

APPENDIX – A  
M. Com. Part – I Examination

Subject	Paper	Max. Marks	Min Marks
Group –A (Selective Group) :			
Any <b>THREE</b> papers from the followings:			
1. Management Concept & Organisational Behaviour	Paper	100	40
2. Advanced Financial Accounting	Paper	100	40
3. Managerial Economics	Paper	100	40
4. Business Taxation & Tax Planning	Paper	100	40
5. E – Commerce	Paper	100	40
6. Marketing Management	Paper	100	40
7. Advanced Cost Accounting	Paper	100	40
<b>Group – B ( Specilisation Group ):</b>			
Paper - I from any Specilisation Group as mentioned under Para 7 (A) of the Direction.			
	Paper	100	40

APPENDIX – B  
M. Com. Part – II Examination

Subject	Paper	Max. Marks	Min Marks
Group –A ( Selective Group ):			
Any <b>THREE</b> papers <b>OR</b>			
Any <b>TWO</b> papers & <b>Dissertation</b> from the followings:			
1. Business Environment (Domestic and International )	Paper	100	40
2. Banking & Insurance – Law & Practice	Paper	100	40
3. Advanced Management Accounting	Paper	100	40
4. Computer Application in Business	Paper	100	40
5. Financial Management	Paper	100	40
6. Statistical Analysis	Paper	100	40
7. Operations Research	Paper	100	40
8. Dissertation	-----	100	40
<b>Group – B ( Specilisation Group ):</b>			
Paper - II from the specilisation Group selected in M. Com. – I Examination as mentioned under Para 7 (A) of the Direction.			
	Paper	100	40

**\* ORDINANCE NO. 26 OF 2006**

**ORDINANCE GOVERNING THE EXAMINATIONS LEADING TO THE DEGREE  
OF BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.)  
IN THE FACULTY OF COMMERCE**

Whereas it is expedient to provide for an Ordinance governing the examinations leading to the degree of Bachelor of Business Administration (B.B.A.) in the Faculty of Commerce, the Management Council is hereby pleased to make the following Ordinance. :

1. This Ordinance may be called "Ordinance governing the examinations leading to the degree of Bachelor of Business Administration (B.B.A.) in the Faculty of Commerce, 2005".
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. There shall be three examinations leading to the degree of Bachelor of Business Administration namely :-
  - (1) the bachelor of business administration part – i examination,
  - (2) the bachelor of business administration part – ii examination, and
  - (3) the bachelor of business administration final examination.
4. the duration of the degree course shall be of three academic years with the b.b. a. part – i examination at the end of the first academic year, the b.b.a. part – ii examination at the end of the second year and b.b.a. final examination at the end of the third year.
5. the examinations specified in paragraph 3 above shall be held twice a year at such places and on such dates as may be fixed by the university.
6. the details of the procedure for admission as well as eligibility :
  - (A) for the bachelor of business administration part – i examination the student shall have passed the 12<sup>th</sup> standard examination of the maharashtra state board of secondary and higher secondary education, with english at higher or lower level and modern indian language at higher or lower level with any combination of optional subjects or of any other board equivalent to it.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 283, under the draft Ordinance No. 36 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

xii standard examination of maharashtra state board of secondary and higher secondary education in vocational stream with one language only; or any other examination recognized as equivalent there to, in such subjects and with such standards of attainments as may be prescribed or minimum competition vocation course (mcvc).

- (B) for the bachelor of business administration part – ii examination the student shall have passed bachelor of business administration part – i examination of the university.
- (C) For the Bachelor of Business Administration final examination the student shall have passed Bachelor of Business Administration Part – II examination of the university.
7. A collegiate candidate shall have pursued a regular course of study for not less than one academic year before being admitted to Part – I or Part – II or final examination in any recognized institution and or college affiliated to R.T.M. Nagpur University where the course is conducted.
8. An applicant for Part – I or Part – II or Final examination shall have passed an examination specified in clauses (A), (B) and (C) of paragraph 6 respectively, not less than one academic year prior to his admission to the respective examination.
9. Without prejudice to the other provisions of ordinance No. 6 relating to the Examinations in General, the provisions of paragraphs 5, 7, 8, 10, 26 and 31 of the said ordinance shall apply to every collegiate candidate.
10. The fees for the examination shall be as prescribed by the university from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.
11. (A) An examinee for the Part – I examination shall be examined in the following subjects, namely :-
1. English,
  2. Principles of Management,
  3. Business Economics,
  4. Foundations of Human Skills & Cultural Heritage,
  5. Financial and Cost Accounting,
  6. Computer Applications for Business, and
  7. Statistical Methods for Business.
- (B) An examinee for the Part – II examination shall be examined in the following subjects :-
1. Effective Communication,
  2. Principles of Marketing Management,

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

3. Human Resources Management,
4. Production and Materials Management,
5. Management Accounting and Financial Management,
6. Business and Industrial laws, and
7. Environment Management.

(C) An examinee for the final examination shall be examined in the following subject :-

1. Entrepreneurship Development,
2. Service Sector Management,
3. Logistics Management,
4. Retail Sales Management,
5. Elective Subject (Any One of Following)
  - (a) Financial Management,
  - (b) Human Resource Management,
  - (c) Marketing Management,
  - (d) Family Business Management.

AND

**6. Project Work (From the elective subjects offered)**

Project shall carry 100 marks as follows –

	Marks
# Project work (evaluation by external examiner)	:50
# Viva-voce by external & internal examiner	:50
	<u>100</u>

12. Each paper of B.B.A. Part-I, II and final examination shall carry 100 marks and shall be distributed as under :-

	<u>Marks</u>
(1) Written examination	80
(2) Internal assessment	20

(a) internal assessment marks shall be awarded by the head of the institution/ principal in consultation with the faculty members subject to moderation by h.o.d./director and shall be based on :-

- (1) participation in seminars, case discussions & group work activities.
- (2) class tests, quizzes, individual and group oral presentations.
- (3) submission of written assignments, term papers and viva-voce.
- (4) class-room participation and attendance.

The weightage given to each of these factors shall be decided and announced at the beginning of the session by individual faculty member responsible for the paper.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

13. (A) the scope of the subjects and pattern of examination shall be as indicated in syllabi;

(B) the medium of instruction and examinations shall be **english** only. the maximum and minimum marks which each subject carries in part- i, part- ii and final examination shall be as indicated in appendices “a”, “b”, and “c” respectively.

(C) all subjects of b.b.a. part- i, ii & final (other than project work) should have 4 periods a week of 45 minutes duration each.

14. Project work compulsory for each student appearing at the final examination.

(i) two copies of project work (printed or type written) shall be submitted to the university through the supervisor of the candidate and the principal/ director/ head of the institute/ department, at least one month prior to the date of commencement of final examination and one copy is to be retained in the college / department for internal evaluation purpose.

(ii) a candidate shall submit with his/her project work, a certificate from the supervisor to the effect –

(a) that the candidate has satisfactorily completed the project work for not less than one session and

(b) that the project work is the result of the candidate’s own work and is of sufficiently high standard to warrant its presentation for examination.

(iii) Candidate shall submit his declaration that the project is the result of his own research work and the same has not been previously submitted to any examination of this university or any other university. the project shall be liable to be rejected and / or cancelled if found otherwise.

(iv) The project work shall be evaluated through evaluation by external examiner and Viva-voce at the college/ department by internal and external examiner **after** Bachelor of Business Administration (B.B.A.) final examination.

(v) A student appearing for final examination will have to pay an additional fee as prescribed for project in addition to usual examination fees. The fees may be revised by the university from time to time.

15. The scope of the subject, percentage of passing in theory and project and internal assessment will be governed as per following rules :-

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



- (i) In order to pass at the Part – I, II and final examinations an examinee shall obtain not less than 40% marks in each head of passing of every paper, that is to say separately in the written examination, in internal assessment and in three heads of passing of project work.
  - (ii) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.
  - (iii) An examinee who has failed at the sessional examination only shall be required to register himself afresh for doing the sessional work again in the department / college in the subject/subjects/project work in which he has failed on payment of fresh annual sessional fee as prescribed per paper. such registration shall be done on or before the beginning of the respective session. the director / principal shall on being satisfied about the completion of the sessional work of such a candidate send the fresh sessional marks to the university and these fresh sessional marks shall be taken into consideration for computing his / her result at the examination.
16. (a) There shall be no classification of examinees successful at the part- 1 and part- ii examinations.
  - (b) Division for the Bachelor of Business Administration examination shall be declared on the basis of the aggregate marks at the Part – I, Part – II and final examinations taken together.
  - (c) Successful examinees at the Part – I, Part – II and final examinations taken together and obtaining 60% or more in the aggregate shall be placed in the first division, those obtaining less than 60% but not less than 45% in the second division.
17. Successful examinees in the Part – I, Part – II and final examination taken together shall be awarded distinction in each subject of the respective group in which examinee obtains 75% or more marks in that subject at the respective examination.
  18. Unsuccessful examinees at the above examinations can be readmitted to the same examination on payment of a fresh fee and such other fees as may be prescribed.
  19. Provisions of Direction 9 of 2002 as updated from time to time relating to the award of grace marks for passing an examination, securing higher division/class and for securing distinction in subject (s) and of ordinance 10 relating to grant of exemptions and compartment vide ordinance No. 45 of 1983 as amended up-to-date shall apply to the examinations under this Ordinance.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

20. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to an examination under this Ordinance, if he/she has already passed the same examination or an equivalent examination of any other university.
21. Examinees passing the B.B.A. examination shall on payment of the prescribed fees receive a degree in the prescribed form signed by the Vice-Chancellor.
22. Upon promulgation of this Ordinance, Direction No. 10 of 2004, shall stand repealed.

#### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Bachelor's course in the speciality of Business Administration, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 20 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 283 considered & approved the Ordinance No. 26 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX – A**

**BACHELOR OF BUSINESS ADMINISTRATION PART – I EXAMINATION**

<b>SUBJECT</b>	<b>PAPER</b>	<b>MAXIMUM MARKS</b>	<b>MINIMUM MARKS</b>
1. ENGLISH	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
2. PRINCIPLES OF MANAGEMENT	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
3. BUSINESS ECONOMICS	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
4. FOUNDATION OF HUMAN SKILLS AND CULTURAL HERITAGE	PAPER 80 Internal Assessment 20	100	32 40 08
5. FINANCIAL AND COST ACCOUNTING	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
6. COMPUTER APPLICATION FOR BUSINESS	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
7. STATISTICAL METHODS FOR BUSINESS	PAPER 80 Internal Assessment 20	100	32 40 08

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX – B**

**BACHELOR OF BUSINESS ADMINISTRATION PART – II EXAMINATION**

<b>SUBJECT</b>	<b>PAPER</b>	<b>MAXIMUM MARKS</b>	<b>MINIMUM MARKS</b>
1. EFFECTIVE COMMUNICATION	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
2. PRINCIPLES OF MARKETING MANAGEMENT	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
3. HUMAN RESOURCES MANAGEMENT	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
4. PRODUCTION & MATERIALS MANAGEMENT	PAPER 80 Internal Assessment 20	100	32 40 08
5. MANAGEMENT ACCOUNTING AND FINANCIAL MANAGMENT	PAPER 80 Internal Assessment 20	100	32 40 08
6. BUSINESS AND INDUSTRIAL LAWS	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
7. ENVIRONMENT MANAGEMENT	PAPER 80 Internal Assessment 20	100	32 40 08

*[Signature]*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**APPENDIX – C**

**BACHELOR OF BUSINESS ADMINISTRATION PART – III EXAMINATION**

<b>SUBJECT</b>	<b>PAPER</b>	<b>MAXIMUM MARKS</b>	<b>MINIMUM MARKS</b>
1. ENTREPRENEURSHIP DEVELOPMENT	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
2. SERVICE SECTOR MANAGEMENT	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
3. LOGISTICS MANAGEMENT	PAPER 80 Assessment 20	100	32 40 INTERNAL 08
4. RETAIL SALES MANAGEMENT	PAPER 80 Internal Assessment 20	100	32 40 08
5. ELECTIVE SUBJECT (From any One from the following)	PAPER 80 Internal Assessment 20	100	32 40 08
<b>ELECTIVE SUBJECTS :</b>	(A) FINANCIAL MANAGEMENT (b) Human Resource Management (c) Marketing Management (d) Family Business Management.		
<b>AND</b>			
<b>FINAL PROJECT (FROM THE ELECTIVE SUBJECT OFFERED) OF 100 MARKS.</b>			

*Handwritten signature*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 27 OF 2006**

**ORDINANCE GOVERNING THE EXAMINATION LEADING TO THE DIPLOMA IN BUSINESS MANAGEMENT ( D. B. M. ). IN THE FACULTY OF COMMERCE**

Whereas it is expedient to provide for an Ordinance governing the Examination leading to the Diploma in Business Management ( D. B. M. ). in the Faculty of Commerce , the Management Council is hereby pleased to make the following Ordinance. :

1. This Ordinance may be called “Ordinance to provide for the examination leading to the Diploma in Business Management (D.B.M.). in the Faculty of Commerce, 2005”.
2. This Ordinance shall come into force with effect from the date of its approval by the Management Council.
3. There shall be ONE examination leading to the Diploma in Business Management namely :

The Diploma in Business Management Examination.

4. The duration of the Diploma Course under this shall be of one academic year.
5. The Examinations leading to the course of the Diploma in Business Management shall be held twice a year at such places and on such dates as may be fixed by the University.
6. The details of the procedure for admission as well as eligibility for examination of the Diploma in Business Management is :

An applicant shall have :

- (i) Obtained any graduate degree of this University or any other Statutory university; or
- (ii) Obtained a professional the Diploma or a Certificate from any one of the following Institutions, namely:
  - a. The Institute of Chartered Accountants of India.
  - b. The Institute of Cost and Works Accountants of India.
  - c. The Indian Institute of Bankers.
  - d. The Institute of Company Secretaries: and
  - e. Any other Institute which may be recognised for this purpose by the University.

---

\*Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 284, under the draft Ordinance No. 38 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

- (iii) Prosecuted a regular course of study for not less than one academic year in any recognized institution or college affiliated to the R.T.M. Nagpur University where the course will be conducted.

**Note :** In every Institution/Department the admission to the course should be finalised in the following manner :

1. Written Test.
  2. Group Discussion and
  3. Personal Interview.
7. Without prejudice to the other provisions of Ordinance No. 6 relating to the Examinations in General, the provisions of Paragraphs 5, 7, 8, 10, 26 and 31 of the said Ordinance shall apply to every collegiate candidate.
8. The fees for the examination shall be as prescribed by the university from time to time and whenever any change is made in the fees prescribed for any particular examination that shall be notified through a notification for information of the examinees concerned.
9. **(a)** An examinee for the Diploma in Business Management Examination shall be examined in the following subjects,

<b>Subject</b>	<b>Marks</b>
1. Business Environment and Management Principles.	100
2. Management Accounting and Financial Management	100
3. Marketing and Sales Management	100
4. Personal and Human Resource Management	100
5. Business Research Methods and Computing Techniques	100
6. Project work ( Based on Functional Area (S) of Management ).	100
Total	600

**( All papers and Project are compulsory. )**

**(b)** The 100 marks shall be distributed for each paper as follows :

- (i) Written Examination 80 Marks.
- (ii) Internal Assessment 20 Marks.

Project shall carry 100 marks as follows –

- |   | Marks       |
|---|-------------|
| ➤ <b>Project work ( Evaluation by External Examiner )</b> | <b>: 50</b> |
| ➤ <b>Viva – voce by External &amp; Internal Examiner</b>  | <b>: 50</b> |
|   | <b>100</b>  |

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

**Note :** Internal assessment Marks shall be awarded by the Head of the Institution/Department in consultation with the teachers and shall be based on :

- a) Sessional Examination.
- b) Field Visits.
- c) Assignments and term report.
- d) Class-room participation and attendance.

10. Project Work will be compulsory for each student appearing at the Diploma in Business Management Examination.
  - (i) Two copies of Project work (Printed or Type Written) shall be submitted to the University through the Supervisor of the candidate and the Principal / Director / Head of the Institute/Department, at least one month prior to the date of commencement of Examination and one copy is to be retained in the College / Department for internal evaluation purpose.
  - (ii) A Candidate shall submit with his/her project work, a certificate from the Supervisor to the effect –
    - (a) that the candidate has satisfactorily completed the Project work for not less than one session and
    - (b) that the Project work is the result of the candidate's own work and is sufficiently high standard to warrant its presentation for examination.
  - (iii) Candidate shall submit his declaration that the Project is the result of his own research work and the same has not been previously submitted to any examination of this University or any other University. The Project shall be liable to be rejected and / or cancelled if found otherwise.
  - (iv) The Project work shall be evaluated through evaluation by external examiner and Viva-voce at the College / Department by internal and external Examiner after theory examination.
  - (v) A Student appearing for the Diploma in Business Management Examination will have to pay an additional fee of Rs. 300/- for Project in addition to usual Examination fees.
11. The scope of the subject, percentage of passing in Theory and Project and Internal Assessment will be governed as per following rules :
  - (i) In order to pass at the Diploma in Business Management Examination Examinations an examinee shall obtain not less than 40 % marks in each head of passing of every paper, that is to say separately in the written Examination, in internal assessment and in two heads of passing of Project Work separately and shall not obtain less than 50% in the aggregate marks in the examination.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



- (ii) An examinee who is unsuccessful at the examination shall be eligible for admission to the subsequent examinations on payment of a fresh fee prescribed for the examination together with the conditions of the ordinance in force from time to time.
- (iii) An examinee who has failed in Internal Assessment only shall be required to register himself afresh for doing the sessional work again in the Department / College in the subject/subjects/project work in which he has failed on payment of fresh annual sessional fee of Rs. 50/- per paper. Such registration shall be done on or before the beginning of the respective Session. The Director shall on being satisfied about the completion of the sessional work of such a candidate send the fresh sessional marks to the University and these fresh sessional marks shall be taken into consideration for computing his/her result at the examination.
12. (A) The scope of the subjects and pattern of examination shall be as indicated in syllabi.
- (B) The Medium of instructions and examinations shall be in ENGLISH only.
13. The maximum and minimum marks which each subject carries in the Diploma In Business Management Examination shall be as indicated in Appendix "A".
14. Successful examinees obtaining 60 % or more marks in the aggregate at the examination shall be placed in the first division and those obtaining less than 60 % but not less than 50 % marks in the second division.
15. Successful examinees in the Diploma Business in Management Examination shall be awarded Distinction in each subject in which examinees obtain 75 % or more marks in that subject.
16. Unsuccessful examinees at the above examination shall be eligible for admission to the next written examination on payment of fresh fees prescribed for the examination together with an ex-student fee and on compliance the conditions of the ordinance in force from time to time. For being eligible for exemption in paper or a project, the candidate must have obtained not less than 40 % marks in that paper or project.
17. Provisions of Direction No. 9 of 2002 relating to the award of Grace marks for passing an examination, securing higher division / class and for securing distinction in subject(s) shall apply to the Examination under this Ordinance.
18. Notwithstanding anything to the contrary in this Ordinance, no person shall be admitted to an examination under this Ordinance, if he/ she has already passed the same examination or an equivalent examination of any other University.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

19. Examinees successful at the Diploma in Business Management Examination shall on payment of the prescribed fees receive a Diploma in the prescribed form signed by the Vice-Chancellor.
20. The Provisions of Ordinance No. 69 governing the existing course for the Diploma Business Management stand repealed physically on issuance of this Ordinance.
21. Upon promulgation of this Ordinance, Direction No. 2 of 2005, shall stand repealed.

### **STATEMENT OF OBJECT & REASONS**

In order to incorporate a Diploma course in the speciality of Business Management, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 15 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 284 considered & approved the Ordinance No. 27 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**Revised Scheme of Examination for the  
Diploma in Business management (D.B.M.) course**

**APPENDIX – A**

Subject	Paper	Maximum Marks	Minimum Marks
(1) Business Environment and Management Principles.	Paper 80	100	32
	Internal		
	Assessment 20		
(2) Management Accounting and Financial Management	Paper 80	100	32
	Internal		
	Assessment 20		
(3) Marketing & Sales Management	Paper 80	100	32
	Internal		
	Assessment 20		
(4) Personnel & Human Resource Management	Paper 80	100	32
	Internal		
	Assessment 20		
(5) Business research Methods and Computing Techniques	Paper 80	100	32
	Internal		
	Assessment 20		

**AND**

**Final Project ( Based on Functional Area(s) of Management ) of 100 Marks.**

**Note :Minimum aggregate marks for passing the examination shall be 50 %.**

  
20/03/2021  
**Off. Principal,**  
S.S. Maniar College, Nagpur

**\* ORDINANCE NO. 28 OF 2006**

**ORDINANCE RELATING TO AWARD OF DEGREE OF BACHELOR OF ENGINEERING IN FIRE ENGINEERING IN THE FACULTY OF ENGINEERING & TECHNOLOGY.**

Whereas, it is expedient to provide for an Ordinance relating to the award of Degree of Bachelor of Engineering in Fire Engineering, in the Faculty of Engineering & Technology, the Management Council is hereby pleased to make the following Ordinance. :

1. This Ordinance may be called "Ordinance governing examination leading to the Degree of Bachelor of Engineering in Fire Engineering, in the Faculty of Engineering & Technology Ordinance, 2005,"
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. Subject to the Compliance with the provisions of this Ordinance and any other Ordinance in force, from time to time, an applicant for admission to the examination shall :
  - (a) have passed B.Sc. 1<sup>st</sup> Year with Physics, Chemistry, Mathematics, IInd & IIIrd Year with either Physics or Chemistry or Mathematics as one of the Compulsory Subject from this university or any other university / deemed university of which he B.Sc. course is termed equivalent to that of this university.
  - (b) have cleared Entrance examination and interview as per provisions stipulated by the Home Ministry, Govt. of India.
  - (c) Comply with the Conditions, prescribed by the AICTE/ Home Ministry / Govt. of Maharashtra, if any, from time to time.
4. The Degree of Bachelor of Engineering in Fire Engineering shall be awarded to an examinee who in accordance with the provisions of the Ordinance, qualifies himself/herself.
- 5.. There shall be Three and half Yearly-Semester Pattern Examinations except First year B.E, which will be yearly pattern held by the University leading to the Degree of Bachelor of Engineering in Fire Engineering in the Faculty of Engineering & Technology :
  - (\*) Second Year B.E. onwards the examination shall be on the "Semester Pattern" basis. There will be one examination at the end of each semester conducted by the University, whereby in each academic year there shall be two "Semester Examinations". Thus, after first Year B.E. onwards upto Final Year B.E., there shall be, five semesters i.e. III, IV, V, VI and VII each followed by a University Examination.

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 285, under the draft Ordinance No. 46 of 2005.

  
20/03/2007  
Off. Principal,  
S.S. Manjar College, Nagpur

6. The period of the academic session shall be such, as may be notified by the University.
7. Subject to his/her compliance with the provisions of this Ordinance, pertaining to examinations in General & in force from time to time, the applicant for admission and appearance, at the end of the course of study of a particular year/semester, to a higher examination, shall be eligible, if :-
  - (i) he/she satisfies the conditions prescribed in the ATKT Rules in force or revised and made applicable from time to time (Annexure - I)
  - (ii) he/she has complied with provisions of Paragraphs 5,7,8,10 and 31 of Ordinance No.6 relating to the Examinations in General
  - (iii) he/she has prosecuted a regular course of study in a College affiliated to the University;
  - (iv) he/she has in the opinion of the Director/Principal, shown satisfactory progress in his/her studies.
8. That an examinee who has passed in any subject (Theory of Practical) or subjects shall, at his option, be exempted from appearing in that subject at the subsequent examination. The 'Theory' and the Practical with their respective 'College Assessment' being separate heads of passing (though of the same subject), an examinee passing under any one of these, but failing in another, shall, at his option, be entitled to get "Exemption" in that part of the subject (either Theory or Practical), in which he has secured the pass marks :
9. The Fee for the examination shall be as prescribed by the Management Council from time to time and whenever any change is made in the fee prescribed for any particular examination, that shall be notified through a notification for information of the examinees concerned.
10.
  - (i) The papers, the practicals and the College Assessments in which an examinee is to be examined, the maximum marks for these and the minimum marks which an examinee must obtain in order to pass in the subject and the examination are detailed in the examination scheme.
  - (ii) Assessment of College Assessment marks for practicals shall be done in two stages - 'First' at the end of the "First Term/Mid Semester, as the case may be" which shall be out of 40% of the total" College Assessment marks, and shall be intimated to the student, and the "Second" at the end of the Semester/Academic Term as the case may be for remaining 60% of marks.
  - (iii) The college assessment marks for theory shall be based on examinee's performance in sessional examination & assignments, if any.
11.
  - (i) The scope of the subjects shall be as indicated in the Syllabus.
  - (ii) The medium of instruction and examination shall be English

  
20/03/2021  
Off. Principal,  
S.S. Manjar College, Nagpur

12. The provisions of Direction No.9 of 2002 relating to "Award of grace of marks for passing an Examination, Securing Higher Division/Class and for Securing Distinction in Subjects (s)" shall apply to the examinations under this Ordinance.
13. An examinee who does not pass, or who fails to present himself/herself for the examination shall be eligible for 'Re-admission' to the same examination, on payment of a fresh fee and such other fees as may be prescribed from time to time.
14. An unsuccessful examinee, at any of the above examinations, shall have an option to carry his/her "College Assessment marks" for Theory/Practical examination to his/her successive attempts at the examination. The examinee, however can forego his/her College Assessment marks in a subject or subjects; in which case he/she shall be examined for a total of marks comprising the Theory/Practical examination and College Assessment together; at his/her successive attempts at the examination. Such an option may be availed by the examinee by indication the same in his/her "Application for the examination" and the option once exercised, if shall be "Final and Binding" on the examinee concerned.
15. As soon as possible after the examinations, the Board of Examinations shall publish a list of successful examinees. The result of all examinations shall be classified as above and the "Merit list" shall be notified as per Ordinance No.6.
16. Notwithstanding anything to the contrary in this Ordinance, no one shall be admitted to an examination under this Ordinance, if he/she has already passed the same examination or an equivalent examination thereto of any Statutory University.
17.
  - (i) The examinees who have passed in all the 'Subjects' prescribed for all the "Examinations" shall be eligible for award of the Degree of Bachelor of Engineering in Fire Engineering in the Faculty of Engineering & Technology.
  - (ii) The classification of Division of Examinees for the award of degree of BE shall be based on aggregate of marks obtained in last three semesters i . e. V, VI and VII Semester for B.E. Fire Engineering.
  - (iii) The Degree, in the prescribed form shall be signed by the Vice-Chancellor.
18. Upon promulgation of this Ordinance, Direction No. 2 of 2002, shall stand repealed.

  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur

### STATEMENT OF OBJECT & REASONS

In order to incorporate a Bachelor's course in the speciality of Fire Engineering, which has a great bearing on the fulfillment of regional requirements, and affording greater employability the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006, vide item No. 22 and the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 285 considered & approved the Ordinance No. 28 of 2006.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

#### ANNEXURE – I

#### **A.T.K.T. Rules for B.E. (Fire Engineering) Semester pattern in the Faculty of Engg./Tech.**

<b>Admission to Semester / Year</b>	<b>Candidate should have passed in all the subjects of following examination</b>	<b>Candidate should have appeared for the examination of year/ Semester</b>	<b>Candidate should have passed in all the subjects except in four or less number of passing heads of the following examinations taken together</b>
I YEAR	As per paragraph '3' of the Ordinance	-	-
III SEM	-	I YEAR	I YEAR
IV SEM	-	III SEM	-
V SEM	I YEAR	IV SEM	III & IV SEMS
VI SEM	-	V SEM	-
VII SEM	III & IV SEM	VI SEM	V & VI SEM

*[Signature]*  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**RASHTRA SANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY  
SCHEME FOR FIRST YEAR B.E. (FIRE ENGG.) COURSE.**

Year	Sub.c ode	Subject Name	L	T	P	Hrs/ Week	Max. Marks (Th)	Paper	Col. Ass.	Min. Marks
1	2	3	4	5	6	7	8	9	10	11
Ist	IFE 01	Applied Chemistry	2	0	2	4	100	70	30	45
	IFE 02	Applied Mechanics	2	0	2	4	100	70	30	45
	IFE 03	Elements of Mech. Engg.	2	0	2	4	100	70	30	45
	IFE 04	Elements of Elect.Engg.	2	0	2	4	100	70	30	45
	IFE 05	Fluid Mechanics	2	0	2	4	100	70	30	45
	IFE 06	Strength of Material & Structures.	2	0	2	4	100	70	30	45
	IFE 07	Pumping Machinery & Accessories	2	0	2	4	100	70	30	45
	IFE 08	Building Construction & Planning.	2	0	0	2	100	70	30	45
	IFE 09	Resque Equipment & Teachique	2	1	2	5	100	70	30	45
	IFE 10	Fire Fighting & Field Training.	0	0	1 0	10	-	-	-	-
	IFE 11	Building Drawing	0	0	2	2	-	-	-	-

*(Signature)*  
20/03/2021  
Off. Principal,  
S.S. Maniar College, Nagpur



**SCHEME : III SEM. B.E. (FIRE ENGG.)**

Year	Sub.co de	Subject Name	L	T	P	Hrs/ Week	Max. Marks (Th)	Paper	Col. Ass.	Min.M arks
1	2	3	4	5	6	7	8	9	10	11
IIIrd	3FE 01	Applied psychology	2	0	0	2	100	70	30	45
	3FE 02	Town Planning & Water supply	2	1	0	3	100	70	30	45
	3FE 03	Heavy Vehicle & Automobile Engg.	2	1	2	5	100	70	30	45
	3FE 04	Heat Combustion & Explosives	2	0	2	4	100	70	30	45
	3FE 05	Electrical Fire & Radioactive Material	2	1	0	3	100	70	30	45
	3FE 06	Engineering and Machine Drawing	0	0	2	2	--	--	--	--
	3FE 07	Fire Fighting & Field Training	0	0	1 0	10	--	--	--	--
	3FE 08	Workshop Technology	2	0	3	5	100	70	30	--
<b>SCHEME : IV SEM. B.E. (FIRE ENGG.)</b>										
Ivth	4FE 01	Communication & Detection system	2	1	0	3	100	70	30	45
	4FE 02	Paramedics	2	1	5	8	100	70	30	45
	4FE 03	Fire prevention & Protection Measures	2	1	2	5	100	70	30	45
	4FE 04	Leadership, Discipline & Organisation.	2	0	0	2	100	70	30	45
	4FE 05	Salvage & Evaluation of Fire situations	2	0	0	2	100	70	30	45
	4FE 06	Elements of Structure & their behaviour under Fire	0	0	2	2	--	--	--	--
	4FE 07	Fire fighting & Field Training	0	0	10	10	--	--	--	--

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

**SCHEME : V SEM. B.E. (FIRE ENGG.)**

Year	Sub.code	Subject Name	L	T	P	Hrs/W week	Max.M arks (Th)	Paper	Col. Ass.	Min.M arks
1	2	3	4	5	6	7	8	9	10	11
Vth	5FE 01	Fire Laws	2	0	0	2	100	70	30	45
	5FE 02	Special Fire Hazards	2	1	0	3	100	70	30	45
	5FE 03	Fire Fighting Equipment	2	0	2	4	100	70	30	45
	5FE 04	Fire Fighting Codes & Standarisation	2	0	0	4	100	70	30	45
	5FE 05	Fire Fighting Installation	2	1	0	3	100	70	30	45
	5FE 06	Communication Wireless Detection System.	0	0	3	3	--	--	--	--
	5FE 07	Project Seminar	0	0	4	4	--	--	--	--
	5FE 08	Fire Fighting & Field Training	0	0	10	10	--	--	--	--

**SCHEME : VI SEM. & E (FIRE ENGG.)**

Vith	6FE 01	Project	0	0	9	9	--	--	--	--
	6FE 02	Elective-I	3	0	0	3	100	70	30	45
	6FE 03	Elective-II	3	0	0	3	100	70	30	45
	6FE 04	Storage of Convention Hazardous Material	3	0	0	3	100	70	30	45
	6FE 05	Fire Fighting & Field Training	0	0	10	10	--	--	--	--
	6FE 06	Disaster Management	3	0	0	3	100	70	30	45

**SCHEME : VII SEM. B.E. (FIRE ENGG.)**

Year	Sub.code	Subject Name	L	T	P	Hrs/W week	Max.Ma rks (Th)	Paper	Col.A ss.	Max.Ma rks
VIIth	7FE01	Practical Attachment	0	0	30	30	--	--	--	700

  
 20/03/2021  
 Off. Principal,  
 S.S. Manjar College, Nagpur

**\*ORDINANCE NO. 29 OF 2006**

**AN ORDINANCE TO AMEND THE ORDINANCE NO.12, RELATING TO UNIVERSITY FEES**

Whereas it is expedient to amend the Ordinance No. 12 (as amended by ordinance no. 3 of 1994), relating to University Fees, for the purposes hereinafter appearing; the Management Council is hereby pleased to make the following ordinance;

1. This ordinance may be called "Ordinance relating to University affiliation fee, (Amendment) Ordinance, 2006".
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. In para (xlv) (a) of the main ordinance no. 12 shall be deleted and as amended by ordinance no. 3 of 1994, in para 3 (1) (b) relating to University Affiliation Fee, be substituted by following :

3 (1)(b)Applicaton fee for continuation of affiliation :

- |   |              |
|---|--------------|
| "i) Colleges for Professional courses<br>(*excluding Education and Law)         | Rs. 27,500/- |
| ii) Colleges of Education and law   | Rs. 12,500/- |
| iii) Colleges for courses other than<br>Professional Education and law courses. | Rs. 7,500/-  |

4. In para (xlv) (b) of the main ordinance no. 12 shall be deleted and as amended by Ordinance no. 3 of 1994, in para 3. (2) sub section 1) & 2) relating to University Affiliation Fee, be substituted by following :

1) Colleges for professional courses Rs. 15,000/-

2) Colleges for courses other than profession courses:

- |  |             |
|--|-------------|
| i) having strength of students upto and<br>inclusive of 1000 - | Rs. 3,500/- |
| ii) having strength of students between<br>1001 to 1500 -      | Rs. 7,500/- |
| iii) having strength of students above 1500<br>-               | Rs. 8,000/- |

\* Accepted by Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 286, under the draft Ordinance No. 1 of 2006.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

STATEMENT OF OBJECT AND REASONS

The rates of a Affiliation Fee, & Continuation of Affiliation Fee, has not been increased since more than a decade. Hence, the Finance & Accounts Committee has recommendations of the Academic Council & the Management Council to increase the said fees and amend the Ordinance accordingly.

The Academic Council in its meeting held on 21<sup>st</sup> September, 2006 vide item No. 23 & the Management Council in its meeting held on 28<sup>th</sup> December, 2006 vide item No. 286 considered and approved the amendment Ordinance.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

---

**\* ORDINANCE NO. 30 of 2006**

**AN ORDINANCE TO AMEND THE ORDINANCE NO. 4 of 1996,  
TO PROVIDE FOR IMPROVEMENT OF DIVISION/GRADE**

Whereas it is expedient to amend Ordinance No. 4 of 1996 to provide an ordinance for Improvement of Division/Grade, for the purposes hereinafter appearing, the Management Council is hereby pleased to make the following Ordinance;

1. This Ordinance may be called "Improvement of Division/Grade (Amendment) Ordinance, 2006."
2. This Ordinance shall come in to force with effect from the date of its approval by the Management Council.
3. For para 3) (I) of the Main Ordinance No. 4 of 1996, For Improvement of Division/Grade, the following para shall be substituted namely :-

"3(I) Notwithstanding anything contained in the relating ordinance, a person who has passed his/her Post Graduate examinations in the faculties of Arts, Social Sciences, Commerce, Science, Home Science and Education of Nagpur University in Third Division or who does not have 55% or 60% of the aggregate marks or an equivalent grade in the said examination, shall be eligible to take the examination in the same subject or group of subjects as the case may be, again for improving his/her Division /Grade as hereinafter provided."

---

\* Accepted by the Management Council dt. 28<sup>th</sup> December, 2006, vide item No. 287, under the draft Ordinance No. 3 of 2006.

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur

**STATEMENT OF OBJECT & REASONS**

It was imperative to broaden the scope for the improvement of division/grade so as to facilitate the desirous and deserving applicant students to avail the opportunity in terms of their examination the Academic Council in its meeting held on 21<sup>st</sup> Sept., 2006 vide item No. 24 & Management Council 28<sup>th</sup> December, 2006 vide item No.287 considered & approved amendment Ordinance.

This Ordinance strictly adheres to present policy and orders of the State Government. While implementing the provisions of this Ordinance, no financial implications are involved at the Government as well as university level as of now or in future.

Hence this Ordinance.

\*\*\*\*\*

  
20/03/2007  
Off. Principal,  
S.S. Maniar College, Nagpur