RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR (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 Public Universities Act, 2016)

DIERCTION NO. 5 OF 2020

ADMISSIONS AND EXAMINATIONS LEADING TO THE AWARD OF DEGREE OF BACHELOR OF COMMERCE (COMPUTER APPLICATION) (B.C.C.A.) (NEW) (CREDIT BASED SEMESTER PATTERN) DIRECTION 2020.

Whereas, the Maharashtra Public Universities Act, 2016(VI of 2017) (hereinafter the Act VI of 2017) has come in to force in the State of Maharashtra, with effect from 1ˢᵗ March 2017, repealing the Maharashtra Universities Act,1994;

AND

Whereas, the Rashtrasant Tukkoji Maharaj Nagpur University (hereinafter the 'University'), hitherto governed by the Maharashtra Universities Act,1994, is now being governed by the Act (VI of 2017);

AND

Whereas, under section 34(2) of the Act VI of 2017 the University shall have only four faculties specified in said section;

AND

Whereas, the composition of each faculty in the University is to be such as may be prescribed by the University and the University has issued Direction No. 15 of 2017 prescribing the composition of each faculty in the University; whereby erstwhile faculty of commerce is included in the new Faculty of Commerce and Management;

AND

Whereas, the university has issued the Direction No. 10 of 2019 prescribing certain Common conditions for the entire undergraduate and post-graduate programmes /courses in the university;

AND

Whereas, the University had issued the Direction No. 59 of 2016 introducing the Bachelor of Commerce (Computer Application)-(B.C.C.A.) (Credit Based Semester Pattern) programme in the former faculty of Commerce from the academic session 2016-17;

AND

Whereas, the Board of Studies, in its meeting held on 26.02.2019 recommended minor

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changes in the syllabus which were approved and recommended in the Faculty of Commerce and Management in its meeting dated 30.5.2019 and these changes have been approved by the Academic council in its meeting dated 10.6.2019

AND

Whereas, by virtue of the provisions of the proviso to section 12(8) of the Act the Direction No. 59 of 2016 has lapsed, necessitating issuance of the fresh Direction incorporating the provisions of Direction No. 59 of 2019 along with the minor changes in the syllabus as recommended and approved by the various academic bodies;

AND

Whereas, Ordinance making involves a time consuming process and there is necessity to issue a fresh Direction for regulating the admissions and examinations of the programme leading to the award of the degree of Bachelor of Commerce - (Computer Application) (B.C.C.A.) (New)(Credit Based Semester Pattern) in the faculty of Commerce and Management,

Now, therefore, I, Dr. Siddharthavinayaka P. Kane, Vice-Chancellor, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of the powers vested in me under Section 12(8) of the Maharashtra Public Universities Act of 2016 do hereby issue the following Direction:

1. This Direction shall be called **"ADMISSIONS AND EXAMINATIONS LEADING TO THE AWARD OF DEGREE OF BACHELOR OF COMMERCE (COMPUTER APPLICATION) (B.C.C.A.) (NEW) (CREDIT BASED SEMESTER PATTERN) DIRECTION 2020"**.

2. This Direction shall govern all new admissions and examinations for First semester in the academic session 2019-2020 and onwards.

3. **INTERPRETATION CLAUSE**: In this Direction, unless the context requires otherwise the words and phrases shall have following meaning:-

   a. **"Academic Council"** means Academic Council of R.T.M. Nagpur University.

   b. **"ATKT"** refers to allowed to keep term in higher semester.

   c. **"Board of Studies"** means Board of Studies for various subjects of commerce in the faculty of Commerce and Management in the University.

   d. **"Competent Authority"** (for admission purpose) means an "Authority" established or assigned the duty to regulate admissions in the course by the Government of Maharashtra or an authority constituted by the University, for this purpose.

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e. **"Credit Points"** refer to the product of No. of credits multiplied by the Grade Point for a given course/paper.

f. **"Credit"** (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and a multiplier of half (1/2) for practical (laboratory) hours.

g. **"Course"** means a paper/subject (theory or practical) prescribed for any semester of the programme.

h. **"Cumulative Grade Point Average (CGPA)"** refers to the Cumulative Grade Point Average weighted across all semesters (4 semesters)

i. **"Degree"** means the Under Graduate Degree awarded after successful completion of the programme governed by this Direction.

j. **"Fees"** means the fees prescribed by the University/ Shikshan Shulka Samiti of Government of Maharashtra, for the Under Graduate programme under this Direction, from time to time.

k. **"Grade letter"** is an index to indicate the performance of a student in a particular course (Paper). It is the transformation of actual marks secured by a student in a course/paper. Grade letters are O, A, B, C, P, F and AB.

l. **"Grade Point"** is the weightage allotted to each grade letter depending on the range of marks awarded in a course/paper.

m. **"Graduate programme"** means Bachelors' degree programme in Commerce (Computer Application).

n. **"Semester Grade Point Average (SGPA)"** refers to the performance of the student in a given semester. SGPA is based on the total credit points earned by the student in all the courses and the total number of credits assigned to the courses/papers in a Semester.

o. **"Student"** means student admitted to Bachelors degree programme in commerce under this direction.

p. **"University"** means Rashtrasant Tukadoji Maharaj Nagpur University.

4. ELIGIBILITY FOR ADMISSION:

a. Subject to the provisions of general ordinances of the university regarding admissions in various courses of the university, including reservation of seats, an applicant for admission to this programme, governed by this Direction, shall have passed:-

i. XII Standard Examination of the Maharashtra State Board of Secondary and Higher

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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

ii. 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 to be Minimum Competency Vocation Course (MCVC) by the competent authority.

OR

iii. Any other Equivalent Examination of any other State Board, Central Board or International Board in 10+2 pattern with English language as a compulsory subject and any combination of other subjects.

OR

iv. Any equivalent Qualification from any foreign country recognized by the university.

b. No person shall be admitted to this Programme, if he has already passed the same Programme or a Programme of any other statutory University, which has been recognized as equivalent to this programme.

c. A student admitted to the programme under this Direction shall not be allowed to join any other programme in this University or any other University simultaneously. Any violation of this condition will amount to an unfair practice and shall be actionable as per the relevant rules of the university.

5.**THE DURATION OF THE PROGRAMME:** The duration of the programme shall be of **three** academic years consisting of **six** semesters with university examination at the end of each semester.

6. **THE STRUCTURE OF THE PROGRAMME:**

i. The Bachelor of Commerce Computer Application (B.C.C.A.) (Credit Based Semester Pattern) programme shall consist of Six Semesters. The no. of courses in each semester, the maximum marks and the credits for each course and the minimum passing marks for each course, absorption scheme in respective semesters shall be as detailed in APPENDIX- I to this Direction. Detail syllabus & paper pattern is enclosed in APPENDIX-II.

ii. For all Theory Papers there shall be FIVE Periods Per week per Subject of 48 Minutes duration each. Each Theory Paper must cover minimum 60 Clock Hours of Teaching in each semester.

iii. The college shall offer the subjects of any particular Elective Groups only if 20 or more

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students are opting for the particular subject.

iv. The fees for the programme and the University examinations shall be as prescribed by the University from time to time.

v. The name and number of courses, passing marks, pattern of examination and credits assigned etc. shall be as given in APPENDIX -I, AND II to this Direction.

7. RULES OF EXAMINATION:

i. The Examinations for Semesters I, II, III, IV, V and VI shall be held twice a year. The university examinations shall be held at such places and on such dates as may be notified by the University.

ii. the passing heads in respect of all the courses, including languages, shall consist of the university theory examination and internal assessment marks taken together.

iii. In order to pass any subject (course) a student must secure not less than 40 % of the maximum marks prescribed for that course, i.e. to say, out of total 100 marks (80 for university examination and 20 for internal assessment), the student must obtained minimum 40 marks together in the university examination and internal assessment.

iv. The results of successful candidates at the end of semester-VI shall be classified on the basis of aggregate marks obtained in all the six semesters.

v. The candidates who pass all the semester examinations in the first attempt and have completed program in minimum prescribed period for the programme, are eligible for ranks.

vi. The results of the candidates who have passed the Semester-VI examination but not passed the lower semester examinations shall be declared as NCL (not completed lower semester examinations). Such candidates shall be eligible for the Degree only after successful completion of all the lower semester examinations.

vii. Percentage of marks for declaring class:

Distinction- 75% and above (First Class with Distinction).

First Class - 60% and above, upto 75%

Second Class - 45% and above but less than 60%.

Third Class - 40% and above but not more than 45%

viii. An unsuccessful examinee at any end semester examination shall be eligible for re-examination on the payment of a fresh Examination fees prescribed by the University.

ix. As examinee who has successfully passed the examination of all the semesters shall, on payment of the prescribed fees be entitled to receive a Degree of Bachelor of Commerce (Computer Application) in the prescribed form signed by the Vice-Chancellor.

x. The provisions of Ordinance 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.

8. CONVERSION OF MARKS INTO GRADES AND CALCULATIONS OF GPA (GRADE POINT AVERAGE) AND CGPA (CUMULATIVE GRADE POINT AVERAGE):

The overall evaluation of a student shall be designated in terms of Grade. The abbreviations used in grade computation and the evaluation mechanism and formulae used are as follows:-

Abbreviations and Formulae :

G :Grade

GP : Grade Points

C :Credits

CP : Credit Points

CG : Credits X Grades (Product of credits & Grades)

SGPA = ΣCG: Sum of Product of Credits & Grades points / ΣC: Sum of Credits points

SGPA : Semester Grade Point Average shall be calculated for individual semesters. (It is also designated as GPA)

CGPA : Cumulative Grade Point Average shall be calculated for the entire Programme by considering all the semesters taken together.

While calculating the CG the value of Grade Point 1 shall be consider Zero (0) in case of learners who failed in the concerned course/s i.e. obtained the marks below 40. After calculating the SGPA for an individual semester and the CGPA for entire programme, the value can be matched with the grade in the Grade Point table as per the Five (05) Points Grading System and expressed as a single designated GRADE such as O,A,B,C, F. (Fail).

Marks	Grade	Grade Points (out of 10)
85 TO 100	O	10
75 TO 84	A+	09
71 TO 74	A	08
61 TO 70	B+	07
55 TO 60	B	06
50 TO 54	C	05
40 TO 49	P	04
00 TO 39	F (Fail)	00
AB	AB(Absent)	00

CGPA	Grade	Division
9.01 to 10	O (Outstanding)	First Division (outstanding)
8.01to 9.00	A+(Distinction)	First Division (Distinction)
7 .01 to 8.00	A (Very Good)	First Division (Very Good)
6.01 to 7.00	B+(Good)	First Division (Good)
5.55 to 6.00	B (Above Average)	Second Division (Above Average)
5.00 to 5.54	C (Average)	Second Division (Average)
4.00 to 4.99	P (Pass)	Pass
0.00 to 3.99	F (Fail)	Fail
0	AB (Absent)	Absent

Note:-Consider Grade Points equal to Zero for (C x G) calculations of failed Learner/s in the concerned course/s.

Conversion formula from CGPA to Percentage: % = (CGPA- 0.75)* 10

The illustration for the conversion of marks into grades in a course and semester Illustrations of Calculation:- Pass

Subjects	Total Maximum Marks	Total Minimum Marks	Total Marks Obtained	Grade(G)	Grade points (GP)	Credit of the Course(C)	(Credit) X (Grade points)(CX GP)	SGPA=ΣCG/ΣC
1T1	100	40	60	A	9	4	36	SGPA
1T2	100	40	50	B	8	4	32	=176/20
1T3	100	40	75	O	10	4	40	=8.8
1T4	100	40	70	A	9	4	36	Grade B
P-I	100	40	48	B	8	4	32	RESULT
Total	500	200	303	--	44	20	176	=PASS

Illustrations of Calculation:- Fail

Subjects	Total Maximum Marks	Total Marks Obtained	Grade (G)	Grade points(GP)	Credit of the Course (C)	(Credit) X (Grade points) (CX GP)	SGPA=ΣCG/ΣC
3T1	100	32	F	0	4	00	**SGPA**
3T2	100	34	F	0	4	00	=72/20
3T3	100	60	B	8	4	32	=3.6
3T4	100	75	O	10	4	40	**Grade F**
P-I	100	33	F	0	4	00	**RESULT**
Total	500	234	—	10	20	72	=FAIL

9. **ATKT Rules**: Rules of ATKT shall be as given in the following table:

Admission to Semester	Candidate should have filled in the examination form of the R.T.M. Nagpur University	Requirement of passing Semester and/or courses
II Semester	Semester - I	-
III Semester	Semester - II	Candidate should have passed in at least 50% of passing heads of Semester I and II taken together
IV Semester	Semester III	-
V Semester	Semester - IV	Candidate should have passed Semester I & II and Candidate should have passed in at least 50% of passing heads of Semester III &IV taken together*
VI Semester	Semester V	-

*Note: For calculating the requirement of fifty percent passing heads fraction is to be ignored as per the provisions of Direction no. 10 of 2019.

10. This Direction shall be made applicable to the students who shall be admitted as regular

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students in Semester –I of BCCA Part –I from the academic year 2019-2020, and shall be applied to succeeding examinations in phased manner.

11. All the students who had taken admission in BCCA programme under earlier Direction, i.e. 59 of 2016 (Old Course) shall continue to be governed by the said Direction till the New Progrmme reach the respective semester in natural progression, thereafter students of the old course shall be given three additional chances to clear the backlog, if any, thereafter they shall be absorbed in the New Programme under this Direction as per the absorption scheme appended to this Direction.

12. If any question of interpretation of any clause of this Direction arises the same shall be referred to the Dean, Faculty of Commerce and Management whose opinion shall be final and binding.

Nagpur
Date----5/3/2020

(Dr. Siddharthavinayaka P. Kane)
Vice-Chancellor

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Teaching and Examination Scheme

B.Com. (Computer Application) (BCCA) NEW

(A) BCCA Part –I

Semester – I

Course Code	Subjects	Paper	Theory (Periods)	Practical (Periods)	Total (Periods)	Max Marks-Theory Paper (TH)	Max Marks – Internal Assessment	Total	Min Passing Marks	Max Mark - Practical (PR)	Min Passing Marks	Total Marks	Credits
Theory													
1T1	English and Business Communication - I	I	5	-	5	80	20	100	40	-	-	100	4
1T2	Financial Accounting	II	5	-	5	80	20	100	40	-	-	100	4
1T3	Fundamentals of Computer	III	5	-	5	80	20	100	40	-	-	100	4
1T4	Programming in 'C'	IV	5	-	5	80	20	100	40	-	-	100	4
Practical													
1P1	Fundamentals of Computer **&** Programming in 'C'	P- I	-	6	6	-	-	-	-	100	40	100	4
	Total		20	6	26							500	20

(B) BCCA Part –I

Semester – II

Course Code	Subjects	Paper	Teaching Scheme per weeks			Examination Scheme						Total Marks	Credits
						Theory				Practical			
			Theory (Periods)	Practical (Periods)	Total (Periods)	Max Marks - Theory Paper (TH)	Max Marks - Internal Assessment	Total	Min Passing Marks	Max Marks - Practical (PR)	Min Passing Marks		
Theory													
2T1	English and Business Communication - II	I	5	-	5	80	20	100	40	-	-	100	4
2T2	Principles of Business Management	II	5	-	5	80	20	100	40	-	-	100	4
2T3	Programming in C++'	III	5	-	5	80	20	100	40	-	-	100	4
2T4	E-Commerce and Web Designing	IV	5	-	5	80	20	100	40	-	-	100	4
Practical													
2P1	Programming in C++' **&** E-Commerce and Web Designing	P- I	-	6	6	-	-	-	-	100	40	100	4
	Total		20	6	26							500	20

(C)BCCA Part -II

Semester – III

Course Code	Subjects	Paper	Teaching Scheme per weeks			Examination Scheme						Total Marks	Credits
			Theory (Periods)	Practical (Periods)	Total (Periods)	Theory				Practical			
						Max Marks - Theory Paper (TH)	Max Marks - Internal Assessment	Total	Min Passing Marks	Max Marks - Practical (PR)	Min Passing Marks		
Theory													
3T1	Environmental Studies	I	5	-	5	80	20	100	40	-	-	100	4
3T2	Business Economics	II	5	-	5	80	20	100	40	-	-	100	4
3T3	Visual Basic Programming	III	5	-	5	80	20	100	40	-	-	100	4
3T4	Database Management System	IV	5	-	5	80	20	100	40	-	-	100	4
Practical													
3P1	Visual Basic Programming &Database Management System	P- I	-	6	6	-	-	-	-	100	40	100	4
	Total		**20**	**6**	**26**							**500**	**20**

(D) BCCA Part -II

Semester – IV

Course Code	Subjects	Paper	Teaching Scheme per weeks			Examination Scheme						Total Marks	Credits
			Theory (Periods)	Practical (Periods)	Total (Periods)	Theory				Practical			
						Max Marks - Theory Paper (TH)	Max Marks - Internal Assessment	Total	Min Passing Marks	Max Marks - Practical (PR)	Min Passing Marks		
Theory													
4T1	Statistical Techniques	I	5	-	5	80	20	100	40	-	-	100	4
4T2	Business Law	II	5	-	5	80	20	100	40	-	-	100	4
4T3	Core Java	III	5	-	5	80	20	100	40	-	-	100	4
4T4	PHP & MySQL	IV	5	-	5	80	20	100	40	-	-	100	4
Practical													
4P1	Core Java & PHP & MySQL	P- I	-	6	6	-	-	-	-	100	40	100	4
	Total		**20**	**6**	**26**							**500**	**20**

(E) BCCA Part –III

Semester – V

Course Code	Subjects	Paper	Teaching Scheme per weeks			Examination Scheme						Total Marks	Credits
			Theory (Periods)	Practical (Periods)	Total (Periods)	Theory				Practical			
						Max Marks - Theory Paper (TH)	Max Marks - Internal Assessment	Total	Min Passing Marks	Max Marks - Practical (PR)	Min Passing Marks		
Theory													
5T1	Computerized Accounting using Tally	I	5	-	5	80	20	100	40	-	-	100	4
5T2	VB.Net	II	5	-	5	80	20	100	40	-	-	100	4
5T3	**SEC – I :** (i) Management Information Systems (ii) System analysis &Design	III	5	-	5	80	20	100	40	-	-	100	4
5T4	**DSE– I :** (i) Cost & Management Accounting (ii) Corporate Accounting	IV	5	-	5	80	20	100	40	-	-	100	4
Practical													
5P1	Tally & VB.Net	P- I	-	6	6	-	-	-	-	100	40	100	4
	Total		20	6	26							**500**	**20**

BCCA Part -III

Semester – VI

Course Code	Subjects	Paper	Theory (Periods)	Practical (Periods)	Total (Periods)	Max Marks - Theory Paper (TH)	Max Marks - Internal Assessment	Total	Min Passing Marks	Max Marks - Practical (PR)	Min Passing Marks	Total Marks	Credits
			Teaching Scheme per weeks			**Examination Scheme**							
						Theory				**Practical**			
Theory													
6T1	C#.Net	I	5	-	5	80	20	100	40	-	-	100	4
6T2	**SEC– II :** (i) Python (ii) Ruby on Rail	II	5	-	5	80	20	100	40	-	-	100	4
6T3	**DSE– II :** (i) Entrepreneurship Development (ii) Company Law and Secretarial Practice	III	5	-	5	80	20	100	40	-	-	100	4
Practical													
6P1	C#.Net & SEC - II	P- I	-	6	6	-	-	-	-	100	40	100	4
6P2	**Project**	Project	-	6	6	-	-	-	-	100	40	100	4
	Total		**15**	**12**	**27**							**50**	**20**

Notes:
1. TH = Theory, PR = Practical, IA = Internal Assessment, SEC = Skill Enhancement Course, DSE = Discipline Specific Elective.
2. The practical shall be treated as a separate passing head.
3. Practical Record File should be prepared for Practical Subjects. Both subjects should be included in Practical Record File.
4. The Practical batch size shall be of 60 (Sixty) students per batch with Two students sharing one computer terminal.
5. The candidate has to pass theory papers and Practical Paper separately.
6. Above instructions are applicable for all semesters.

ABSORPTION SCHEME

B.Com (COMPUTER APPLICATION) (BCCA) NEW course

(From Annual Pattern Introduced in 2013-2014 & CBS Semester pattern introduced in 2016-17 (referred as **OLD Course** hereafter**) to CBS semester Pattern introduced in Session 2019- 20 (**referred as **NEW Course** hereafter**)**

It is notified for general information of all concerned that the failure students of **B.Com. (Computer Application) (BCCA) Annual pattern Course (introduced in 2013-2014) & CBS Semester pattern (introduced in 2016-2017) old Course shall be absorbed in the NEW Course CBS Semester Pattern introduced from the session 2019-2020 examination with the following scheme.**

1. Those who have completed & passed **B.Com. (Computer Application) (BCCA) Part-I as per Annual pattern course** are eligible for admission in the **B.Com. (Computer Application) (BCCA) SEM - III CBS Pattern introduced from the session 2019-2020 (NEW Course).**

2. Failure students of **B.Com. (Computer Application) (BCCA) Part – I - Annual Pattern course** and having ATKT as per rules mention in direction No. **12** of **2014**, are eligible to take admission in **B.Com. (Computer Application) (BCCA) SEM - III CBS Pattern introduced from the session 2019-2020 (NEW Course).**

   Such students will have to compulsorily fill Semester-I and Semester-II exam form and appear for the papers which have no exemptions as mentioned below-

(A) BCCA Part –I

Absorption Scheme B.Com.(Computer Application)								
CBS Semester Pattern Introduced in 2019-2020 (New course) with CBS semester pattern Introduced in 2016-2017 (Old course) and with Annual Pattern introduced in 2013-2014								
BCCA - PART - I - SEMESTER - I								
Sr. No	CBS Semester Pattern - (New Course) introduced in 2019-2020	Max Marks	Sr. No	CBS Semester Pattern - (Old Course) introduced in 2016-2017	Max Marks	Sr. No	(Annual Pattern) Course introduced in 2013-14	Max Marks
Theory			Theory			Theory		
1T1	English and Business Communication - I	80	1T1	English and Business Communication - I	80	1	English & Business Communication	80
1T2	Financial Accounting	80	1T2	Financial Accounting	80	3	Financial Accounting	80
1T3	Fundamentals of Computer	80	1T3	Fundamentals of Computer	80	4	Information Systems	80
1T4	Programming in _C'	80	1T4	Programming in _C'	80	6	Introduction to Operating Systems	80
Practical			Practical			Practical		
1P1	Practical - I :(Semester - I) - Fundamentals of Computer & Programming in _C'	100	1P1	Practical - I :(Semester - I) - Fundamentals of Computer & Programming in _C'	100		**Practical-I :** Microsoft Office	100

Absorption Scheme B.Com.(Computer Application)							
CBS Semester Pattern Introduced in 2019-2020 (New course) with CBS semester pattern Introduced in 2016-2017 (Old Course) and with Annual Pattern course introduced in 2013-2014							
BCCA - PART - I - SEMESTER - II							
Sr. No	CBS Semester Pattern - (New Course) introduced in 2019-2020	Max Marks	Sr. No	CBS Semester Pattern - (Old Course) introduced in 2016-2017	Max Marks	Sr. No	(Annual Pattern) Course introduced in 2013-14	Max Marks
Theory			**Theory**			**Theory**		
2T1	English and Business Communication - II (Sem - II)	80	**2T1**	**English and Business Communication - II (Sem - II)**	**To be appeared compulsorily**		
2T2	Principles of Business Management	80	2T2	Principles of Business Management	80	2	Principles of Business Management	80
2T3	Programming in C++ (Sem - II)	80	**2T3**	**Programming in C++ (Sem - II)**	**To be appeared compulsorily**		
2T4	E-Commerce and Web Designing	80	2T4	E-Commerce and Web Designing	80	5	Information Technology	80
Practical			**Practical**			**Practical**		
1P1	Practical - I :(Semester - I) - Fundamentals of Computer & Programming in ‗C‘	100	1P1	Practical - I :(Semester - I) - Fundamentals of Computer & Programming in ‗C‘	100	1P1	Practical - I :(Semester - I) - Fundamentals of Computer & Programming in ‗C‘	100
All the students absorbed in semester pattern course will have to compulsorily fill Semester I and Semester II exam forms and appear for these two papers of (New course). Other papers if any to be appeared as per exemption mentioned								

3. Those who have completed & passed **B.Com. (Computer Application)(BCCA) Part-I & B.Com. (Computer Application) (BCCA) Part - II as per (Annual Pattern) course** are eligible for admission in the **B.Com. (Computer Application) (BCCA) (NEW Course) CBS scheme (Part – III) Sem – V.**

4. Failure students of **B.Com. (Computer Application) (BCCA) Part - II (Annual Pattern) course** and having ATKT as per rules are eligible to take admission in **B.Com. (Computer Application) (BCCA) (NEW Course) Part-III Sem – V CBS pattern introduced in 2019-2020. Such students will have to compulsorily fill Semester-III and Semester-IV exam form and appear for the papers which have no exemptions as mentioned below-**

(B) BCCA Part –II

BCCA - PART - II - SEMESTER - III							
CBS Semester Pattern Introduced in 2019-2020 with (New course) CBS semester pattern Introduced in 2016-2017 (Old Course) and with Annual Pattern introduced in 2013-2014							
Sr. No	CBS Semester Pattern - (New Course) introduced in 2019-2020	Max Marks	Sr. No	CBS Semester Pattern - (Old Course) introduced in 2016-2017	Max Marks	Sr. No	(Annual Pattern) Course introduced in 2013-14	Max Marks
Theory			Theory			Theory		
3T1	Environment Studies of Sem-III	80	**3T1**	**Environment Studies of Sem-III**	**To be appeared compulsorily**			
3T2	Business Economics	80	3T2	Business Economics	80	2	Business Economics	80
3T3	Visual Basic Programming	80	3T3	Visual Basic Programming	80	4	Programming Skills (C Prog.)	80
3T4	Database Management System	80	3T4	Database Management System	80	6	MIS & System Analysis	80
Practical			Practical			Practical		
3P1	**Practical - I : (Semster - III) -** Visual Basic Programming & Database Management System	100	3P1	**Practical - I : (Semster - III) -** Visual Basic Programming & Database Management System	100	7	**Practical-I :** Programming Skills	100

BCCA - PART - II - SEMESTER - IV							
CBS Semester Pattern Introduced in 2019-2020 with (New course) CBS semester pattern Introduced in 2016-2017 (Old Course) and with Annual Pattern introduced in 2013-2014							
Sr. No	CBS Semester Pattern - (New Course) introduced in 2019-2020	Max Marks	Sr. No	CBS Semester Pattern - (Old Course) introduced in 2016-2017	Max Marks	Sr. No	(Annual Pattern) Course introduced in 2013-14	Max Marks
Theory			Theory			Theory		
4T1	Mathematics	80	4T1	Mathematics	80	1	Statistics Techniques	80
4T2	Business Law	80	4T2	Business Law	80	3	Cost & Management Accounting	80
4T3	Core Java of Sem - IV	80	4T3	Core Java of Sem - IV	To be appeared compulsorily		
4T4	PHP & MySQL	80	4T4	PHP & MySQL	80	5	E-Commerce & Web Designing	80
Practical			Practical			Practical		
4P1	Practical - I : (Semester - IV) - PHP & MySQL	100	4P1	Practical - I : (Semester - IV) - PHP & MySQL	100	8	Practical-II : HTML	100
All the students absorbed in semester pattern course will have to compulsorily fill Semester III and Semester IV exam forms and appear for these two papers of (New course). Other papers if any to be appeared as per exemption mentioned							

5. Failure students of **B.Com. (Computer Application) (BCCA) Part-III (Annual Pattern) course** are having chances upto **winter 2019** examination **(Last Chance)**. So they should appear **B.Com. (Computer Application) (BCCA) Part-III (Annual Pattern) course examination & is required to clear their backlog**. After that those who will have backlog, **will have to compulsorily fill Semester-V and Semester-VI exam form of BCCA (New course) and appear for papers which have no exemptions as mention below –**

(C) BCCA Part –III

BCCA - PART - III - SEMESTER - V							
CBS Semester Pattern Introduced in 2019-2020 with (New course) CBS semester pattern Introduced in 2016-2017 (Old Course) and with Annual Pattern introduced in 2013-2014							
Sr. No	**CBS Semester Pattern - (New Course) introduced in 2019-2020**	**Max Marks**	**Sr. No**	**CBS Semester Pattern - (Old Course) introduced in 2016-2017**	**Max Marks**	**Sr. No**	**(Annual Pattern) Course introduced in 2013-14**	**Max Marks**
Theory			**Theory**			**Theory**		
5T1	Computerized Accounting using Tally	80	5T1	Computerized Accounting using Tally	80	2	Computerized Accounting (TALLY)	80
5T2	VB.Net	80	5T2	VB.Net	80	5	DBMS and Oracle	80
5T3	**SEC – I : (Any One)**		5T3	**SEC – I : (Any One)**				
	(i) Management Information Systems	80		(i) Management Information Systems	80	3	Software Product and Project Management	80
	(ii) System analysis & Design	80		(ii) System analysis & Design	80			
5T4	**DSE – I : (Any One)**		5T4	**DSE – I : (Any One)**				
	(i) Cost & Management Accounting	80		(i) Cost & Management Accounting	80	1	Business Law	80
	(ii) Corporate Accounting	80		(ii) Corporate Accounting	80			
Practical			**Practical**			**Practical**		
5P1	**Practical - I : (Semester - V) -** Computerized Accounting using Tally & Visual Basic	100	5P1	**Practical - I : (Semester - V) -** Computerized Accounting using Tally & Visual Basic	100	6	Practical-I : Tally	100

BCCA - PART - III - SEMESTER - VI							
CBS Semester Pattern Introduced in 2019-2020 with (New course) CBS semester pattern Introduced in 2016-2017 (Old Course) and with Annual Pattern introduced in 2013-2014							
Sr. No	**CBS Semester Pattern - (New Course) introduced in 2019-2020**	**Max Marks**	Sr. No	**CBS Semester Pattern - (Old Course) introduced in 2016-2017**	**Max Marks**	Sr. No	**(Annual Pattern) Course introduced in 2013-14**	**Max Marks**
Theory			**Theory**			**Theory**		
6T1	C#.Net	80	6T1	C#.Net	80	4	Front End Development	80
6T2	**SEC-II (Any One)**		6T2	**SEC-II (Any One)**		**To be appeared compulsorily (Any One)**		
	(i) Python	80		(i) Python				
	(ii) Ruby on Rail	80		(ii) Ruby on Rail				
6T3	**DSE-II (Any One)**		6T3	**DSE-II (Any One)**		**To be appeared compulsorily (Any One)**		
	(i) Entrepreneurship Development	80		(i) Entrepreneurship Development				
	(ii) Company Law and Secretarial Practice	80		(ii) Company Law and Secretarial Practice				
Practical			**Practical**			**Practical**		
6P1	**Practical - I : (Semester - VI) - C#.Net & SEC-II (Any One - Python / Ruby on Rail**	100	6P1	**Practical - I : (Semester - VI) - C#.Net & SEC-II (Any One - Python / Ruby on Rail**	100	7	Practical-II : VB & Oracle	100
Project			**Project**			**Project**		
6P2	**Project**	100	6P2	**Project**	100	8	PROJECT	100
All the students absorbed in semester pattern course will have to compulsorily fill Semester V and Semester VI exam forms and appear for these two papers of (New course). Other papers if any to be appeared as per exemption mentioned							

QUESTION PAPER PATTERN
First / Second / Third / Fourth / Fifth / Sixth Semester
Bachelor of Commerce(Computer Application)- (BCCA) CBS Examination

Semester – I – (Financial Accounting),
Semester – II - Principles of Business Management),
Semester – III – (Environmental Studies, Business Economics),
Semester – IV- (Statistical Techniques, Business Law),
Semester – V – (Cost and Management Accounting, Corporate Accounting),
Semester – VI – (Entrepreneurship Development, Company Law and Secretarial Practice)

Time: 3 Hours   **Total Marks: 80**

N. B. -   a) Draw well labeled diagram wherever necessary.
       b) All questions are compulsory.

Q1.   4 x 4 = 16

       a.   Unit – I
       b.   Unit – II
       c.   Unit – III
       d.   Unit - IV

Q2. Either

       (A) 8 -   Unit – I
       (B) 8 -   Unit - I
    OR
       (C) 16 -   Unit - I

Q3. **Either**

       (A) 8 -   Unit - II
       (B) 8 -   Unit - II
    OR
       (C) 16 -   Unit - II

Q4. **Either**

       (A) 8 -   Unit - III
       (B) 8 -   Unit - III
    OR
       (C) 16 -   Unit - III

Q5. **Either**

       (A) 8 -   Unit - IV
       (B) 8 -   Unit - IV
    OR
       (C) 16 -   Unit – IV

QUESTION PAPER PATTERN
First / Second / Third / Fourth / Fifth / Sixth Semester
Bachelor of Commerce(Computer Application)- (BCCA) CBS Examination

Semester – I – (Fundamentals of Computer, Programming in C),
Semester – II – (Programming in C++, E-Commerce and web Designing),
Semester – III – (Visual Basic Programming, Database Management System),
Semester – IV – (Core Java, PHP & MySQL),
Semester – V – (Computerized Accounting using Tally, VB.Net, Management Information Systems, System Analysis & Design),
Semester – VI – C#.Net, Python, Ruby on Rail,

Time: 3 Hours   **Total Marks: 80**

N. B. -   a) Draw well labeled diagram wherever necessary.

     b) All questions are compulsory.

Q1.   **8 x 2 = 16**

    N. B. – 1. Each question carries two marks.

    2. Answers should not more than five lines.

A.   Unit I

B.   Unit I

C.   Unit II

D.   Unit II

E.   Unit III

F.   Unit III

G.   Unit IV

H.   Unit IV

Q2.   **8 x 3 = 24**

    N. B. – 1. Each question carries three marks.

    2. Answers should not more than ten lines.

A.   Unit I

B.   Unit I

C.   Unit II

D.   Unit II

E.   Unit III

F.   Unit III

G.   Unit IV

H.   Unit IV

N. B. – 1. Each question carries five or ten marks.

2. Answers should not more than 400 words for 5 marks questions and 600 words for 10 Marks questions respectively.

Q3. **Either**

    (A) 5   Unit I

    (B) 5   Unit I

OR

    (C) 10   Unit I

Q4. **Either**

    (A) 5   Unit II

    (B) 5   Unit II

OR

    (C) 10   Unit II

Q5. **Either**

    (A) 5   Unit III

    (B) 5   Unit III

OR

    (C) 10   Unit III

Q6. **Either**

    (A) 5   Unit IV

    (B) 5   Unit IV

OR

    (C) 10   Unit IV

QUESTION PAPER PATTERN OF ENGLISH AND BUSINESS COMMUNICATION

Subject: English and Business Communication – I

SEMESTER – I

Time:3Hours]   [Total Marks:80

Q1.   A.   Comprehension of Unseen Passage from Unit-I   10 Marks
           (Five VSAQs of 2 Marks each based on the Unseen Passage)
      B.   Questions on ANY TWO components of Enriching Vocabulary from
           Unit -I
           (**Five items to be solved out of Eight (5 x 1 Mark)X2**)   10 Marks
      **(Synonyms/Antonyms to be given in match the following format–5 words
                              against 8 options)**

Q2.   A.   ONE out of TWO Letters (Application for Employment/Job Offer
           Letters) from
           Unit II   10 Marks
      B.   ONE out of TWO Letters (Sales letters / Claim and Adjustment Letters)
           from
           Unit - II   10 Marks

Q 3. A.   ONE LAQ out of TWO from Unit - III   (10 × 1) =10 Marks
      B.   TWO SAQs out of THREE from Unit - III   (5 x 2) = 10 Marks

Q 4. A.   THREE SAQs with internal choice from Prose Section of Unit IV
                                                  (3 x 5 Marks)=15 Marks
      B.   ONE SAQ with internal choice from Poetry Section of Unit IV 05 Marks

                                                        Total = 80 Marks
      LAQ - Long Answer Questions to be answered in about 150words
      SAQ - Short Answer Questions to be answered in about 75 words
      approximately.

INTERNAL ASSESSMENTOF ENGLISH AND BUSINESS COMMUNICATION: 20 MARKS

The Internal Assessment would be done on the basis of the assignments submitted by the student and his/her performance, attendance and conduct during the Semester. The concerned teacher shall provide, in advance, a list of topics/assessment items/Question Bank (to the students) based on the Units prescribed for the Theory Examination. Students shall finalize 2 topics/items from 2 different units with the approval of the concerned teacher and submit the same within the prescribed deadline.

Students may be given freedom to submit a creative writing assignment on human values/world peace/environmental issues inspired by or related to the lessons/poems prescribed in the syllabus.

2Assignments	**–**	**6+6 = 12**
Marks Performance & Conduct	**–**	**4**
Marks Attendance	**-**	**4 Marks**
TOTAL	**–**	**20 MARKS**

QUESTION PAPER PATTERN OF ENGLISH AND BUSINESS COMMUNICATION

Subject: English and Business Communication – II

SEMESTER – II

Time:3Hours]   [TotalMarks:80

Q1.   A.   Comprehension of Unseen Passage from Unit-I   10 Marks

(Five VSAQs of 2 Marks each based on the Unseen Passage)

B.   Question from Section B of Unit   10 Marks

- **(Five items out of Eight on meanings of the Words often Confused - (1 x 5 Marks))**
- **(Five items out of Eight on Punctuation –(1 x 5 Marks))**

Q2.   A.   ONE out of TWO Letters (Inviting Quotation / Placing Order) from Unit

II   10 Marks

B.   ONE out of TWO Letters (Credit Letters - Granting/Refusing Credit, Letter to Bank for overdraft facility) from Unit-II   10 Marks

Q 3.   A.   ONE LAQ out of TWO from Unit -III   (10 × 1) =10 Marks

     B.   TWO SAQs out of THREE from Unit-III   (5 x 2) = 10 Marks

Q 4.   A.   THREE SAQs with internal choice from Prose Section of Unit IV

                        (3 x 5 Marks) =15 Marks

     B.   ONE SAQ with internal choice from Poetry Section of Unit-IV 05 Marks

Total = 80 Marks

LAQ - Long Answer Questions to be answered in about 150words

SAQ - Short Answer Questions to be answered in about 75 words approximately.

INTERNAL ASSESSMENTOF ENGLISH AND BUSINESS COMMUNICATION: 20 MARKS

The Internal Assessment would be done on the basis of the assignments submitted by the student and his/her performance, attendance and conduct during the Semester. The concerned teacher shall provide, in advance, a list of topics/assessment items/Question Bank (to the students) based on the Units prescribed for the Theory Examination. Students shall finalize 2 topics/items from 2 different units with the approval of the concerned teacher and submit the same within the prescribed deadline.

Students may be given freedom to submit a creative writing assignment on human values/world peace/environmental issues inspired by or related to the lessons/poems prescribed in the syllabus.

2Assignments	**–**	**6+6 = 12**
Marks Performance & Conduct	**–**	**4**
Marks Attendance	**-**	**4 Marks**
TOTAL	**–**	**20 MARKS**

(A)   Project and Classification of Marks on Project

Towards the end of the second year of study, a student will be examined in the course

‖Project Work‖

a. Project Work may be done individually or in groups (Maximum 3 students) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.

b. The Project Work should be done using the tools covered in B.Com. (Computer Application) (BCCA).

c. The Project Work should be of such a nature that it could prove useful or be relevant from the commercial / management angle.

d. The project work will carry 100marks.

e. Project Work can be carried out in the Institute or outside with prior permission of the Institute.

f. The external viva-voice examination for Project Work would be held as per the Examination Time Table of the Third year of study, by a panel of one external and one Internal Examiner.

Types of Project

As majority of the students are expected to work out a project in some industry / research and development laboratories / educational institutions / software export companies, it is suggested that the project is to be chosen which should have some direct relevance in day-today activities of the candidates in his/her institution. The Applications Areas of project – Financial / Marketing / Database Management System / Relational Database Management System / E-Commerce / Internet / Manufacturing / web Designing / Scientific / ERP etc.

Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The project guide must be a RTM Nagpur university approved teacher. The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following form:

Format of Synopsis for Desktop Application

1. Title of the Project.
2. Objectives of the Project.
3. Project Category (DBMS / RDBMS / OOPS etc.)
4. Tools / Platform and Languages to be used.
5. Complete Structure of the System:
   i. Numbers of Modules and its Description.
   ii. Modular Chart / System Chart.
   iii. Data Structures or Tables.
   iv. Process Logic of each Module.
   v. Types of Report Generation.
6. References.

Note: Synopsis should not be more than 3-4 pages.

Format of Synopsis for Web Application

1. Title of the Project.
2. Objectives of the Project.
3. Project Category (DBMS / RDBMS / OOPS etc.).
4. Tools / Platform and Languages to be used.
5. Complete Structure of the System:
   I. Number of pages and links their short description.
   II. Use / Information of Pages.
   III. Feedback Form (if any).
6. References.

Note: Synopsis should not be more than 3-4 pages.

Project Report Formulation

Front Page.

College Certificate Page. Declaration Page.

Acknowledgment Page. Project Profile.

Index or Content Page.
   I. *Contents————————————.
   II. Appendices

      I.   List Figures, Tables& Charts.

      II.   Approved copy of Synopsis. Glossary

III.   Contents.

      I.   Introduction.

      II.   Objectives.

      III.   Preliminary System Analysis.

- Preliminary Investigation.
- Present System in Use.
- Flaws in Present System.
- Need of New System.
- Feasibility Study.
- Project Category.

IV.   Software Engineering Paradigm Applied

- Modules
- System / Modular Chart.

V.   Software & Hardware Requirement Specification.

VI.   Detailed System Analysis.

- Data Flow Diagram.
- Numbers of Modules and Process Logic.
- Data Structures and Tables.
- Entity-Relationship Diagram.

VII.   System Design.

- Form Design.
- Source Code.
- Input screen & Output Screen.

VIII.   Testing &Validation Checks.

IX.   System Security Measures.

X.   Implementation, Evaluation and Maintenance.

XI.   Future Scope of the project.

XII.   Suggestion &Conclusion

XIII.   Bibliography & References.

Note :-

    i.   A Student is expected to complete the Assignments based on Syllabus of Practical subjects and submit the same in the form of a files

(assignment Record) at the end of Academic Session for the evaluation purpose.

ii. A student should submit internal assessment of each theory paper prescribed by the subject teacher.

iii. A Student is expected to deliver a seminar on any course curricular subject / latest trends in IT relevant subject per semester for internal assessment.

Classification Of Marks on Project :-

Report & Documentation	40
Viva-voce (External)	40
Viva-voce (Internal)	20
Total Marks	**100**

The marks of Project shall be notified as a whole out of 100 in Foil/C-Foil

(B) Practical and Classification of Marks on Practical

1. Practical exam shall be of 4 hours duration.

2. 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.

3. 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.

4. After Viva-Voice and evaluation of practical records of a student by the Internal & External Examiner, both examiners should sign on the certificate of practical records.

The certificate template shall be as follows:

Name of the college/

Institution name of the department

CERTIFICATE

This is to certify that Mr./Mrs./Ms. _____

of class BCCA _____ **Year** Semester _____ has satisfactorily completed the practical experiments prescribed by The Rastrashant Tukdoji Maharaj Nagpur University, Nagpur for the subject **Practical – _____** - _____ during the academic year **20** **- 20** .

Signature   Signature

Practical In-charge   **Head of the**
Department

Signature   Signature

Internal Examiner   **External Examiner**

Date -

Classification of Practical Marks:-

Practical–I	**Marks**	**Marks**
Writing a Program or Problem (Algorithm & Flowchart)	20	20
2. Execute on a computer		
3. Taking Hard Copy		

Practical – II

1.Writing a Program or Problem (Algorithm & Program)	10		10
External Viva Voce	10		10
Practical Record	10		10

Total Marks	**50**	**+**	**50**	**=100**	

Note:

- Since the practical contains two components (i.e. two subjects), so each components has to be evaluated as above.
- Whereas, the marks of Practical shall be notified as a whole out of 100 in Foil / C-Foil.

Detailed syllabus for theory papers

(BCCA)Part-I

Semester – I

Paper – I
Course name - English and Business Communication – I
Course code - 1T1

UNIT I
  A. Comprehension of an Unseen Passage
  B. Enriching Vocabulary: Synonyms and Antonyms, Single Word for a Group of Words, Change of Word from Noun to Adjective &vice-versa.

UNIT II
  Business Correspondence: Application for Employment, Job Offer Letters, Sales letters, Claim and Adjustment Letters

UNIT III
  Communication Process: Sender, Channel, Message,
  Receiver and Response
  Types of Communication:
  a. According to mode: a. Oral   b.   Written
  b. According to Medium: a. Electronic   b. Print
  c. According to number of participants: a. Dyadic b. Group
  d. According to Direction: a. One-way   b. Two-way
  e. According to Purpose: a. General b. Business(Specific)

UNIT IV
  Textbook entitled _Prism: Spoken and Written Communication, Prose & Poetry' published by Orient Black Swan
  Prose
  i) With the Photographer – Stephen Leacock
  ii) Socrates and the Schoolmaster – F. L. Brayne
  iii) Speech on Indian Independence – Jawaharlal Nehru

  Poetry
  i) On Television - Roald Dahl
  ii) The Felling of the Banayan Tree – Dilip Chitre
  iii) Stay Calm - Grenville Kleiser

Reference Books:
(For UNIT I)
  i) English Grammar – N.D.V. Prasada Rao (S.Chand)

ii) Developing Communication Skills – Krishna Mohan & Meera Banerji (Macmillan

(For UNIT II)

i) Business Communication: Urmila Rai, S.M. Rai- (Himalaya Publishing House)

ii) Business Correspondence and Report Writing – R. C. Sharma& Krishna Mohan (Tata McGraw-Hill)

iii) Developing Communication Skills – Krishna Mohan & Meera Banerji (Macmillan)

(For UNIT III)

i) Business Communication and Management- Dr. K.R.Dixit (Vishwa Publishers, Nagpur)

(For UNIT IV)

Prescribed Text Book :

i) Prism: Spoken and Written Communication, Prose & Poetry published by Orient BlackSwan

Paper - II
Course Name - Financial Accounting
Course code -1T2

UNIT – I

Accounting Concepts:- Introduction, Accounting Concepts and Conventions, Generally Accepted Accounting Principles(GAAP), Conceptual Basis of a Balance Sheet, Capital and Revenue Income and Expenditure, Indian Accounting Standards AS 1 to AS 10.

Mechanics of Accounting:- Introduction, Classification of Accounts, Double Entry System, Overview of Accounting cycle, Preparing journals, Subsidiary Books, Ledger, Preparation of Trial Balance (Theory & Numerical)

UNIT – II

Preparation of final Accounts of Sole Traders :- Introduction, Describe format of P & L Account, Format of Balance Sheet, Treatment of Adjustments, The components of a set of final accounts for a sole trader. Prepare Trading Account, Profit & Loss Account and Balance Sheet (Theory & Numerical)

UNIT – III

Valuation of Goodwill – Meaning and need for valuation of goodwill, Feature of goodwill, Factors influencing valuation for goodwill, Average profit method (Future

maintainable profit method), Weighted average profit method, Super profit method, Capitalization method, Annuity Method. (Theory & Numerical)

UNIT – IV

Consignment Accounts :- Meaning, Needs, Advantages and formalities in consignment, difference between a consignment and a sale, Performa invoice, Account sales, Accounting procedure of consignment, valuation of consignment stock (Theory & Numerical)

Reference Books:

1. M.N. Arora, K.V.Achalapati, S.Brinda, Finiancial Accounting, Taxmann

2. M. Hanif, A. Mukherjee, Financial Accounting, McGraw-Hill.

3. N. Ramachandran, Ram Kumar Kakani, Financial Accounting for management, McGraw-Hill.

4. Dhanesh K Khatri, Accounting for Management, McGraw-Hill.

5. Shukla, M.C., T.S. Grewal and S.C.Gupta. Advanced Accounts. Vol.-I. S. Chand & Co., New Delhi.

6. S. N. Maheshwari, Financial Accounting, Vikas Publication, New Delhi.

7. T.S, Grewal, Introduction to Accounting, S. Chand and Co., New Delhi

8. P.C. Tulsian, Financial Accounting, Tata McGraw Hill, New Delhi

9. Dr. Pramod Fating, Dr. Vijay Bagde, Dr. Sarang Javkhedkar, Dr. Milind Gulhane – Financial Accounting - Sir Sahitya Kendra, Nagpur

10. Dr. K. Karemore, Dr. Vijay Bagde, Dr. Tekade, Prof. G. Khorgade, Dr. T Chaudhari – Financial Accounting - Sir Sahitya Kendra, Nagpur

Paper - III
Course Name - Fundamentals of Computer
Course Code – 1T3

UNIT – I

Understanding the Computer:- Introduction, Evolution, Generation, Classification and Application of computers. **Memory and Storage Systems:** Introduction, Memory representation, Random Access Memory, Read Only Memory, Storage systems, Magnetic storage systems, Optical storage systems, Magneto optical system, Solid-state storage devices.

UNIT – II

Input Devices: Introduction, Keyboard, Pointing devices, Scanning devices, Optical recognition devices, Digital camera, Voice recognition system, Data acquisition sensors, Media input devices. **Output Devices:** Introduction, Display monitors, Printers, Impact printers, Non-impact printers, Plotters, Voice output systems, Projectors, Terminals. **Computer Codes:** Introduction, Decimal system, Binary system, Hexadecimal system, Octal system, Conversion of numbers

UNIT – III

Computer Software: Introduction, Types of computer software, System management programs, System development programs, standard application programs. **Programming Languages:** Introduction, History of programming languages, Generations of programming languages, Characteristics of good programming languages, Developing a program, Running a program.

Data Communication and Networks: Introduction, Data communication using modem, Computer network, Network topologies, Network protocol and software, Application of network.

UNIT – IV

Operating Systems: Introduction, History of operating systems, Functions of operating systems, Process management, Memory management, File management, Device management, Security management, Types of operating systems, Providing user interface, Popular operating systems. **Microsoft Software:** Introduction, MS-DOS, MS Word systems, MS Excel systems, MS PowerPoint systems, MS Access systems,

Text Book:

1. E Balagurusamy, Fundamentals of Computers, Mc Graw Hill Education.

Reference Books:

1. Dr. Rajiv Midha, S. Brinda, Fundamental of Information Technology, Taxmann.

2. Madhulika Jain, Shashank Jain, Satish Jain, Information Technology Concepts, BPB Publication.

3. Dr. Rajiv Midha, Information Technology, Taxmann

4. B. Ram, Computer Fundamentals (Architecture & organization), New Age International Publisher.

5. Turban, Rainer, Potter, Introduction to Information Technology, Wiley India Edition.

6. Sanjay Saxsena, Introduction to Information Technology, Vikash Publishing House Pvt.Ltd.

7. Dr. Sushila Madan, Information Technology, Taxmann.

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Paper - IV
Course Name – Programming in 'C'
Course Code – 1T4

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UNIT – I

Data Types, Operators and some statements: Identifiers and keywords, Constants, C Operators, Type Conversion. **Writing a Program in C:** Variable declaration, Statements, Simple C Programs, Simple Input Statements, Simple Output Statements. **Control Statements:** Conditional Expressions, Loop Statements, Breaking control statements.

UNIT – II

Functions*and Program Structures:*Introduction, Defining a Function, Types of User Defined Functions,Return Statement, Actual & Formal Arguments, Local & Global Variables, Scope of Variables, Recursive Functions.**Arrays:**One dimensional array, Array Declaration, Array Initialization, Two dimensional array, Declaration and initialization of two dimensional array, multidimensional array, Character array and Strings functions.

UNIT – III

Pointers: Pointer Declaration, Pointer Arithmetic, Pointers and Functions, Pointers and Arrays, Pointer and Strings, Array of Pointers, Pointers to Pointers. **More on Functions:** Pre-processors, Macros, Header Files, standard Functions.

UNIT-IV

Structures, unions and File handling: Declaration of Structure, Initializing a Structure, Array of Structure, Arrays within Structure, Pointer and Structure,

Union.**Data File Operations:** Review of input/output Functions, Opening and Closing of files, Simple File Operation, Structures and File Operation, Block Read/Write, More on File operations, Random Access File processing.

Text Book:
1. D. Ravichandran, Programming in C, New Age International Publishers.

Reference Books:
1. E. Balaguruswami, Programming in ANSI C,McGraw-Hill.
2. R Subburaj, Programming in C, Vikash Publishing House Pvt. Ltd.
3. S.K.Shrivastava&Dipali Srivastava, C in Depth, BPB Publication.
4. YashwantKanetkar, Let Us C, BPB Publication, 9th Edition.
5. Veugopal Prasad, Mastering C, McGraw-Hill.
6. Schildt, The Complete Reference C, McGraw-Hill.

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Semester – II

Paper – I

Course Name - English and Business Communication – II

Course code - 2T1

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UNIT-I
    A. Comprehension of an Unseen Passage
    B. Punctuation, Words often confused

UNIT-II

Business Correspondence: Inviting Quotations, Placing Orders, CreditLetters - Granting/Refusing Credit, Letter to Bank for overdraft facility

UNIT-III
- Elements of communication
- Objectives of communication
- Essentials of effective communication
- Barriers to effective communication
- Suggestions to overcome the barriers

UNIT-IV

Textbook entitled _Prism: Spoken and Written Communication, Prose & Poetry'
published by Orient Black Swan

Prose

    I.   An Astrologer's Day – R. K. Narayan

    II.   The Gift of the Magi – O. Henry

    III.   The Bet – Anton Chekhov

Poetry

    I.   Say Not the Struggle Naught Availeth - Arthur Hugh Clough

    II.   No Men are Foreign- James Kirkup

    III.   Abou Ben Adhem - James Leigh Hunt

Reference Books:

(For UNIT I)

1.   English Grammar – N. D. V. PrasadaRao (S.Chand)

2.   Developing Communication Skills – Krishna Mohan &MeeraBanerji
(Macmillan)

(For UNIT II)

1. Business Communication: Urmila Rai, S. M. Rai - (Himalaya Publishing House)

2. Business Correspondence and Report Writing – R. C. Sharma& Krishna Mohan (Tata McGraw-Hill)

3. Developing Communication Skills – Krishna Mohan & Meera Banerji (Macmillan)

(For UNIT III)

1. Business Communication and Management- Dr. K. R. Dixit (Vishwa Publishers, Nagpur)

(For UNIT IV) Prescribed Text Book:

    Prism: Spoken and Written Communication, Prose & Poetry published byOrient BlackSwan

Paper - II

Course Name – Principles of Business Management

Course Code – 2T2

UNIT- I

Nature And Functions Of Management – Importance Of Management, Definition Of Management, Management Function Or The Process Of Management, Levels Of Management, Organizational Or Business Functions, Role Of A Senior Management, Managerial Skills, Managerial Effectiveness, Management And Administration, Management- A Science Or An Art?, Management- A Profession?, Professional Management Vs Family Management, Management Of International Business.

Planning- Nature Of Planning, Importance Of Planning, Types Of Plans, Steps In Planning, Strategic Planning Process, Limitation Of Planning, Making Planning Effective, Planning Skills, Strategic Planning In The Indian Industry. **Decision Making**- Meaning Of Decision, Types Of Decision, Steps In Relational Decision-Making, Rationality In Decision-Making, Environment Of Decision-Making, Common Difficulties In Decision-Making.

UNIT- II

Organization- What Is An Organization?, Process Of Organizing, Principles Of Organizing, Span Of Management, Departmentalization, Process Departmentalization, Purpose Departmentalization, Organization Structure, What Type Of Structure Is Best?, Emerging Organization Structures, Committees, Teams, International Organization Structures. **Coordination** – Distinction Between Coordination And Cooperation, Distinction Between Coordination And Control, Need For Coordination, Requisites For Excellent Coordination, Types Of Coordination, Techniques Of Coordination, Difficulties Of Coordination, **Staffing**- Importance And Need For Proper Staffing, Manpower Planning, Recruitment, Selection, Placement, Induction, Manpower Planning In India.

UNIT- III

Training And Development- Difference Between Training, Education And Development, Advantages Of Training, Steps In Setting Up A Training And Development Programme, Design And Development Of The Training Programme, Evaluation Of Training And Development, Executive Training Practices In India,

Mentoring, Learning Organization, Knowledge Management **Direction And Supervision-** Requirements Of Effective Direction, Giving Orders, Motivation, Job Satisfaction, Organizational Commitment, Morale, First-Level Or Front- Line Supervision.

UNIT- IV

Communication- Importance Of Communication, Purpose Of Communication, Formal Communication, Forms Of Communication, Informal Communication, The Communication Process, Barriers To Communication, Principles Of Effective Communication. **Managerial Control-** Steps In A Control Process, Need For Control System, Benefits Of Control, Essentials Of Effective Control System, Problems Of The Control System, Control Techniques.

Text Book:

1. P. C. Tripathi, P. N. Reddy, Principles of Management, McGraw-Hill.

Reference Books:

1. Prof. Partho S. Sengupta, Principles and Practices of Management, Vikash Publishing House Pvt. Ltd.
2. Neeru Vaisishth, Vibhuti Vasishth, Principles of Management Text & Cases, Taxmann
3. Harold Koontz, Heinz Weihrich, Essentials of management, McGraw-Hill.
4. Neeru Vaisishth, Business Management, Taxmann.
5. R. S. N. Pillai, S. Kala, Principles and Practices of Management, S. Chand.
6. Chandra Bose, Principles of Management & Administration, PHI.

Paper - III
Course Name – Programming in C++
Course Code – 2T3

UNIT – I

Introduction to Object Oriented Programming: Introduction, What is Object Oriented Programming(OOP)?, Structured Procedural programming(SPP), Object

Oriented Programming OOP, Characteristics of OOPs, Advantages of OOPs, Disadvantages of OOPs, Comparison of SPP and OOP, Steps in Developing OOP Programs, Structure of Object Oriented Programs, Object Oriented Languages, Importance of C++. **Data Types, Operators and Expressions:** Identifiers & Keywords, Data Types, C++ Simple Data Types, Literals, Variables, the Const Data type, C++ Operators, Type Conversion. **Input and Output Streams:** Comments, Declaration of Variables, the Main () Function, Simple C++ Programs, Program Termination, Features of IOStream, Keyboard and Screen I/O, Manipulator Functions, Input and Output (I/O) Stream Flags. **Control Statements:** Conditional Expressions, Loop Statements, Nested Control Structures, Breaking Control Statements.

UNIT – II

Function and Program Structures: Introduction, Defining a Function, Return Statement, Types of Functions, Actual & Formal Arguments, Local & Global Variables, Default Arguments, Structure of C++ Program, Order of the Function Declaration, Manually invocated Functions, Nested Functions, Scope Rules, Side Effects, Storage Class Specifiers, Recursive Function, Pre-processors, Header Files, Standard Functions. **Arrays:** Introduction, Array Notation, Array Declaration, Array Initialization, Processing with Arrays, Character Array. **Pointers and Strings:** Introduction, Pointer Arithmetic, Pointers and Functions, Pointers and Arrays, Pointer and Strings.

Structures and Unions:- Introduction, Declaration of Structure, Processing with Structures, Initialization of Structures, Functions and Structures, Array of Structure, Pointer and Structure, Unions.

UNIT – III

Classes and Objects: Introduction, Structures and Classes, Declaration of Class, Member Functions, Defining the Object of a Class, Accessing a Member of Class, Array of Class Objects, Pointer and Classes. **Special Member Function:** Introduction, Constructors, Destructors, Inline Member Functions, Static Class Members, Friend Function,This Pointer.**Single and Multiple Inheritance:** Introduction, Single Inheritance, Types of Base Classes, Type of Derivation,Multiple Inheritance,Member Access Control.

UNIT-IV

Overloading Functions and Operators: Function Overloading, Operator Overloading, Overloading of Binary Operators, Overloading of Unary Operators. **Polymorphism and Virtual Functions:** Polymorphism, Virtual Functions, Pure Virtual Functions, Abstract Base Classes, Virtual Base Classes. **Data File Operations:** Opening and Closing of Files, Reding/Writing a Character from a File, Binary File Operations.

Text Book: - 1. D. Ravichandran, Programming with C++, McGraw-Hill.

Reference Books:

1. E. Balaguruswami, Object Oriented Programming with C++, McGraw-Hill.

2. Rohit Khurana, Object Oriented Programming with C++, Vikash Publishing House Pvt. Ltd.

3. Anirban Das, Goutam Panigrahi, Object Oriented Programming with C++, Vikash Publishing House Pvt. Ltd.

4. Herbert Schildt, The Complete Reference – C++, McGraw-Hill.

Paper - IV
Course Name – E-Commerce and Web Designing
Course Code – 2T4

UNIT – I

Introduction to Electronic Commerce- Electronic Commerce : The Scope of Electronic Commerce, Definition of Electronic Commerce, Electronic Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce, e-Commerce in Perspective. **Business Strategy in an Electronic Age: The** Value Chain, Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains. **Competitive Advantage:** Competitive Strategy, Porter's Model, First Mover Advantage, Sustainable Competitive Advantage, Competitive advantage using e-Commerce.

UNIT – II

Business to Business Electronic Commerce - Inter Organizational Transactions: Inter Organizational Transactions, the Credit Transaction Trade

Cycle, A Variety of Transaction, Pens and Things. **Electronic Markets: Markets**, Electronic Markets, Usage of Electronic Markets, Advantages and Disadvantages of Electronic Markets, Future of Electronic Markets. **Electronic Data Interchange (EDI):** Introduction to EDI, EDI definition, The Benefits of EDI, EDI Example. **Inter Organizational e-Commerce: Inter** Organizational Transaction, Purchasing Online, After Sales Online, e-Commerce in Desk top Facilities Management, Pens and Things and the Web.

UNIT – III

Business to Consumer Electronic Commerce - Internet Shopping and the Trade Cycle, Other e-Commerce Technologies, Advantages and Disadvantages of Consumer e-Commerce, Consumer e- Commerce at Pens and Things. **The Elements of e-Commerce :** Elements, e-Visibility, The e-Shop, Online Payments, Delivering the Goods, After Sales Service, Internet e- Commerce Security, A Web Site Evaluation Model. **Introduction to HTML:** Designing a Home Page, History of HTML, HTML Generations, HTML Documents, Anchor Tag, Hyper Links, Sample Html Documents. **Header and Body Sections: Header** Section, Title, Prologue, Links, Colorful Web Page, Comment Lines, Some Sample Html Documents. **Designing the body Section:** Heading Printing, Aligning the Headings, Horizontal Rule, Paragraph Tab Setting, Image and Pictures, Embedding PNG Format Images.

UNIT – IV

Ordered and Unordered Lists: Lists, Unordered Lists, Headings in a List, Ordered Lists, Nested List. **Table Handling: Table**, Table Creation in HTML, Width of the Table and Cells, Cells Spanning Multiple Rows/Columns, Coloring Cells, Columns Specification, Some Sample Tables. **Dhtml and Style Sheets:** Defining Styles, Elements of Styles, Linking a Styles Sheet to an HTML Document, In-Line Styles, External Styles Sheets, Multiple Styles. **Frames:** Frameset Definition, Frame Definition, Nested Framesets. **A web Page Design Project:** Frameset Definition, Animals, Birds, Fish. **Forms: Action** Attribute, Method Attribute, Input type Attribute, Drop Down List, Sample Forms

Text Books

1. David Whiteley, e-Commerce Strategy, Technologies and Applications, McGraw Hill Education

2. CXavier, World Wide Web design with HTML, McGraw Hill Education.

Reference Books:

1. Bajaj, Nag, E-Commerce, McGraw-Hill.

2. Eric van der Vlist, Danny Ayers, Erik Bruchez, Joe Fawcett, AlessandroVernet, Professional Web 2.0 Programming, Wiely.

3. Michael P. Papazoglou, Pieter M.A. Ribbers, e-Business, Wiely.

4. Brian P. Hogan, HTML5 and CSS3, Shroff Publishers.

5. Sandeep panda, AngularJS – Novice to Ninja, Shroff Publishers.

6. Web Technologies – Black Book, Dreamtech Press.

7. Mike Mcgrath, Web Design in Easy Steps, McGraw-Hill.

8. Mike Mcgrath, JavaScript in Easy Steps, McGraw-Hill.

9. Mike Mcgrath, CSS3 in Easy Steps, McGraw-Hill.

BCCA – Part – II

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Semester – III

Paper - I

Course Name – Environmental Studies

Course Code – 3T1

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UNIT - I

Environment, Environment Studies, Need for public Awareness, Environmental Degradation, Shelter Security, Economic Security, Social Security, Effects of Housing on Environment , Effects of Industry on Environment**. Natural Resources-** Introduction, Types of Natural Resource, Forest Resources, Water Resources, mineral Resources, Energy resources, Land Resources, Conservation of Natural Resources, Sustainable Lifestyles, Biogeochemical Cycle.

UNIT – II

Ecosystem- Introduction to Ecology and Ecological Succession, Ecosystem, FoodChain, Ecological Pyramids, Types of Ecosystems, Forest Ecosystems, Aquatic Ecosystems, Grassland Ecosystem, and Desert Ecosystem.

Biodiversity and its Conservation- Biodiversity, Values or Benefits of Biodiversity, Biogeographic Zones of India. Threats to Biodiversity, Human – Wildlife Conflicts, Conservation of Biodiversity.

UNIT – III

Environmental Pollution ,Introduction, Public Health Aspects, Air Pollution, Land Pollution, Soil Pollution, Marine Pollution, Water Pollution, Noise Pollution, Thermal Pollution, Solid Waste Management, Role of Individuals in Pollution Prevention, Disaster Management.

UNIT – IV

Social Issues and the Environment- Introduction, Sustainable Development,Urbanization, Water Conservation, Resettlement and Rehabilitation of People ; Its Problems and Concerns, ACTs for Environmental Protection, Carbon Credits, Initiatives and Roles of Nongovernmental Organization (NGOs) in Environmental Protection, Issues Involved in Enforcement of Environmental Legislation . Environment and Human Health, Environmental Education, Role of Information Technology in Environment and Human Health.

Text Book
1. Shashi Chawla , Environmental Studies, McGraw-Hill.

Reference Books
1. Dr. D. K. Asthana, Dr. MeeraAsthana ,Environmental Studies, S. Chand.
2. Dr. K. Mukkanti, Environmental Studies, S. Chand.
3. Dr. D. D. Mishra,Fundamental Concepts in Environmental Studies, S.Chand.
4. Benny Joseph, Environmental Studies, McGraw Hill Education.

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Paper - II
Course Name – Business Economics
Course Code – 3T2

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UNIT I

Introduction: Economics and Business Economics– Meaning, Nature, concept & Scope of Business economics. **Basic problem of an Economy and Role of price Mechanism** – Basic problems of an economy, Classification of Economy, Its features, advantages and disadvantages. Free Enterprise Economy: Meaning & Features.

Theory of utility : **Theory of Consumer Behavior –** Nature of Human wants, Utility Analysis - Meaning and definition of utility, Concepts of Marginal Utility, Total Utility, Cardinal and ordinal approach of utility(Difference), Features of Utility, Law of diminishing Marginal utility.

UNIT II

Theory of Demand and supply -Theory of Demand: Concept of Demand, Law of Demand-Meaning, Definition, Assumptions & Exceptions. Elasticity of Demand - Meaning, Types and Factors affecting Elasticity of Demand. **Demand Forecasting** – Meaning, Definition, Importance and scope of Demand Forecasting, Methods of demand forecasting.

Supply Analysis – Supply: Meaning, Determinants and functions of Supply. Law of Supply, Elasticity of Supply: Meaning of Elasticity of Supply, Types of Elasticity of Supply

Unit – III

Theory of Production and cost - Theory of Production: Meaning of Production, Factors of production, Concepts of Total Product, Average product and Marginal Product, Production Function, Short Run Production Function: Law of Variable Proportion, ISO Quant Curve, Long Run Production Function, Law of Returns to Scale.

Theory of Cost – Meaning of Cost, Cost Concepts, Cost Function, Concepts of total Cost ,Average Cost and Marginal Cost, Short Run Average Cost Curves, Long Run Cost Curve, Economies and Diseconomies of Scale

UNIT IV

Market Structure And Pricing theory- Market Structure: - Meaning of market, Classification of Market, Concepts of Total revenue, Average revenue and Marginal revenue, Market Structure - Concept ,Features types.

Price – Cost and Output Determination under Different types of markets- Perfect Competition, Monopoly, Monopolistic Competition, Equilibrium of firms under different market structures in short run and long run. Price Discrimination in monopoly and oligopoly. Kinked demand curve.

Text Book

1. D. N. Dwivedi, Essentials of Business Economics, Vikas Publishing House Pvt. Ltd.

Reference Books

1. David P. Doane, Lori E. Seward, Applied Statistics in Business and Economics, McGraw-Hill.

2. Amit Kumar Upadhyay, Principles of Economics, Vikas Publishing House Pvt. Ltd.

3. P. K. Mehta, Business Economics, Taxmann.

4. Michael Mandel, Economics The basics, McGraw-Hill.

5. SudipChaudhuri, AnindyaSen, Economics, McGraw-Hill.

6. Geetika, PiyaliGhosh, Purba Roy Choudhury, Managerial Economics, McGraw-Hill.

Paper - III
Course Name – Visual Basic Programming
Course Code – 3T3

Unit – I

Introduction to Visual Basic –Advantages of Visual Basic, Features of Visual Basic. **Visual Basic Window Components** – Menu Bar, Standard Toolbar, Project Explorer Window, Form Layout Window, Properties Window, Toolbox, Code Editor Window, Object Browser, **Working With Forms** – Extension & With Function ofthe File, Properties, Events and Method ofthe Form. **Using The Controls Of Visual Basic–**Label Control, Commandbutton Control, Textbox Control, Option Button Control, Frame Control, Checkbox Control, Listbox Control, Combobox Control, Image Control, Scroll Control, Picture Control, sing Timer Control, Drivelistbox Control, Dirlistbox, Filelistbox Control.

Unit – II

Basic Programming Fundamentals– Scope of Variables, Operators, Decision Structure, Loop Structure, Arrays, control array. **Working With Procedure, Functions** Procedure, Functions, Modules **Menus –** Creating Menus, Creating Popup Menu**. Working With Custom Controls –** Imagelist Control,Imagecombo Control, Treeview Control, Listview Control, Toolbar Control, Statusbar Control.

Unit – III

Creating MDI Applications – Features of Child Form, **Database Handling** – Creating the Database, Accessing the Database Using ADO Data Control.**Working With Advance Data Controls** – Datalist Control, Datacombo Control, Datagrid Controls, Setting The Properties Of The Datagrid Control, Mshflexgrid Control,

Unit – IV

Debugging Techniques – Error handling : Types of errors. Debugging, tools for debugging,handling runtime errors.**Working with Data Environment**-Data Environment and Data Report, Data Environment designer adding connection & commands Data reportcontrols, creating & printing reports.

Text Book

1. Soma Dasgupta, Visual Basic – to Advance, BPB Publications.

Reference Books

2. Mohammad Azam, Programming with Visual basic, Vikas Publishing House Pvt. Ltd.
3. Mike Mcgrath, Visual basics in Easy Steps, McGraw-Hill.
4. Michael Vine, Microsoft Visual Basic Programming, PHI.
5. Evangelos Petroutsos, Mastering Visual basic, Wiley India Pvt. Ltd.

Paper - IV
Course Name – Database Management System
Course Code – 3T4

UNIT – I

Introduction: Concept of the System, Types of Decisions, Information System, Classification of information System, Conventional File Processing System, Database System, Components of Database Management System, Economic

Justification of Database Approach. **Database Concepts:** Introduction, Data, Information, Metadata, Terminologies of Files, Association between Fields, Association between Files (Record Types), File Organization.

UNIT – II
Data Models: Introduction, Classification of Data Model, Entity Relationship Model. **Database Design:** Introduction, Steps of Database Design, Normalization, Case Problem, Data Volume and Usage Analysis, Integrated Case Study-Database Design for Academic institution. **Implementation Design:** Introduction, Implementation Design,

UNIT – III
Structured Query Language - I: Table fundamentals, viewing data in the tables, Eliminating duplicate rows when using a select statements, sorting data in a table, creating a table from a table, inserting data into a table from another table, delete operations, updating the contents of a table, modifying the structure of tables, renaming tables, truncating tables, destroying tables, creating synonyms.

UNIT-IV
Structured Query Language - II: Data Constraints, Types of data constraints, defining different constraints on a table, computations done on table data, ORACLE functions, Date conversion functions, Data functions, Miscellaneous functions, Grouping data from tables in SQL, Subqueries, Joins, concatenating data from table columns, using the UNIONS, INTERSECT and MINUS clause.

Text Books

1. R. Panneerselvan, Database Management Systems, PHI Publication.
2. Ivan Bayross, SQL, PL/SQL, BPB Publications.

Reference Books

1. Silberschatz, Korth, Sudarshan, Database System concepts, McGraw-Hill.
2. Gupta, Database Management Systems, McGraw-Hill.
3. Alexis Leon, Mathews Leon, Database Management System, Leaon Vikas.
4. Mike Mcgrath, SQL in Easy Steps, McGraw-Hill.

5. Dr. P. S. Deshpande, SQL & PL/SQL for Oracle 11g, Dreamtech

Semester - IV
Paper - I
Course Name – Statistical Techniques
Course Code – 4T1

Unit – I

Statistics and Measures of Central Tendency: – Meaning, Scope, Importance, Functions and Limitations of Statistics. Collection of data, Primary data and Secondary Data, Tabulation and Classification, Frequency distribution, Type of table, Mean, Media, Mode, Geometric Mean and Harmonic Mean (theory & Numerical)

Unit – II

Measures of Dispersion: – Meaning and significance of dispersion. Method of measuring dispersion, Range, Mean Deviation, Standard Deviation, Quartile Deviation, Co-efficient of variation (Theory & Numerical)

Unit – III

Skewness :- Meaning of Skewness, Type of Skewness, Factor of skewness. Absolute Measures of skewness, relative measures of skewness, Karl Pearson's co-efficient of skewness, Bowley's Co-efficient of skewness (Theory and Numerical)

Unit – IV

Correlation and Regression:- Concept of correlation, Types of correlation, Karl Pearson's co-efficient of correlation, Probable error, Interpretation of "r", Rank correlation method.

Concept of regression, Lines of Regression, Co-efficient of Regression (theory &Numerical)

Text Book

1. N G Das, J K Das, Business Management and Statistics, McGraw-Hill.

Reference Books

1. Mrintunjay Kumar, Business Mathematics, Vikas Publishing House Pvt. Ltd.

2. Ajay Goel, AlkaGoel, Mathematics & Statistics, Taxmann.
3. Walter Rudin, Principals of mathematical Analysis, McGraw-Hill.
4. Dr. Pramod Fating, Dr. Milind Gulhane, Dr. Vijay Badge, Dr. Sarang Javkhedkar – Statistical Techniques – Sir Sahitya Kendra, Nagpur
5. Dr. S. R. Arora, Dr. Kavita Gupta, Business Mathematics and Statistics, Taxmann.

<p align="center">Paper - II
Course Name – Business Law
Course Code – 4T2</p>

Unit - I

THE INDIAN CONTRACT ACT, 1872: Contract – meaning, characteristics and kinds, Essentials of a valid contract - Offer and acceptance, consideration, contractual capacity, free consent, legality of objects., Void agreements, Discharge of a contract – modes of discharge, breach and remedies against breach of contract, Contingent contracts, Quasi - contracts

Specific Contracts- Contract of Indemnity and Guarantee, Contract of Bailment, Contract of Agency

Unit - II

THE SALE OF GOODS ACT, 1930 - Contract of sale, meaning and difference between sale and agreement to sell. Conditions and warranties, Transfer of ownership in goods including sale by a non-owner, Performance of contract of sale. Uunpaid seller – meaning, rights of an unpaid seller against the goods and the buyer.

Unit - III

THE INFORMATION TECHNOLOGY ACT, 2000 :- Definitions, Digital signature, Electronic governance, Attribution, acknowledgement and dispatch of electronic records, Digital Signatures Certificates, Duties of Subscribers, Penalties and adjudication, Appellate Tribunal, Offences

UNIT - IV

THE NEGOTIABLE INSTRUMENTS ACT 1881 - Meaning, Characteristics, and Types of Negotiable Instruments - Promissory Note, Bill of Exchange, Cheque, Holder and Holder in Due Course, Privileges of Holder in Due Course. Negotiation: Types of Endorsements, Crossing of Cheque, Bouncing of Cheque

Suggested Readings:

1. M.C. Kuchhal, and Vivek Kuchhal, Business Law, Vikas Publishing House, New Delhi.

2. Avtar Singh, Business Law, Eastern Book Company, Lucknow.

3. SN Maheshwari and SK Maheshwari, Business Law, National Publishing House, New Delhi.

4. Aggarwal S K, Business Law, Galgotia Publishers Company, New Delhi.

5. Sushma Arora, Business Laws, Taxmann Pulications.

6. P C Tulsian and Bharat Tulsian, Business Law, McGraw Hill Education

7. Sharma, J.P. and Sunaina Kanojia, Business Laws, Ane Books Pvt. Ltd., New Delhi.

8. Information Technology Rules 2000 with Information Technology Act 2000, Taxmann Publications Pvt. Ltd., New Delhi.

Note: Latest edition of text books may be used.

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Paper - III
Course Name – Core Java
Course Code – 4T3

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UNIT – I

Java History and Introduction - Java history, Java features, How java differ from C and C++, Java and internet, Java and world wide web, Java environment. Simple Java programs, Java program structure, Java tokens, Java virtual machine, Command line arguments. **Variables, Data Types and Simple I/O –**Variables, Data Types, Scope of variables, Symbolic constants, Type casting, Standards default values, Getting Simple User Input. **Operators in java**-Introduction, Arithmetic operators, Relational operators, Logical operators, Assignment operators, Increment and decrement operators, Conditional operators, Bitwise operators, Special operators, Mathematical functions. **Decision Making and Branching** –If…Else statement, Nesting of If...Else statement, the switch statement, The? : Operators.

UNIT-II

Decision Making and Looping – Introduction, The while statement, the do statement, for statement, Jumps in loops, Labeled loops. **Arrays, Strings** – One Dimensional Array, Two Dimensional Array, Strings. **Classes, Objects and Methods** – Introduction, Defining a class, Methods declaration, Creating objects, Accessing class members, Constructors, Method overloading, Static members, **Inheritance**: Extending a class, Overriding methods, Final variables and methods, Final classes, Finalizer methods, Abstract methods and classes, Visibility Controls. **Interfaces:**– Introduction, Defining interfaces, Implementing interfaces, Accessing interface variables.

UNIT - III

Packages:– Introduction, Java API Packages, Using system packages, Naming conventions, Creating packages, Accessing a package, Using a package. **Introduction to Thread** - Creating threads, Life cycle of thread. **Managing Errors and Exceptions** – Introduction, Types of errors, Exceptions, Syntax of exceptions handling code, catch statements, using finally statements, throwing our own exceptions. **Graphics Programming** – Introduction, The graphics class, Lines and rectangles, Circles and ellipses, Drawing arcs, Drawing polygons.

UNIT-IV

Applet Programming – Introduction, How applet differ from application, Preparing to write applet, Building applet code, Applet life cycle, Creating an executable applet, Designing a web page, Applet tag, Adding applet to HTML file, Running the applet, Passing parameters to applet, Displaying numerical values, Getting input from the user.

Managing Input / Output Files in JAVA – Introduction, Concepts of streams, Streams classes,

Bytes streams classes, Character streams classes, Using the file classes, Input / Output exception, Creation of files, Reading/Writing character, Reading/Writing bytes.

Text Book:

1. E. Balagurusamy, Programming with Java, McGraw-Hill.

Reference Books

2. Java Programming for the absolute beginner, PHI, Joseph P. Russel

3. Schildt,The Complete Reference Java 2, McGraw-Hill.

4. Rashmi Kanta Das, Core Java for Beginners, Vikas Publishing.

5. Joel Murach, Murach's Java Programming, Shroff Pubishers.

6. Mike Mcgrath, Java in Easy Steps, McGraw-Hill

Paper - IV
Course Name – PHP & MySQL
Course Code – 4T4

UNIT- I

Getting Started With PHP- Basic HTML Syntax, Basic PHP Syntax, Using FTP, Testing Your Scripts, Sending Text To The Browser, Adding Comment To The Script, Basic Debugging Steps. **Variables-** What Are Variables?, Variable Syntax, Types Of Variables, Variable Values, Understanding, Quotation Marks. **HTML Forms And PHP-** Creating A Simple Forms, Choosing A Form Data In PHP, Displaying Errors, Error Reporting. **Using Numbers-**, Performing Arithmetic, Formatting Numbers, Understanding Precedence, Incrementing And Decrementing A Number, Creating Random Numbers.

UNIT- II

Using Strings- Creating The HTML Forms, Concatenating Strings, Handling Newlines, HTML And PHP, Finding Substrings, Replacing Parts Of A String. **Control Structures-**The if Conditional, Validation Functions, Using Else, More Operators, Using else if, The Switch Conditional, The For Loop. **Using Arrays-** What Is An Array, Creating An Array, Adding Items To An Array, Accessing An Array From A Form.

UNIT- III

Creating Web Applications- Creating Templates, Using Constants, Working With The Date And Time, Handling HTML Forms With PHP, Sending Email. **Cookies And Sessions-** What Are Cookies?, Creating Cookies, Reading From Cookies, Adding Parameters To Cookies, Deleting A Cookie, What Are Sessions?, Creating Session,

Accessing Session Variables, Deleting Session. **Creating Functions-** Creating And Using Simple Functions, Creating And Calling Functions That Take Arguments, Setting Default Arguments Values, Creating And Using Functions That Return A Value, Understanding Variable Scope.

UNIT- IV

Files And Directories- File Permissions, Writing To Files, Locking To Files, Reading From Files, **Introduction To Database-** Introduction To SQL, Connecting To MYSQL, MYSQL Error Handling, Creating And Selecting A Database, Creating A Database, Inserting Data Into A Database, Securing Query Data, Retrieving Data From A Database, Deleting Data In A Database, Updating Data In A Database.

Putting It All Together- Getting Started, Connecting To The Database, Writing The User-Defined Function, Creating The Template, Adding Quotes, Listing Quotes, Editing Quotes, Deleting Quotes.

Text Book

1. Larry Ullman, PHP for Web, Pearson.

Reference Books

1. Holznr, The Complete Reference – PHP, McGraw-Hill.

2. Mike Mcgrath, PHP & MySQL in Easy Steps, McGraw-Hill.

3. Steve Suehring, Tim Converse & Joyce Park, PHP and MySQL, Wiely.

4. Joel Murach & Ray Harris, murach's PHP and MySQL, Shroff Publishers.

5. Jason Gilmore, Beginning PHP and MySQL.

BCCA – Part - III

Semester – V

Paper - I

Course Name – Computerized Accounting using Tally

Course code - 5T1

UNIT I

Introduction to Tally.ERP 9- Basics of Accounting-Types of accounts-Golden rules of accounting –Accounting principles –Features of Tally- Opening Tally.ERP 9, Components of the Tally.ERP 9 Window, Creating a Company. Accounting masters in Tally –F11: Features –F12 Configurations –Setting up of Account Heads.

UNIT II

Groups, Ledgers, Vouchers and Orders- Introducing Groups, Introducing Ledgers, Introducing Vouchers, Introducing Purchase Orders, Introducing a Sales Order, Introducing Invoices.. **Stock and Godown in Tally-** Stock Groups, Stock Categories, Stock Items, Units of Measure, Godowns.

UNIT III

Stock and Godown in Tally-Cost Centers and Cost Categories–Bank Reconciliation –Interest Calculations. **Reports in Tally.ERP 9-** Working with Balance Sheet, Working with Profit & Loss A/c Report, Working with Stock Summary Report, Understanding Ratio Analysis, Working with Trial Balance Report, Working with Day Book Report.

UNIT IV

Taxation – Indian Tax Structure, Tax deducted at source in tally.ERP 9, Create a Tax Ledger, TDS Vouchers, Printing a TDS Challan, Tax collected at source in Tally.ERP 9, TCS reports in Tally.ERP 9, Calculating GST in Tally.ERP 9, GST Classification, GST Vouchers, GST Reports in Tally.ERP 9. Taking Backup in Tally.ERP 9, Restoring Data inTally. ERP 9,

Text Book:

1.   DT Editorial Services, Tally.ERP 9 in Simple Steps, Dreamtech Press.

Reference Books:

1.   Computerized Accounting using Tally ERP 9, Sahaj Enterprise,

Tally Education Private Ltd (TEPL).

2.   Vikas Gupta, Business Accounting with MS Excel and Tally.ERP 9 Course Kit, Dreamtech Press.

3.   Vishnu Priya Singh, Tally 9.

4.   K. K. Nadhani, Accounting with Tally, BPB Publication.

5.   K. K. Nadhani and A.K. Nadhani, Tally Tutorial, BPB Publication.

6.   Mr. Ravindra Parmar, Tally ERP 9 with GST – Paperback

Course Name – VB.Net

Course code -5T2

UNIT- I

Welcome to Visual Basic.NET – Windows Versus DOS Programming, Installing Visual Basic.NET, The Visual Basic.NET IDE, Creating a Simple Application, Using the Help System. **The Microsoft.NET Framework** – Microsoft's Reliance on Windows, Writing Software for Windows, Common Language Runtime, The Common Type System and Common Language Specification. **Writing Software –** Information and Data, **Variables**, Comments and Whitespaces, Data Types, Sorting Variables, Methods. **Controlling the Flow** – Making Decisions, The if Statement, Select Case, Loops.

UNIT- II

Working with Data Structure – Understanding Array, Understanding Constants, Structures, Working with Collection and Lists, Advanced Array Manipulation. **Building Windows Application** – Responding to Events, Building a Simple Application, Creating Complex Applications, Using Multiple Forms. **Displaying Dialog Boxes** – The MessageBox Dialog box, The OpenDialog Control, The SaveDialog Control, The FontDialog Control, The ColorDialog Control, The PrintDialog Control.

UNIT- III

Creating Menu – Understanding Menu Features, Creating Menu, Context Menu. **Debugging and Error Handling –** Major Error Types, Debugging, Error Handling. **Building Objects** – Understanding Objects, Reusability, Our First Object, Constructor, Inheritance, The Framework Classes.

UNIT- IV

Accessing Database – What is Database, SQL Select Statement, Queries in Access, Data Access Components, Data Binding. **Database Programming with SQL Server and ADO.NET** –ADO.NET, The ADO.NET Classes in Action, Data Binding. **Deploying Your Application** – What is Deployment?, Creating a Visual Studio .NET Setup Application, Assemblies as Installers, The Core of Deployment, Deploying Different Solution.

Text Book

1. Jonathan, Richard Blair, Beginning VB.MET 2003, WILEY, Thearon Willis.

Reference Books

1. Thearon Willis, Jonathan Crossland, Richard Blair, Beginning CB.Net 2003, Dreamtech Press, Wiley.

2. Jeffry R. Shapiro, The Complete Reference, Visual Basic .NET, McGraw- Hill.

3. Francesco Balena, Programming Microsoft Visual Basic.net, Microsoft Press.

4. Jeffrey Kent, Visual basic.Net – A Beginner's Guide, McGraw- Hill.

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SEC – I – Skill Enhancement Course

Elective - I

Paper - III

Course Name – Management Information System

Course code -5T3

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UNIT- I

Management Information Systems: An Overview - Introduction, Need for Management Information Systems, Management Information Systems: A Concept, MIS: A definition, Management Information System and Information Technology, Nature and Scope of MIS, MIS Characteristics, Structure of MIS, Types of MIS, Role of MIS in Global Business, Challenges of Managing Information Systems. **Information, System and Organization Concepts -** Introduction: A definition, Types of Information, Information Quality, Dimensions of Information, System: A definition, Kinds of Systems, System -related Concepts, Elements of a System, Information System, Organization : A Concept, Impact of Information System on Organization.

UNIT- II

IT Infrastructure and Emerging Technology - Data Resource Management - Introduction, Database Concepts, Files : The Traditional Approach, The Database Management Approach: The Modern Approach, Database Management System, Data Models, Data Warehousing and Data Mining, Application of DBMS using MS-Access. **Telecommunication and Computer Networks -** Introduction, Telecommunications, Types of Signals, Communication Channels, Characteristics of

Communication Channels, Communication Hardware, Communication Networks, Computer Networks in India, Internet.

UNIT- III

E-Commerce, e-Business and e-Governance - Introduction, e-Commerce, e-Commerce Sales Life Cycle, e-Commerce Infrastructure, e-Commerce Applications , e-Commerce Challenges and Opportunities, E-Business, e-Governance. **Enterprise Systems -** Introduction, Enterprise Systems, Enterprise Resource Planning (ERP) System, Customer Relationship Management(CRM) System, Supply Chain Management(SCM) System. **Decision Support Systems -** Introduction, Decision-Making :A Concept, Simon's Model of Decision Making ,Types of Decisions, Methods for Decision-Making, Decision Support Techniques ,Decision Making and Role of MIS, Decision Support Systems (DSSs),Business Intelligence ,Knowledge Management Systems.

UNIT- IV

Information Requirements Analysis & Systems Design - Introduction, Systems Analysis, Requirements Determination, Strategies for Requirements Determination, Structured Analysis Tools, System Design. **Evolution and Maintenance of IS -** Introduction Evaluation Approaches, Evaluation Classes, Product-Based MIS Evaluation, Cost/benefit –Based Evaluation, Models Used in Evaluation, Process-based Evaluation, System Maintenance.

Text Book

1. D. P. Goyal, Management Information System, Vikas Publishing House Pvt Ltd.

Reference Books

1. Waman S. Jawadekar, Management Information Systems, McGraw-Hill.
2. D. P. Nagpal, Management Information Systems, S. Chand.
3. Dr. SushilaMaden, Management Fundamental and Information System, Taxmann.
4. S. Sadagopan, Management Information Systems, PHI.
5. A. K. Gupta, Management Information Systems, S. Chand.
6. Mahesh Halale, Management Information Systems, Himalaya publishing house.

SEC – I – Skill Enhancement Course

Elective - II

Paper - III

Course Name – System Analysis & Design

Course code - 5T3

UNIT- I

System Concept And The Information Systems Environment- Introduction, The Systems Concept, Characteristics Of A System, Elements Of A System, Types Of A System. **The System Development Life Cycle** - Introduction, System Development Life Cycle, Considerations for the Candidate System, Prototyping. **The Role Of System Analyst**- Introduction, Definition, Historical Perspective, The Multifaceted Role Of The Analyst, The Place Of The Analyst In The MIS Organization, Rising Positions In System Development, Conclusions.

UNIT- II

System Analysis- System Planning And The Initial Investigation- Introduction, Bases For Planning In System Analysis, Initial Investigation. **Information Gathering-** Introduction, What Kinds Of Information Do We Need?, Where Does Information Originate?, Information Gathering Tools. **The Tools Of Structured Analysis-** Introduction, What Is Structured Analysis?, The Tools Of Structured Analysis. **Feasibility Study-** Introduction, System Performance Definition, Feasibility Study.

UNIT- III

System Design- The Process And Stages Of System Design- Introduction, The Process Of Design, Design Methodologies, Major Development Activities, Audit Consideration. **Input/output And Forms Design-** Introduction, Input Design, Output Design, Forms Design. **File Organization And Data Base Design-** Introduction, File Structure, File Organization, Data Base Design, The Role Of The Data Base Administrator.

UNIT- IV

System Implementation- System Testing And Quality Assurance- Introduction, Why System Testing?, What Do We Test For?, The Test Plan, Quality Assurance,

Trends In Testing, Role Of Data Processing Auditor. **Implementation And Software Maintenance-** Introduction, Conversion, Combating Resistance To Change, Post-Implementation Review, Software Maintenance. **Hardware/ Software Selection -** Introduction, The Computer Industry, The Software Industry, A Procedure For Hardware/ Software Selection, Financial Considerations In Selection, The Used Computer, The Computer Contract.

Text Book

1. Elias Awad, System Analysis and Design, Galgotia.
2. C.S.V.Murthy Management Information System , Himalaya Publication .

DSE – I – Discipline Specific Elective (DSE) Course
Elective - I
Paper - IV
Course Name – Cost and Management Accounting
Course code -5T4

Unite-I :- Cost Accounting
Meaning, Scope, Objective, Importance, Features of cost accounting, Function of Cost Accounting, Advantage, Element of cost, Cost-Absorption, Allocation of overheads and Methods of costing, Type of Costing, Difference between cost Accounting and Financial Accounting. Problems on Cost Sheet, Tender and Quotations. (Theory and Numerical)

Unit-II :-   Process Cost Accounting
Definition, Features of Process costing, Advantages of Process costing, Limitations of process costing, Wastage and By-products, Normal Loss, Abnormal Loss/Gain, Joint Products, Difference between Process cost and Job cost. Problems on Process costing

Unit-III :- Management Accounting
Meaning, Definitions, Characteristics and Nature of Management Accounting, Objective, Importance, Functions of Management Accounting, Advantage and Limitations of Management Accounting, Difference between management Accounting and Cost Accounting, Difference between Financial Accounting and Management Account. Break-Even Point Analysis (Theory and Numerical)

Unit-IV :- Ratio Analysis
Meaning, Importance, Limitations of Ratio Analysis, Use and Significance of Ratio Analysis, Classification of Ratio, Computation of Profitability Ratio, Financial Ratio with special reference to Current Ratio, Liquid Ratio, Inventory turnover Ratio, Debtors and Creditors turnover Ratio, Fixed Assets turnover Ratio, Debt-Equity Ratio, Working Capital Ratio, earnings per share Ratio, Gross Profit Ratio, Net Profit Ratio, expenses Ratio, Operating Ratio. (Theory and Numerical)

Reference Books:
1. Lal, Jawahar and Seema Srivastava , Cost Accounting. Tata McGraw Hill Publishing Co., New Delhi.

2. Nigam, B.M. Lall and I.C. Jain. Cost Accounting: Principles and Practice. Prentice Hall of India, New Delhi.

3. Mittal, D.K. and Luv Mittal. Cost Accounting. Galgotia Publishing Co., New Delhi.

4. Arora, M.N. Cost Accounting – Principles and Practice. Vikas Publishing House, New Delhi.

5. Shukla, M.C., T.S. Grewal and M.P. Gupta. Cost Accounting: Text and Problems. S.Chand & Co. Ltd., New Delhi.

6. Maheshwari, S.N. and S.N. Mittal. Cost Accounting: Theory and Problems. Shri Mahabir Book Depot, New Delhi.

7. Jain, S.P. and K.L. Narang. Cost Accounting: Principles and Methods. Kalyani Publishers, Jalandhar.

8. Horngreen, Charles T., George Foster and Srikant M. Dattar. Cost Accounting: A Managerial Emphasis. Prentice Hall of India Ltd., New Delhi.

9. H.V. Jhamb ,Fundamentals of Management Accounting, Ane Publishing.

10. Drury, Colin. Management and Cost Accounting. Thomson Learning.

11. Lal, Jawahar. Advanced Management Accounting- Text and Cases. S. Chand & Co.,New Delhi.

12. Khan, M.Y. and P.K. Jain. Management Accounting. Tata McGraw Hill, Publishing

13. Dr. Vijay Bagde, Dr. Pramod Fating, Dr. Sarang Javkhedkar, Dr. Milind Gulhane – Cost and Management Accounting - Sir Sahitya Kendra, Nagpur

Note: Latest edition of text books may be used.

DSE – I – Discipline Specific Elective (DSE) Course
Elective – II
Paper - IV
Course Name – Corporate Accounting
Course code -5T4

Unit-I :- Company Account- Issue of Share Capital and Capital Structure

Meaning of a company, Characteristics, Kinds of companies, Formation of company, difference between partnership and company , Difference between Private Limited company and Public Limited company, Type of Share, Kinds of Share Capital, Accounting for issue and forfeiture of shares, re-issue of forfeited shares, meaning and need of De-mating of shares. (Theory and Numerical)

Unit-II :- Final Accounts of Companies

Preparation of Final Accounts of Joint Stock companies with reference to Companies Act 2013. (Theory and Numerical)

Unit-III : Amalgamation and Absorption

Meaning and Definitions of Amalgamation and Absorption, Types of Amalgamation, characteristics, Difference between amalgamation and absorption, Purchase Consideration. (Theory and Numerical)

Unit-IV :   Valuation of Share

Meaning, Need for valuation of shares, factors influencing valuation of shares, Kinds of value of shares, Methods of valuation of shares. :   (Theory and Numerical)

(i) Net Assets Method   (ii)Yield Method   (iii) Fair value method

Text Book
1. Corporate Accounting,V. Rajasekaran, R. Lalitha, Pearson.

Reference Books
1. Corporate Accounting, V. K. Goyal, RuchiGoyal, PHI.

2. Corporate Accounting, S N Maheshwari&Suneel K Maheshwari, Vikas Publishing House Pvt. Ltd..
3. Corporate Financial Accounting, Dr. S.K. Singh, SBPD.
4. Dr. Vijay Bagde, Dr. Pramod Fating, Dr. Sarang Javkhedkar, Dr. Milind Gulhane – Corporate Accounting - Sir Sahitya Kendra, Nagpur

Semester – VI

Paper - I

Course Name – C#.Net

Course code - 6T1

UNIT – I

Introducing C# - What is C#?,Evaluation of C#, Characteristics of C#, Application of C#, How does C# Differ from C++?, How does C# Differ from Java?. **Understanding.NET: The C# Environment –**The.NET Framework, The Common Langue Runtime, Framework Base Class,.NET Languages, Benefits of the .NET Approach, C# and .NET. **Overview of C#** - Introduction, A Simple C# Program, Namespaces, Adding Comments, Using Aliases for Namespaces Classes, Passing String Objects to WriteLine Method, Command Line Argument, Main with Class, Providing Interactive Input, Multiple Main Methods, Compile Time Error. **Literals, Variables and Data Types** –Introduction, Literals, Variables, Data Types, Value Types, Reference Type, Declaration Types, Initialization of Variables, Default Value, Constant Variable, Scope of Variables, Boxing and Unboxing. **Operators and Expressions** – Introduction, Operator Precedence and Associativity, Type Conversion,

UNIT - II

Decision Making and Branching –Introduction, Decision Making with if Statement, Simple if Statement, The if…else Statement, The else if Ladder, The Switch Statement, The ? : Operator, Decision Making and Looping – Introduction, The while

Statement, The do Statement, for Statement, The for each Statement. **Methods in C#** - Introduction, Declaring Methods, The Main Method, Invoking Methods, Nesting of Methods, Method Parameters, Pass by Value, Pass by Reference, The Output Parameters, Variables Argument List, Methods Overloading. **Handling Arrays** – Introduction, One-Dimensional Array, Creating an Array, Two-Dimensional Array, Variable-Size Arrays,. Manipulating Strings – Introduction, Creating String, String Methods, Inserting String, Comparing String, Finding String, Mutable String Arrays of String,

UNIT - III

Structures and Enumerations –Introduction, Structures, Structs with Methods, Difference between Classes and Structs, Enumerations, Enumerator type Conversion. **Classes and Objects** - Introduction, Basic Principle of OOP, Defining a Class, Adding Variables, Adding Methods, Member Access Modifiers, Creating Objects, Accessing Class Members, Constructors, Overloaded Constructors, Static Members, Static Constructors, Private Constructors, Copy Constructors, Destructors, Member Initialization, The This Reference, Nesting of Members, Constant Members, Read-only Members, Properties, Indexers. **Inheritance and Polymorphism** – Introduction, Classical Inheritance, Defining a Subclass, Visibility Control, Defining Subclass Constructors, Multilevel Inheritance, Hierarchical Inheritance, Overriding Methods, Abstract method, Sealed Class: Preventing Inheritance, Sealed Methods, Polymorphism.

UNIT - IV

Interface: Multiple Inheritance–Introduction, Defining an Interface, Extending Interface, Implementing Interface, Interface and Inheritance, Explicit Interface Implementation, Abstract Class and Interface. **Operator Overloading** – Introduction, Overloadable Operators, Need for Operator Overloading, Defining Operator Overloading, Overloading Unary Operator, Overloading Binary Operator, Overloading Comparison Operator. **Managing Errors and Exceptions** – Introduction, What is Debugging?, Types of Errors, Exceptions, Syntax of Exception Handling Code, Multiple Catch Statements, The Exception Hierarchy, General Catch Handler, Using Finally Statement, Nested Try Blocks, Throwing Our Own Exceptions, Checked and Unchecked Operators, Using Exceptions for Debugging.

Text Book:

1. E. Balagurusamy, Programming in C#, McGraw-Hill.

Reference Books:

1. Rod Stephens, C# 5.0 – Programmer's Reference, Wrox A Wiley Brand.
2. Rod Stephens, C# - 24 –Hour Trainer, Wrox A Wiley Brand.
3. Herbert Schildt, The Complete Reference C# 4.0, McGraw-Hill.

SEC – I – Skill Enhancement Course

Elective - I

Paper - II

Course Name – Python

Course code - 6T2

UNIT - I

Getting Started -Introducing python, Installing python on windows, Installing python on Linux, Meeting the interpreter, Writing your first program, Employing variables, Obtaining user input, Correcting Errors. **Performing operations-**Doing arithmetic, Assigning values, Comparing Values, Assessing logic. , Examining Conditions, Setting precedence, casting data types, Manipulating bits. **Making statements -** Writing lists, Manipulating lists, Restricting lists, associating list elements, Branching with if, Looping while true, Looping over items, Breaking out of loops.

UNIT - II

Defining Functions-Understanding scopes, Supplying arguments, Returning Values, Using callbacks, Adding placeholders, producing generators, Handling exceptions, Debugging assertions. **Importing Modules -** ,Storing functions, Owning function names, Interrogating the system, Performing mathematics, Calculating decimals, Telling the time, Running a timer, Matching patterns.

UNIT - III

Managing strings -Manipulating strings, Formatting strings, Modifying strings, Accessing files, Reading and writing files, Updating file strings, Pickling data **Programming objects**, Encapsulating data, Creating instance objects, Addressing

class attributes, Examining built-in attributes, Collecting garbage, Inheriting features, Overriding base methods, Harnessing polymorphism.

UNIT - IV

Processing requests-Sending responses, Handling values, Submitting forms, Providing text areas, Checking boxes, Choosing radio buttons, Selecting options, Uploading files **Building interfaces**-Launching a window, Responding to buttons, Displaying messages, Gathering entries, Listing options, Polling radio buttons, Checking boxes, Adding images **Developing applications-** Generating random numbers, Planning the problem, Designing the interface, Assigning static properties, Initializing dynamic properties, Adding runtime functionality, Testing the program, Freezing the program, Deploying the application.

Text Book:

1. Mike McGrath, Python in easy steps, McGraw-Hill.

Reference Books:

1. Charles Dierbach, Introduction to Computer Science using Python, Wiley.
2. Laura Cassell& Alan Gauld, Python Projects, Wrox A Wiley Brand.
3. Allen B. Downey, Think Python, Shroff Publishers, O'Reilly.
4. Paul Greis, Jennifer Campbell, Jason Montojo, Practical Programming – An Introduction to Computer Science using Python, Shroff Publishers.

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SEC – I – Skill Enhancement Course

Elective – I

Paper - II

Course Name – Ruby on Rail

Course code - 6T2

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UNIT - I

Introduction - A Tour of Ruby, Try Ruby, A Sudoku Solver in Ruby. **The Structure and Execution of Ruby Programs -** Lexical Structure, Syntactic Structure, File Structure, Program Encoding, Program Execution. **Data types and Objects -** Numbers, Text, Arrays, Hashes, Ranges, Symbols, True, False, and Nil, Objects.

UNIT - II

Expressions and Operators - Literals and Keyword Literals, Variable References, Constant References, Method Invocations, Assignments, Operators. **Statements and Control Structures -**Conditionals, Loops, Iterators and Enumerable Objects, Blocks, Altering Control Flow, Exceptions and Exception Handling, BEGIN and END, Threads, Fibers, and Continuations. Methods, Procs, **Lambdas, and Closures -** Defining Simple Methods, Method Names, Methods and Parentheses, Method Arguments, Procs and Lambdas, Closures, Method Objects, Functional Programming.

UNIT - III

Classes and Modules - Defining a Simple Class, Method Visibility: Public, Protected, Private, Subclassing and Inheritance, Object Creation and Initialization, Modules, Loading and Requiring Modules, Singleton Methods and the Eigenclass, Method Lookup, Constant Lookup. **Reflection and Meta programming -** Types, Classes, and Modules, Evaluating Strings and Blocks, Variables and Constants, Methods, Hooks, Tracing, Object Space and GC, Custom Control Structure, Missing Methods and Missing Constants, Dynamically Creating Methods, Alias Chaining, Domain-Specific Languages.

UNIT - IV

The Ruby Platform – Strings, Regular Expressions, Numbers and Math, Dates and Times, Collections, Files and Directories, Input/Output, Networking, Threads and Concurrency. **The Ruby Environment -** Invoking the Ruby Interpreter, The Top-Level Environment, Practical Extraction and Reporting Shortcuts, Calling the OS, Security.

Text Book:

1. David Flanagan, Yukihiro Matsumoto, The Ruby Programming language, O'Reilly.

Reference Books:

1. Noel Rappin, Professional Ruby on Rails, Wrox.

2. Michael Fitzgerald, Ruby – Pocket Reference, O'Reilly.

3. Timothy Fisher, Ruby on Rails – Bible, Wrox.

4. Daniel Kehoe, Learn Ruby on Rails, Book One.

5. MichaelHartl, Ruby on Rail Tutorial,

Elective – I

Paper - III

Course Name – Entrepreneurship Development

Course code - 6T3

UNIT – I

Entrepreneur: Introduction, Evolution of the concept of Entrepreneur, Characteristics of successful Entrepreneurs, The charms of becoming Entrepreneur, The Entrepreneurial decision process, Functions of Entrepreneur, Need of Entrepreneur, Types of Entrepreneurs, Distinction between an Entrepreneur and a Manager, Intrapreneur, social Entrepreneur. **Entrepreneurship:** Concept of Entrepreneurship, Growth of Entrepreneurship in India, Role of Entrepreneurship in economic development. Types of Entrepreneurship, Family Business

UNIT - II

Agri-Preneurship: Introduction, Need for developing Agri-Preneurship in India, Opportunities for developing Agri-Preneurship, Challenges involved in developing Agri-Preneurship. **Factors affecting Entrepreneurship growth:** Factors affecting Entrepreneurship, Government Actions. **Entrepreneurial Motivation:** Meaning of Entrepreneurial Motivation, Motivational Cycle or Process, and Theories of Entrepreneurial Motivation. **Entrepreneurial Competencies:** Meaning of Entrepreneurial Competency, Major Entrepreneurial Competencies, Developing Entrepreneurial Competencies.

UNIT - III

Entrepreneurship Development Programmes (EDPs): Meaning of EDP, Need of EDPs, Objectives of EDPs, Entrepreneurship Development Programmes in India: A Historical Perspective, Course contents and curriculum of EDPs, Phase of EDP, Evaluation of EDPs, and Problems of EDPs. **Micro and small enterprises:** Small enterprise: Meaning & Definition, Essentials, features & Characteristics, Relationship between Micro and Macro enterprises, Rationale behind Micro & small enterprises, Role of Micro enterprise in economic development, Package for promotion of Micro and Small-scale enterprise. **Formulation of Business Plans:** Meaning of business

plan, Contents of business plan, Significance, Formulation of business plan, Network Analysis, Common Errors in business plan formulation.

UNIT - IV

Project Appraisal: Concept of Project Appraisal, Methods of Project Appraisal, and Environmental clearance of SMEs. **Financing of Enterprise:** Meaning and need for financial planning, Source of Finance, Capital Structure, Capitalization, Term Loans, Sources of short-term Finance, Venture Capital, Export Finance. **Forms of business Ownership:** Sole Proprietorship, Partnership, Company, Cooperative, And Selection of an appropriate form of ownership structure, **Institutional Finance of entrepreneurs:** Need for institutional finance, Institutional Finance. **Institutional Support to Entrepreneurs:** Need for institutional support, Institutional Support to small Entrepreneurs.

Text Book- Dr. S. S. Khanka, Entrepreneurial Development, S. Chand.(Reprint 2016)
Reference Books
1. Robert D. Hisrich, Mathew J. Manimala, Michael P. Peters, Dean A. Shepherd, Enterpreneurship, McGraw-Hill.
2. CA Dr. AbhaMathur, Business Entrepreneurship and Management, Taxmann.
3. Charles E. Bamford, Garry D. Bruton, Enterpreneurship – A Small Business Approach, McGraw-Hill.

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DSE – I – Discipline Specific Elective (DSE) Course

Elective – I

Paper - III

Course Name – Company Law and Secretarial Practice

Course code - 6T3

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Unit - I

Company and its Nature and Scope - Meaning, Definition and characteristics of company. Historical background of company law in India, Companies Act 2013, landmark provisions of the Act, Classification of companies, Lifting the corporate veil.

Unit - II

Procedure for Incorporation of companies - Role of promoters, Legal Position of Promoter, functions and liabilities of a promoter, Registration and incorporation of a company, Merits and Demerits of Incorporation of company - Memorandum of Association - Meaning, Purpose, Contents, clauses Ultra vires and Doctrine of Ultravires. Articles of Association - Meaning Purpose, Content. Alteration, Doctrine of Constructive Notice. Distinction between the Memorandum and Articles, Doctrine of Indoor management. Meaning - Formalities of issue Prospectus - Misrepresentation of Prospectus - Golden Rule **Amalgamation and winding up -** Merger and Demerger of Company, Amalgamation, Winding up of a Company, Payment of Liabilities in the event of winding up, Role of Official Liquidator, Court and National Company Law Tribunal.

Unit - III

Shares, Debentures and Company Meetings - Shares - Meaning, Types of Shares and Transfer of shares, price of issue of shares. Share Capital, Meaning, Kinds, Alteration, Reduction and Voting Rights, Global Depository receipts, Sweat Equity shares, bonus shares, buyback of shares. Share Certificate. Debenture - Meaning, Types, Charge-Fixed and Floating, Crystallization of Floating charge. **Company Meetings:-** Annual General Meetings, Extraordinary General Meetings, Persons Entitled To Call EGM, Notice,

Unit - IV

Secretary :- Definition, need and importance, Appointment and dismissal, Work, duties, rights and liabilities, Memorandum of association and secretary, Articles of association and secretary, Prospectus and secretary. **Directors Position, Appointment And Removal: -** Definition Of Directors, Position Of Director In A Company, Composition Of Board Of Directors, Methods and Provisions As To Directors Appointment, Appointment/Reappointment Of Rotational Directors, Director Identification Number, Disqualifications For Director, Vacation Of Office Of Director, Resignation Of Director, Removal Of Directors

Book Recommended:

1. C.A.Kamal Garg, Bharat's Corporate and Allied Laws, 2013
2. Institute of Company Secretaries of India, Companies Act 2013, CCH Wolter Kluver Business, 2013

3. Lexis Nexis, Corporate Laws 2013 (Palmtop Edition)

4. Avtar Singh : Company Law

5. Dutta on Company Law

6. N.D.Kapoor on Company Law, Charles Wild and Stuart Weinstein Smith and Keenan, Company Law, Pearson Longman, 2009

7. The Companies Acts from 1956 to 2014 as amended up to the date.

8. The New Company Law, Dr. N.V. Paranjape, Central Law Agency.