ALAGAPPA UNIVERSITY, KARAIKUDI – 630 003

CHOICE BASED CREDIT SYSTEM (CBCS)

REGULATIONS

(For ALL UG Programmes)

(Applicable to all the candidates admitted from the academic year 2017-18 onwards)

1. ELIGIBILITY:

i) **For Admission**: A pass in the Higher Secondary Examination (Academic / Vocations Stream) conducted by the Government of Tamilnadu, or an examination accepted as equivalent thereto (like PUC) by the Syndicate, subject to such conditions as may be prescribed therefore.

- Provided that the candidates who have passed the qualifying examination with Tamil as one of the subjects of study shall only be considered in admission to **B.A., (Tamil) and B.Lit., (Tamil)** Degree programmes.

- Provided that the candidates who have passed the qualifying examination with English/History/Economics as one of the subjects of study shall only be considered in admission to **B.A.,(English)/B.A.,(History)/B.A.,(Economics)** Degree programmes.

- Provided that the candidates who have passed the qualifying examination be considered in admission to **B.A., (Political Science)** Degree programme.

- Provided that the candidates who have passed the qualifying examination with Commerce and Accountancy as one of the subjects of study shall only be considered in admission to **B.B.A., B.Com., B.Com (Computer Applications) and B.Com (Corporate Secretaryship)** Degree programmes. 20% reserved for Vocational Stream.

- Provided that the candidates who have passed the qualifying examination with Mathematics, Physics and Chemistry shall only be considered in admission to **B.Sc., (Mathematics), B.Sc., (Physics)** and **B.Sc.,(Chemistry)** and the candidates should have studied Mathematics as compulsory.

- Provided that the candidates who have passed the qualifying examination with Botany, Zoology, Biology and Chemistry shall only be considered in Admission to **B.Sc.,(Chemistry), B.Sc., (Botany), B.Sc.,(Zoology)** and **B.Sc.,(Biochemistry)** and the candidates should have studied Chemistry as compulsory.

- Provided that the candidates who have passed the qualifying examination with Botany, Zoology and Biology shall only be considered in Admission to **B.Sc.,(Microbiology)** and 80% for students who have studied Botany and Zoology subjects and 20% reserved for Biology students.

- Provided that the candidates who have passed the qualifying examination with Microbiology/ Biochemistry/ Biotechnology/ Biology/ Botany/ Zoology shall only be considered in Admission to **B.Sc., (Microbiology & Clinical Lab Technology) & B.Sc., (Biotechnology)**

- Provided that the candidates who have passed the qualifying examination with Physics and Mathematics shall only be considered in admission to **B.Sc.,(Electronics)** and Physics and Chemistry to **B.Sc.,(Geology)**.

- Provided that the candidates who have passed the qualifying examination with Computer Science & Mathematics shall be considered for **B.Sc.,(Computer Science), B.C.A., B.Sc., (Information Technology) & B.Sc., (Software)** degree programmes. 2/3 of seats are for students who have studied Computer Science as a subject in plus two and 1/3rd seats are for students who have not studied Computer Science as a subject in plus two.

- Provided that the candidates who have passed the qualifying examination with Chemistry and Biology shall be considered in admission to **B.Sc., (Home Science)** Degree programmes and 25% of Vocational students shall be considered for B.Sc., (Home Science) programme.

- Provided that the candidates who have passed the qualifying examination be considered in admission to **B.Sc., (Fashion Technology and Costume Designing)** Degree programme.

ii) **For the Degree**: The candidates shall have subsequently undergone the prescribed course of study in a college affiliated to this University for a period of not less than three academic years, passed the examinations prescribed and fulfilled such conditions as have been prescribed therefore.

2. DURATION:

The course is for a period of three years. Each academic year shall comprise of two semester viz. Odd and Even semesters. Odd semesters shall be from June / July to October / November and Even Semesters shall be from November / December to April /May. There shall be not less than 90 working days which shall comprise 450 teaching clock hours for each semester. (Exclusive of the days for the conduct of University end-semester examinations).

3. MEDIUM OF INSTRUCTION

The medium of instruction for all UG programmes is English expect B.A., Tamil & B.Lit.,Tamil

4. PROGRAMMES:

a. Arts:

- Tamil
- English

- History
- Economics
- Political Science

b. Science:

- Mathematics
- Physics
- Chemistry
- Botany
- Zoology
- Zoology (Industrial Microbiology)
- Computer Science
- Electronics
- Home Science
- Biochemistry
- Microbiology
- Geology
- Information Technology
- Software

Bachelor of Computer Applications (B.C.A)

c. B.Com. , B.Com.(CA) , B.Com (Corporate Secretaryship)
d. Bachelor of Business Administration (BBA)
e. B.Lit., Tamil

5. THE CBCS SYSTEM:

All programmes (named after the core subject) mentioned earlier shall be run on **Choice Based Credit System (CBCS).** It is an instructional package developed to suit the needs of students to keep pace with the developments in higher education and the quality assurance expected of it in the light of liberalization and globalization in higher education.

6. COURSES IN PROGRAMMES:

The UG programme consists of a number courses. The term 'course' is applied to indicate a logical part of the subject matter of the programme and is invariably equivalent to the subject matter of a 'paper' in the conventional sense. The following are the various categories of courses suggested for the UG programmes.

Part I – Language Courses (LC) (any one of Tamil, Hindi, Sanskrit, Arabic or special subject designed in lieu of the above).

Part II – English Language courses (ELC) or special subject designed in lieu of.

The Language courses and English Language Courses are 4 each / 2 each in number and the LC and ELC are meant to develop the students' communicative skill at the UG level. Core courses are the basic courses compulsorily required for each of the programme of study.

Part III includes **Core Course (CC), Allied Course (AC)** and **Elective Course (EC).**

i) Core courses are the basic courses compulsorily required for each of the programme of study. These will be related to the subject of programme in which the candidate gets his / her degree. The number of Core Courses shall be 15 for B.A./B.Sc. and 18 for B.Com/B.Com(CA)/ B.Com (CS)/BBA.

ii) Allied Courses cover preferably two disciplines that are generally related to the main subject of the programme. **Each discipline shall provide 4 Allied Courses**. The students of each Department may select two Allied courses each from two disciplines.

iii) Elective Courses are three in number for each UG programme. Each discipline shall provide three set of Elective Courses (each set contain 2 Elective courses). Out of which, a student is required to choose three Elective courses from the options given in the respective Discipline. Six Elective Courses are given to the students. A student shall choose three Elective Courses from the list of Elective Courses offered at their respective disciplines.

Selection of students to the EC:

The Department Committee shall follow a selection procedure on a first come first served basis, fixing the maximum number of students, giving counselling to the students etc. to avoid overcrowding to particular course (s) at the expense of some other courses. The Colleges shall provide all information relating to the ECs in each programme to all the students so as to enable them to choose their ECs.

Part IV: It consists of four categories:

i) a) Those who have not studies Tamil upto XII standard and taken a Non-tamil language under Part I shall take Tamil comprising of two courses (level will be at 6th Standard).

b) Those who have studies Tamil upto XII standard and taken a non-tamil language under Part I shall take advanced Tamil comprising of two core subjects.

c) Non-major Elective: Others who do not come under the above two categories (a & b) can choose non-major elective comprising of two compulsory courses, viz. **Communicative English in First Semester and Effective Employability Skills in Third Semester.**

2) **Skill-based Subjects:** In view of enhancing the employable skills of the students, two group of skill oriented courses (five courses in each group) are given for students' option. The student should take any one course out of first two courses offered in the list of Group I in Third Semester and two courses out of the remaining Three courses in Group I in Fifth Semester. Also they should take any one course out of first two courses offered in the list of Group II in Fourth Semester and two courses out of the remaining three courses in Group II in Sixth Semester.

3) UGC sponsored Environmental studies course in Second Semester

4) Value Education in Fourth Semester

5) Extension and Extra Curricular Activities: These should be carried out outside the class hours

7. SEMESTERS: An academic year is divided into two Semesters. In each semester, courses are offered in 15 teaching weeks and the remaining 5 weeks are to be utilized for conduct of examinations and evaluation purposes. Each week has 30 working hours spread over 5 / 6 days a week.

8. CREDITS:

The term 'credit' refers to the weightage given to a course, usually in relation to the instructional hours to it. For instance, a six hour course per week is assigned five/ four credits, four / five hour course per week is assigned four / three credits and two hour course per week is given two credits. However, in no instance the credits of a course can be greater than the hours allotted to it.

The total minimum credits, required for completing a UG programme is 140. The details of credits for individual components and individual courses are given in Table – 1(A) & 1(B).

9. COURSE:

Each course is to be designed variously under lectures / tutorials / laboratory or field work / seminar / practical training / Assignments / Term paper or Report writing etc., to meet effective teaching and learning needs.

10. EXAMINATIONS:

i) There shall be examinations at the end of each semester, for odd semesters in the month of October / November, for even semesters in April / May. A candidate who does not pass the examination in any course(s) shall be permitted to appear in such failed courses in the subsequent examinations to be held in October / November or April / May.

ii) A candidate should get registered for the first semester examination. If registration is not possible owing to shortage of attendance beyond condonation limit / regulations prescribed OR belated joining OR on medical grounds, the candidates are permitted to move to the next semester. Such candidates shall re-do the missed semester after completion of the programme.

iii) The results of all the examinations will be published through the college where the student underwent the course as well as through University Website. In the case of private candidates, the results, will be published through the Centres in which they took the examinations as well as through University Website.

Candidates studying Sanskrit under Language Course are permitted to write the Examinations in Sanskrit Or English Or Tamil. While answering in Sanskrit "Devanagari Script" alone be used.

11. CONDONATION:

Students must have 75% of attendance in each course for appearing the examination. Students who have 74% to 70% of attendance shall apply for condonation in the prescribed form with the prescribed fee. Students who have 69% to 60% of attendance shall apply for condonation in prescribed form with the prescribed fee along with the Medical Certificate.

Students who have below 60% of attendance are not eligible to appear for the examination. They shall re-do the semester(s) after completion of the programme.

12. QUESTION PAPER PATTERN: (except B.Sc., Physics)

	Core Papers	**Allied Papers** (Theory)
	Part A	
Ten questions (No choice) Two questions from each unit	10 x 2 = 20 marks	10 x 1½ = 15
	Part B	
Five questions (either or type) One question from each unit	5 x 5 = 25 marks	5 x 3 = 15
	Part C	
Three questions out of five One question from each unit	3 x 10 = 30 marks	3 x 10 = 30

Distribution of marks between Theory, Practical and Project:

Core / Elective	**Int.**	**Ext.**	**Total**
Theory papers	**25**	**75**	**100**
Practical papers	**40**	**60**	**100**
Allied courses	**Int.**	**Ext.**	**Total**
Theory papers	**15**	**60**	**75**
Practical papers	**20**	**30**	**50**

13. EVALUATION:

The performance of a student in each course is evaluated in terms of percentage of marks with a provision for conversion to grade points. Evaluation for each course shall be done by a continuous internal assessment by the concerned course teacher as well as by an end semester examination and will be consolidated at the end of the course. The components for continuous internal assessment are:

Two tests	-	15 marks (third / repeat test for genuine absentees)
Seminar / Quiz	-	5 marks
Assignments	-	5 marks

Total	**-**	**25 Marks**

Allied courses

Two tests	-	10 marks (third / repeat test for genuine absentees)
Seminar / Quiz	-	2.5 marks
Assignments	-	2.5 marks

Total - 15 Marks

Attendance need not be taken as a component for continuous assessment, although the students should put in a minimum of 75% attendance in each course. In addition to continuous evaluation component, the end semester examination, which will be a written type examination of at least 3 hours duration, would also form an integral component of the evaluation. The ratio of marks to be allotted to continuous internal assessment and to end semester examination is 25 : 75. the evaluation of laboratory component, wherever applicable. Will also be based on continuous internal assessment and on an end-semester practical examination.

14. PASSING MINIMUM:

The passing minimum for CIA shall be 40% out of 25/15* marks (i.e.10/6* marks) in Theory papers and 40% out of 40/10* marks (i.e. 16/4* marks) in Practical Examinations.

Failed candidates in the Internal Assessment are permitted to improve their Internal Assessment marks in the subsequent semesters. (2 chances will be given) by writing test and by submitting Assignments.

The passing minimum for University Examinations shall be 40% out of 75/ 60*marks (i.e. 30/24* marks) for Theory papers and 40% out of 60/40* marks (i.e. 24/16* marks) for Practical papers.

* for allied courses

15. GRADING

Once the marks of the CIA and end-semester examinations for each of the courses are available, they will be added. The marks thus obtained will then be graded as per details provided in Table 3.

From the second semester onwards the total performance within a semester and continuous performance starting from the first semester are indicated respectively by **Grade Point Average (GPA)** and **Cumulative Grade Point Average (CGPA).** These two are calculated by the following formulae.

$$\text{GPA} = \frac{\sum_{i=1}^{n} C_i G_i}{\sum_{i=1}^{n} C_i},$$

where 'C_i' is the Credit earned for the Course i in any semester ; 'G_i' is the Grade Point obtained by the student for the Course i and 'n' is the number of Courses **passed** in that **CGPA** = GPA of all the Courses starting from the first semester to the current semester.

Note: The GPA and CGPA shall be calculated separately for the following five parts:

Part I: LCs; Part II : ELCs and Part III : CCs, ACs, ECs , Part IV: NME, SBC,ES,VE, Part V:VP.

16. CLASSIFICATION OF FINAL RESULTS (TABLE – 3)

(i) For each of the three parts, there shall be separate classification on the basis of CGPA as indicated in Table – 4.

(ii) For purpose of declaring a candidate to have qualified for the degree of Bachelor of Arts/Science/Commerce/Management/Literature in the First class/ Second class/Third class or First class with Distinction / Exemplary, the marks and the corresponding CGPA earned by the candidate in part III alone will be the criterion, provided he / she has secured the prescribed passing minimum in Part I, II, IV and V.

17. CONFERMENT OF THE BACHELOR'S DEGREE

A candidate shall be eligible for the conferment of the Degree of Bachelor of Arts / Science / Commerce / Management / Literature only if he / she has earned the minimum required credits for the programme prescribed therefore (i.e.140 credits).

18. RANKING: UNIVERSITY RANK EXAMINATION

1. The University Rank Examination shall be conducted for the toppers (first toppers) of all the colleges (having passed their examinations in the first appearance within the prescribed duration of the programme. Absence from an examination shall not be taken as an attempt) including autonomous / non-autonomous ones and they are required to take two examinations.

2. The questions papers of the examinations comprise of objective type questions covering the core courses in each of the Programmes generally followed by both autonomous / non-autonomous streams.

3. The top scorers in this University Rank Examination would be declared as University Rank Holders, based on the marks secured in their semester examinations.

4. Three Ranks shall be given for each of the Programmes if the student strength is below 20; upto 5 Ranks if the student strength is above 20 but below 50; upto 10 Ranks where the student strength exceeds 50 but less than 100; and upto 20 Ranks if the student strength is 100 and above.

19. SELF-FINANCING STREAM

The above Regulations shall be applicable also for the candidates undergoing the programmes in Self-Financing Stream.

20. GRIEVANCE REDRESSAL COMMITTEE

The College shall form a Grievance Redressal Committee for each course in each department with the Course Teacher and the HOD as the members. This Committee shall solve all grievances relating to the Internal Assessment marks of the students.

21. TRANSFER OF CREDITS

Students are permitted to transfer their course credits from Centre for Distance Education (CDE) of Alagappa University to Regular Stream and vice-versa.

22. Revision of Regulations and Curriculum

The University may from time to time revise, amend and change the Regulations and Curriculum, if found necessary.

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Table – 1(A)

Details on the number of courses and credits per course in different UG programmes

Sl. No.	Study Components	B.A./B.Sc.			
		Number of Courses	Credits per Course	Total Credits	Total Weekly hours / 180 weekly hours
1.	Language Course (LC)	4	3	12	24
2.	English Language Course (ELC)	4	3	12	24
3.	Core Course (CC)	15	4	60	79
4.	Allied Course (AC)	4	5	20	20
5.	Elective Courses (EC)	3	5	15	15
6.	**Part IV Courses:**				
	a) Major / Non/major Elective	2	2	4	2
	b) Skill based subjects	6	2	12	12
	c) Environmental Studies	1	2	2	2
	d) Value Education	1	2	2	2
7.	Part V: Extension activities	1	1	1	-
	TOTAL			**140**	**180**

Table – 1(B)

Sl. No.	Study Components	B.Com/B.Com(CA)/B.Com(CS)/BBA			
		Number of Courses	Credits per Course	Total Credits	Total Weekly hours / 180 weekly hours
1.	Language Course (LC)	2	3	6	12
2.	English Language Course (ELC)	2	3	6	12
3.	Core Course (CC)	18	4	72	103
4.	Allied Course (AC)	4	5	20	20
5.	Elective Courses (EC)	3	5	15	15
6.	**Part IV Courses:**				
	a) Non-major Electives	2	2	4	2
	b) Skill based subjects	6	2	12	12
	c) Environmental Studies	1	2	2	2
	d) Value Education	1	2	2	2
7.	Part V: Extension activities	1	1	1	-
	TOTAL			**140**	**180**

Distribution of Marks:

(1) Core / Elective

	Internal	External	Total
Theory papers	25	75	100
Practical papers	40	60	100

(2) Allied for Arts

	Internal	External	Total
Theory papers	25	75	100

(3) Allied for Science (Theory and Practical)

	Internal	External	Total
Theory papers	15	60	75
Practical papers	20	30	50

Allied	I Semester	II Semester	III Semester	IV Semester
Arts – Marks (Int. + Ext.)	25+75	25+75	25+75	25+75

Theory only				
Credits	5 credits	5 credits	5 credits	5 credits
Science – Theory	15+60	15+60	15+60	15+60
Credits	4 credits	4 credits	4 credits	4 credits
Practical	20+30		20+30	
Credits	2 Credits		2 Credits	

Practicals: 2 credits only
only 2 practicals at the end of the year or even semester

Table 2

Grading of the Courses

Marks	Grade Point	Letter Grade
96 and above	**10**	**S^{+}**
91 – 95	**9.5**	**S**
86 – 90	**9.0**	**D^{++}**
81 – 85	**8.5**	**D^{+}**
76 – 80	**8.0**	**D**
71 – 75	**7.5**	**A^{++}**
66 – 70	**7.0**	**A^{+}**
61 – 65	**6.5**	**A**
56 – 60	**6.0**	**B^{+}**
51 – 55	**5.5**	**B**
46 – 50	**5.0**	**C^{+}**
40 – 45	**4.5**	**C**
Below 40	**0**	**F**

Table 3

Final Result

CGPA	Letter Point	Classification of Final Result
9.51 and above	**S+**	First Class – Exemplary
9.01 – 9.50	**S**	
8.51 – 9.00	**D++**	First Class – Distinction
8.01 – 8.50	**D+**	
7.51 – 8.00	**D**	
7.01 – 7.50	**A++**	First Class
6.51 – 7.00	**A+**	
6.01 – 6.50	**A**	
5.51 – 6.00	**B+**	Second Class
5.01 – 5.50	**B**	
4.51 – 5.00	**C+**	Third Class
4.00 – 4.50	**C**	
Below 4.00	**F**	Fail

Credit based weighted Mark System is adopted for individual semesters and cumulative semesters in the column 'Marks Secured' (for 100).

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ALAGAPPA UNIVERSITY, KARAIKUDI
NEW SYLLABUS UNDER CBCS PATTERN (w.e.f.2017-18)

B.Sc., INFORMATION TECHNOLOGY – PROGRAMME STRUCTURE

Sem	Part	Course Code	Title of the Course	Cr.	Hrs./ Week	Marks		
						Int.	Ext.	Total
I	I	711T	**Tamil/other languages – I**	3	6	25	75	100
	II	712E	**English – I**	3	6	25	75	100
	III	7BIT1C1	**Core – I** – Principles of Information Technology	4	6	25	75	100
		7BIT1P1	**Core – II** – Office Automation Lab	4	6	**40**	**60**	100
			Allied – I (Theory only) (or) **Allied – I**(Theory cum Practical)	5 4	5 3	25 15	75 60	100 75
			Allied Practical – I	-	2**	--	--	--
	IV	7NME1A/ 7NME1B/ 7NME1C	**(1) Non-Major Elective– I** – **(A)** jkpo; nkhopapd; mbg;gilfs;/ **(B)** ,f;fhy ,yf;fpak; / **(C)** Communicative English	2	1	25	75	100
			Total(Allied -Theory only)	**21**	**30**	**--**	**--**	**600**
			Total(Allied -Theory cum Practical)	**20**				**575**
II	I	721T	**Tamil/other languages – II**	3	6	25	75	100
	II	722E	**English – II**	3	6	25	75	100
	III	7BIT2C1	**Core – III** – Programming in C and Data Structures	4	5	25	75	100
		7BIT2P1	**Core –IV**–Data Structures using C Lab	4	6	**40**	**60**	100
			Allied – II (Theory only) (or) **Allied–II**(Theory cum Practical)	5 4	5 3	25 15	75 60	100 75
			Allied Practical – I	2	2	20	30	50
	IV	7BES2	**(3) Environmental Studies**	2	2	25	75	100
			Total(Allied -Theory only)	**21**	**30**	**--**	**--**	**600**
			Total(Allied -Theory cum Practical)	**22**				**625**
III	I	731T	**Tamil/other languages – III**	3	6	25	75	100
	II	732E	**English – III**	3	6	25	75	100
	III	7BIT3C1	**Core – V** – Java Programming	4	5	25	75	100
		7BIT3P1	**Core – VI** – Java Programming Lab	4	5	**40**	**60**	100
			Allied – III (Theory only) (or) **Allied – III** (Theory cum Practical)	5 4	5 3	25 15	75 60	100 75
			Allied Practical – II	--	2**	--	--	--
	IV	7NME3A/ 7NME3B/ 7NME3C	**(1) Non-major Elective–II** – **(A)** ,yf;fpaKk; nkhopg;gad;ghLk;/ **(B)**goe;jkpo; ,yf;fpaq;fSk; ,yf;fpatuyhWk;/ **(C)**Effective Employability skills	2	1	25	75	100

		7SBS3A1/ 7SBS3A2/ 7SBS3A3	**(2) Skill Based Subjects – I**	2	2	25	75	100
	V	7BEA3	**Extension activities**	1	-	100	--	100
			Total(Allied -Theory only)	**24**	**30**	**--**	**--**	**800**
			Total(Allied -Theory cum Practical)	**23**				**775**
IV	I	741T	**Tamil/other languages – IV**	3	6	25	75	100
	II	742E	**English – IV**	3	6	25	75	100
	III	7BIT4C1	**Core – VII** – Open source Software	4	4	25	75	100
		7BIT4P1	**Core – VIII** – Open Source Lab	4	5	**40**	**60**	100
			Allied – IV (Theory only) (or) **Allied – IV** (Theory cum Practical)	5 4	5 3	25 15	75 60	100 75
			Allied Practical – II	2	2	20	30	50
	IV	7SBS4B1/ 7SBS4B2/ 7SBS4B3	**(2) Skill Based Subjects – II**	2	2	25	75	100
		7BVE4/ 7BMY4/ 7BWS4	**(4)Value Education /Manavalakalai Yoga / Women's Studies**	2	2	25	75	100
			Total(Allied -Theory only)	**23**	**30**	**--**	**--**	**700**
			Total(Allied -Theory cum Practical)	**24**				**725**
V	III	7BIT5C1	**Core – IX** – Database Management Systems	4	5	25	75	100
		7BIT5C2	**Core – X** – Visual Programming	4	5	25	75	100
		7BIT5P1	**Core–XI**– Visual Programming Lab	4	6	**40**	**60**	100
		7BITE1A/ 7BITE1B	**Elective – I - A)** Design and Analysis of Algorithms **(or) B)** Computer Graphics	5	5	25	75	100
		7BITE2A/ 7BITE2B/	**Elective–II- A)**Computer Networks **(or) B)** Security in Computing	5	5	25	75	100
	IV	7SBS5A4/ 7SBS5A5/ 7SBS5A6/ 7SBS5A7	**(2) Skill Based Subjects – I**	2	2	25	75	100
			(2) Skill Based Subjects – I	2	2	25	75	100
			Total	**26**	**30**	**--**	**--**	**700**
VI	III	7BIT6C1	**Core – XII –** Software Engineering	4	5	25	75	100
		7BIT6C2	**Core – XIII** – Operating System and System Software	4	5	25	75	100
		7BIT6C3	**Core–XIV**–Principles of Multimedia	4	5	25	75	100
		7BIT6PR	**Core – XV –** Project	4	6	**40**	**60**	100
		7BITE3A/ 7BITE3B	**Elective – III- A)** Mobile Communication **(or) B)** E-Commerce	5	5	25	75	100
	IV	7SBS6B4/ 7SBS6B5/ 7SBS6B6/ 7SBS6B7	**(2) Skill Based Subjects – II**	2	2	25	75	100
			(2) Skill Based Subjects – II	2	2	25	75	100
			Total	**25**	**30**	**--**	**--**	**700**
			Grand Total	**140**	**180**	**--**	**--**	**4100**

**** University Examinations will be held in the Even Semesters only.**

B.Sc. INFORMATION TECHNOLOGY

I YEAR – I SEMESTER
COURSE CODE: 7BIT1C1

CORE COURSE - I – PRINCIPLES OF INFORMATION TECHNOLOGY

Unit - I

An overview of Revolution in computers and communications: From the analog to the digital age: The "New Story" of computers and communications – The six elements of a computer and communication system – Communication: Development in Computer Technology, Developments in communication technology – Computer and communications Technology combined: Connectivity and interactivity The Ethics of information technology.

Unit - II

Application software: Tools for thinking and working – Ethics and intellectual property Rights: The four types of application software – The user interface and other basic user features – Word Processing – Spreadsheets – Database Software – Presentation Graphics Software–Communications Software–Desktop accessories and personal information managers integrated software and studies – Groupware – Internet WEB browsers – Specialized Software.

Unit – III

Communications: Stating along with the information highway: The Practical uses of communications and connectivity–Telephone related communication services – Video/ Voice communication: Video conferencing and picture phones – online information services – The internet – Shared Resources: Workgroup Computing, Electronic Data Interchange and intranets: Telecomputing and virtual offices – Using a microcomputer to communicate: Analog and Digital Signals – Modems and Datacomm Software, ISDN Lines and Cable Modems – Communications Channels: communications networks – Local Networks

Unit - IV

Storage and Databases: Foundations for interactivity, Multimedia and knowledge Storage Capacity– Compression and Decompression – Criteria for rating Secondary Storage Devices– Diskettes – Hard Disks – Optical Disks – Magnetic Tapes – Organizing Data in Secondary storage: Databases, Data Storage – Hierarchy and concept of the key field – File management: Basic Concepts – File Management systems – Data management systems – Types of database organization.

Unit - V

Information systems and Software Development: Management Information Systems – The Six Phases of System Analysis and Design – The five Steps in programming –The Five Generations of Programming Languages – Programming Languages – Object oriented and visual Programming – Internet Programming

Text Books:

1. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Second Edition, The McGraw Hill Companies Unit I to IV.2009
2. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies Unit V.2011

Book for Reference:

1. J Hames O'Brien – Introduction to Information systems.

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I YEAR – I SEMESTER
COURSE CODE: 7BIT1P1

CORE COURSE - II – OFFICE AUTOMATION LAB

MS-WORD

1. Working with Files – Creating and opening documents, Saving documents, Renaming documents, working on multiple documents.
2. Working with Text – Formatting, Moving, copying and pasting text
3. Styles – Apply a style, Apply from the Style dialog box, Create a new style from a model, Modify or rename a style, Delete style.
4. Lists – Bulleted and numbered lists, Nested lists, Formatting lists
5. Table Manipulations.
6. Graphics – Adding clip Art, Add an image from a file, Editing graphics
7. Spelling and Grammar, AutoCorrect
8. Page formatting-Page margins, page size and orientation, Header and footers, page numbers
9. Mail Merge.
10. Macros – Recording a macro, Running a macro
11. Web wizard – Using the Web Wizard, Creating & Saving web pages, Hyper links.

MS-EXCEL

1. Modifying a Worksheet – Moving through cells, Adding worksheets, rows and columns, Resizing rows and columns, Selecting cells, Moving and copying cells, Freezing panes
2. Macros – recording and running.
3. Formatting cells – Formatting toolbar, Dates and times, Auto formatting.
4. Formula and Functions.
5. Linking worksheets – Relative, absolute and mixed referencing
6. Sorting and Filling – Basic ascending and descending sorted, Complex sorts, Alternating text and numbers with Auto fill, Autofilling functions.
7. Graphics – Adding clip art, add an image from a file
8. Charts – Using chart Wizard, Copy a chart to Microsoft Word

MS-POWER POINT

1. Create a Presentation from a template.
2. Working with Slides – Insert a new slide, Applying a design template, Changing slide layouts, Reordering slides, Hide slides, Create a Custom slide show 7 edit.
3. Adding Content – Resizing a text box, Text box properties, Delete a text box.
4. Video and Audio effects.
5. Color Schemes & Backgrounds
6. Adding clip art, Adding an image from a file
7. Save as a web page.

MS-ACCESS

1. Using Access database wizard, pages and projects.
2. Open an existing database, converting to Access 2000
3. Screen Layouts – Database window, Design view, Datasheet view
4. Creating Tables – Create a Table in design view, Primary key, Indexes, Field validation rules.

5. Datasheet Records – Adding, Editing, Deleting records, Adding and deleting columns & Resizing rows and columns, Finding data in a table & replacing, Print a datasheet.
6. Declaring Table Relationships.
7. Sorting and Filtering – Sorting, Filter by selection, by form, saving & removing a filter.
8. Queries – Create a query in design view, Query Wizard, Find duplicates query, Delete
9. Forms – Create a form using the wizard, Create a form in Design View.
10. Form Controls.
11. Sub forms-Create a form and sub form at once, Sub form wizard, Drag and drop method.
12. Reports – Using the wizard, Create in Design View, Printing reports.
13. Importing, Exporting, Linking.

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I YEAR – II SEMESTER
COURSE CODE: 7BIT2C1

CORE COURSE - III – PROGRAMMING IN C AND DATA STRUCTURES

Unit – I

Introduction to C – Character set – Identifiers and keywords – Data types – constants – Variables – declarations – Operator and Expressions – Data input, output and control statements: Preliminaries – single character input and output – Entering input data – Writing output data – gets and puts functions – Branching and looping – Nested control structures – Switch – Break – Continue and Goto – Function: defining a function – Accessing a function – Passing arguments to a function – Recursion – Library function – Macros – C preprocessor – Program structure: Storage classes – Automatic variables – Global variables – Static variables– Multiple programming – Bitwise operation.

Unit – II

Arrays: defining and processing an array – Passing on array to functions – Multidimensional arrays – arrays and strings. Pointers: Fundamentals – declarations – passing pointers to functions – usage in single dimensional and multi-dimensional arrays – Dynamic memory allocation – operations on pointers – arrays of pointers – passing functions to other functions.

Unit – III

Structures and Unions: defining a structure – Processing a structure – Structures and pointers– Passing structures to functions – Self referential structures – Bit fields – Unions – Enumerations. Data file: Opening and Closing a data file – Creating a data file – Processing a data file – Unformatted data file – Command line parameters.

Unit - IV

Stack: Definition and Examples – Representing stacks in C – An example: Infix, Postfix and Prefix. Queues and Lists: The queues and Sequential representation–Linked lists – Lists in C.

Unit - V

Trees: Binary trees – Binary tree Representations – Representing Lists and Binary Trees – trees and their applications.

Text Books:

1. Theory and Problems of programming with C, by Byron S.Gottfried, TATA McGRAW HILL.
2. Data Structures Using C, by Aaron M. Tenenbaum, Yedidyah Langsam, Moshe J.Augenstein, Low Price Edition, PEARSON Education.(Chapter 2, 4, 5)

Books for Reference:

1. Programming in ANSI-C, by E. Balagurusamy, TATA McGRAW HILL.
2. Fundamentals of Data Structure by Ellis Horrowitz, Sartaj sahnia, Galgotia Publications.
3. Data Structures and Algorithm Analysis in C, by Mark Allen Weiss, Low Price Edition, PEARSON Education.

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I YEAR – II SEMESTER
COURSE CODE: 7BIT2P1

CORE COURSE - IV – DATA STRUCTURES USING C LAB

1. Write a program to find the sum of individual digits of a positive integer
2. A Fibonacci Sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence
3. Write a C program to generate the first n terms of the sequence
4. Write a C program to generate all the prime numbers between 1 and n, where n is a value supplied by the user
5. Write a C program to calculate the following Sum:
   Sum = 1 – x2/2! + x4/4! – x6/6! + x8/8! – x10/10!

6. Write a C program to find the roots of a quadratic equation
7. Write C programs that use both recursive and non-recursive functions
   i) To find the factorial of a given integer
   ii) To find the GCD (greatest common divisor) of two given integers
   iii) To solve Towers of Hanoi problem
8. Write a C program to find both the larges and smallest number in a list of integers
9. Write a C program that uses functions to perform the following:
   i) Addition of Two Matrices
   ii) Multiplication of Two Matrices
10. Write a C program that uses functions to perform the following operations:
    i) To insert a sub-string in to given main string from a given position
    ii) To delete n Characters from a given position in a given string
11. Write a C program to determine if the given string is a palindrome or not
12. Write a C program to count the lines, words and characters in a given text
13. Write a C program to generate Pascal's triangle
14. Write a C program to construct a pyramid of numbers
15. Write a C program to read two numbers, x and n, and then compute the sum of this geometric progression:
    1 + x + x2 + x3 + …….. + xn

    For example: if n is 3 and x is 5, then the program computes 1 + 5 + 25 + 125

    Print x, n, the sum

16. Write a C program that uses functions to perform the following operations:
    i) Reading a complex number
    ii) Writing a complex number
    iii) Addition of two complex numbers
    iv) Multiplication of two complex numbers
    (Note: represent complex number using a structure)

17. Write a C program which copies one file to another
18. Write a C program to reverse the first n characters in a file
    (Note: The file name and n are specified on the command line)

19. Write a C program that uses functions to perform the following operations on singly linked list:
    i) Creation
    ii) Insertion
    iii) Deletion
    iv) Traversal

20. Write a C program that uses functions to perform the following operations on doubly linked list:
    i) Creation
    ii) Insertion
    iii) Deletion
    iv) Traversal
21. Write C programs that implement stack (its operations) using
    i) Arrays
    ii) Pointers
22. Write C programs that implement Queue (its operations) using
    i) Arrays
    ii) Pointers
23. Write a C program that uses Stack operations to perform the following:
    i) Converting infix expression into postfix expression
    ii) Evaluating the postfix expression
24. Write C programs that use both recursive and non recursive functions to perform the following searching operations for a Key value in a given list of integers:
    i) Linear search
    ii) Binary search
25. Write C programs that implement the following sorting methods to sort a given list of integers in ascending order:
    i) Bubble sort
    ii) Quick sort
    iii) Insertion sort
    iv) Merge sort

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II YEAR – III SEMESTER
COURSE CODE: 7BIT3C1

CORE COURSE - V– JAVA PROGRAMMING

Unit – I

Fundamentals of Object Oriented Programming

Introduction – Object Oriented Paradigm – Basic Concepts of OOP – Benefits of OOP – Applications of OOP.

Java Evolution

Java History – Java Features – Java and Internet – World Wide Web–Web Browsers – H/W and S/W requirements – Java Support Systems – Java Environment.

Overview of Java language

Introduction – Simple Java Program – Comments – Java Program Structure–Tokens – Java Statements – Implementing a Java Program – JVM – Command Line Arguments.

Constants – Variables – Data Types – Type Casting.

Unit - II

Operators and Expressions

Arithmetic Operators – Relational, Logical, Assignment, Increment and Decrement, Conditional, Bitwise, Special Operators – Arithmetic expressions, Evaluation of expression – Precedence of Arithmetic Operators – Type Conversions – Operator Precedence and associativity – Mathematical Functions.

Decision Making and Branching

If – if…..else – Nesting of if……. Else – else if – switch - ?: operator.

Decision Making and Looping

While – do – for – jump in loops – labeled loops.

Unit - III

Classes, Objects and Methods

Defining a class – Adding variables, methods – Creating objects – Accessing Class Members– Constructors – Methods overloading – static members – Nesting of Methods – Inheritance – Overriding methods – final Variables and methods – Final classes – finalizer methods – Abstract methods and classes – visibility control.

Arrays, Strings and Vectors

Arrays – One Dimensional Arrays – Creating an array – Two Dimensional Arrays – Strings – Vectors – Wrapper Classes

Interfaces: Multiple Inheritance

Defining interfaces – Extending interfaces – implementing interfaces – Accessing interface variables.

Unit – IV

Packages

Java API Packages – Using system packages – Naming conventions – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package – hiding classes.

Multithreaded Programming

Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread methods – Thread Exceptions – Thread Priority – Synchronization – Implementing the 'Runnable' Interface

Managing Errors and Exceptions

Types of errors – Exceptions – Syntax of Exception handling code – Multiple Catch Statements – Using finally statement – Throwing our own Exceptions – Using Exceptions for Debugging.

Unit – V

Applet Programming

How applets differ from Applications – preparing to write applets – 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 Applets – Displaying Numerical values – Getting input from the user

Graphics Programming

The Graphics Class – Lines and Rectangles – Circles and Ellipses – Drawing Arcs – Drawing Polygons – Line Graphs – Using Control Loops in Applets – Drawing Bar Charts.

Text Book:

1) **"Programming with JAVA",** Second Edition 2006", **E. Balagurusamy,** TATA McGraw-Hill Publishing Company Limited, New Delhi

UNIT I	Chapters	: 1, 2, 3, 4
UNIT II	Chapters	: 5, 6, 7
UNIT III	Chapters	: 8, 9, 10
UNIT IV	Chapters	: 11, 12, 13
UNIT V	Chapters	: 14, 15

Books for Reference:

1) "**Java 2 – The Complete Reference**", Fifth Edition, 2006 **Herbert Schildt**, TATA Mc Graw Hill Publishing Company Limited, New Delhi.
2) "**Java – How to Program**", Sixth Edition 2005, **H.M. Deitel, P.J.Deitel**, Pearson Education Pvt. Ltd, Delhi.

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II YEAR – III SEMESTER
COURSE CODE: 7BIT3P1

CORE COURSE - VI – JAVA PROGRAMMING LAB

1. WAP to find greatest of three numbers
2. WAP to calculate factorial of a number using command line arguments
3. WAP to read a set of numbers in an array & to find the sum and average of them
4. WAP to maintain the student record containing roll number, Name, Marks1, Marks2, Marks3 as data member and getdata(), display() and setdata() as member functions
5. WAP to increment the employee salaries on the basis of there designation (Manager – 5000, General Manager – 10000, CEO – 20000, worker – 2000). Use employee name, id, designation, salary as data member and inc_sal as member function
6. Write a class bank, containing data member: Name of the Depositor, A/c type, Type of A/c, Balance amount. Member function: To assign initial value, To deposit an amount, to withdraw an amount after checking the balance (which should be greater than Rs.500), To display name & balance
7. Design three classes: Student, Exam and Result. The student class has data members such as roll no, name etc. Create a class Exam by inheriting the Student class. The Exam class adds data members representing the marks scored in six subjects. Derive the Result from class Exam and it has its own members such as total marks and average. Calculate the total marks and average
8. Calculate area of different geometrical figures (circle, rectangle, square, triangle) using function overloading
9. Create a class Employee. Derive 3 classes from this class namely, Programmer, Analyst & Project Leader. Take attributes and operations on your own
10. WAP to implement multiple Inheritance using Interface
11. WAP to create Student class in package1 and Marks class in package2 which inherit Student class. Calculate the total and average of marks in Result class
12. WAP to handle ArithmeticException and ArrayIndexOutOfBoundsException
13. WAP to create and handle your own Exception
14. WAP to create a Thread by extending Thread class
15. WAP to create a Thread by implementing Runnable interface
16. WAP to read a number from keyboard using BufferedReader classes & to find out whether the number is prime or not
17. WAP to design a simple Applet and show it within web browser
18. WAP to design a Frame
19. WAP to demonstrate even handler: key and mouse
20. WAP to design the interface of calculator using Grid Layour

II YEAR – IV SEMESTER
COURSE CODE: 7BIT4C1

CORE COURSE -VII-OPEN SOURCE SOFTWARE

Unit - I INTRODUCTION

Introduction to Open sources – Need of Open Sources –Advantages of Open Sources– Application of OpenSources. Open source operating systems: LINUX:Introduction– General Overview–Kernel Mode and usermode–Process–Advanced Concepts–Scheduling – Personalities – Cloning – Signals – Development with Linux. .

Unit – II OPEN SOURCE DATABASE

MySQL: Introduction Setting up account Starting, terminating and writing your ownSQL programs –Record selection Technology– Working with strings – Date and Time– Sorting Query Results –GeneratingSummary – Working with metadata – Usingsequences – MySQL and Web.

Unit – III OPEN SOURCE PROGRAMMING LANGUAGES

PHP: Introduction – Programming in web environment – variables – constants– data;types – operators –Statements– Functions– Arrays – OOP – String Manipulation and regular expression –File handling and datastorage – PHP and SQL database – PHP and LDAP – PHP Connectivity –Sending and receiving E-mails –Debugging and error handling – Security – Templates.

Unit - IV PYTHON

Syntax and Style – Python Objects – Numbers – Sequences – Strings – Lists and Tuples – Dictionaries –Conditionals and Loops – Files – Input and Output – Errors and Exceptions – Functions – Modules –Classes andOOP – Execution Environment.

Unit – V PERL

Perl backgrounder – Perl overview– Perl parsing rules – Variables and Data – Statements and Controlstructures – Subroutines, Packages, and Modules- Working with Files –Data Manipulation.

Text Books:

1. Remy Card, Eric Dumas and Frank Mevel, “The Linux Kernel Book”, Wiley Publications, 2003
2. Steve Suchring, “MySQL Bible”, John Wiley, 2002

Books for Reference:

1. Rasmus Lerdorf and Levin Tatroe, “Programming PHP”, O’Reilly, 2002
2. Wesley J. Chun, “Core Phython Programming”, Prentice Hall, 2001
3. Martin C. Brown, “Perl: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
4. Steven Holzner, “PHP: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing Company Limited, Indian Reprint 2009.
5. Vikram Vaswani, “MYSQL: The Complete Reference”, 2nd Edition, Tata McGraw-Hill Publishing CompanyLimited, Indian Reprint 2009.

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II YEAR – IV SEMESTER
COURSE CODE: 7BIT4P1

CORE COURSE - VIII- OPEN SOURCE LAB

1. Kernel configuration, compilation and installation.
2. Install various software on Linux.
3. Install and configure XAMP.
4. Create a MYSQL database and table.
5. Write a MYSQL statement to insert a record into the table.
6. Write a MYSQL statement to update the values.
7. Write a PHP program to perform the arithmetic operation.
8. Write a PHP program Adding numbers using function.
9. Write a PHP program to generate 10 Random Numbers Using Loop.
10. Write a perl program to check whether the given no is ODD or EVEN.
11. Write a perl program to check whether a number is palindrome or not.
12. Write a python program to find the largest among three numbers.
13. Write a python program to find sum of digits of a number.
14. Write a python program to find the reverse number.
15. Connect to a MYSQL database with php, perl and python.

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III YEAR – V SEMESTER
COURSE CODE: 7BIT5C1

CORE COURSE - IX – DATABASE MANAGEMENT SYSTEMS

Unit - I

Introduction: Database System Applications – Purpose of Database Systems – View of Data– Database Languages – Relational Databases – Database Design – Object based and semi structured databases – Data storage and Querying – Database Users and Administrators– Transaction Management – Database users and Architectures – History of Database System.
Entity-Relationship Model: E-R model – constraints – E-R diagrams – E-R design issues – weak entity sets – Extended E-R features.

Unit - II

Relational Database Design: Features of good Relational designs – Atomic domains and First Normal Form – Decomposition using functional dependencies – Functional dependency theory – Decomposition using functional – Decomposition using multivalued dependencies – more Normal forms – Database design process – Modeling temporal data

Unit - III

Database System Architecture: Centralized and Client-Server architecture – Server system architecture – Parallel systems – Distributed systems – Network types.
Parallel databases: I/O parallelism – Interquery Parallelism – Intraquery parallelism.
Distributed Databases: Homogeneous and Heterogeneous databases – Distributed Data storage – Distributed transactions – Distributed query processing.

Unit - IV

Schema Objects: Data Integrity – Creating and Maintaining Tables – Indexes – Sequences – Views – Users Privileges and Roles – Synonyms.

Unit - V

PL/SQL: PL/SQL – Triggers – Stored Procedures and Functions – Package – Cursors –Transactions

Text Books:

1. Database System Concepts – Silberschatz Korth Sudarshan, International (5^{th} Edition) McGraw Hill Higher Education 2006.
2. Jose A.Ramalho – Learn ORACLE 8i BPB Publications 2003

Books for Reference:

1. "Oracle 9i The complete reference", Kevin Loney and George Koch, Tata McGraw Hill, 2004.
2. "Database Management Systems", Ramakrishnan and Gehrke, McGraw Hill, Third Edition, 2003.
3. "Oracle 9i PL/SQL Programming "Scott Urman, Oracle Press, Tata McGraw Hill, 2002.

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III YEAR – V SEMESTER
COURSE CODE: 7BIT5C2

CORE COURSE - X - VISUAL PROGRAMMING

Unit – I

Introduction to .NET – The .NET Framework – Benefits of .NET - Common Language Runtime – Features of CLR - Compilation and MSIL – The .NET Framework libraries – The Visual Studio Integrated Development Environment.

Unit – II

Introduction to VB.NET – VB.NET fundamentals – Branching and Looping Statements - Classes and Objects – Constructors – Overloading- Inheritance and Polymorphism – Interfaces – Arrays – Strings – Exceptions – Delegates and Events.

Unit – III

Building Windows Applications – Creating a Windows Applications using window controls - Windows Forms - Text Boxes - Rich Text boxes – Labels and link labels – Buttons - Check boxes - Radio buttons - Panels and Group Boxes - List Boxes - Checked List boxes - Combo boxes and Picture boxes - Scroll bars – Calendar control - Timer control – Handling Menus – Dialog boxes – Deploying an Application – Graphics.

Unit - IV

ASP.NET Basics: Features of ASP.NET – ASP.NET Page directives - Building Forms with Web server Controls – Validation Server Controls - Rich Web Controls - Custom Controls – Collections and Lists.

Unit –V

Data Management with ADO.NET - Introducing ADO.NET - ADO.NET features - Using SQL Server with VB.NET – Using SQL Server with ASP.NET.

Text Books:

1. Mathew McDonald, “ASP.Net:The Complete Reference”, McGraw-Hill, 2002
2. Steven Holzner,”Visual Basic.NET Programming Black Book”, Dreamtech Press, 2005

Books for Reference:

1. Jesse Liberty, “Programming Visual Basic.NET”, Second Edition, O‟Reilly, Shroff Publishers and Distributors Pvt. Ltd., 2003
2. Bill Evjen, JasonBeres, et al., “Visual Basic.NET Programming Bible”, IDG books India(p) Ltd., 2002
3. Mridula Parihar et al., “ASP.NET Bible”, Hungry Minds Inc, 2002
4. Bill Evjen, Hanselman, Muhammad, Sivakumar & Rader, “Professional ASP.NET 2.0”, Wiley India(p) Ltd., 2006

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III YEAR – V SEMESTER
COURSE CODE: 7BIT5P1

CORE COURSE – XI - VISUAL PROGRAMMING LAB

1. Simple application using web controls
    a. Finding factorial Value
    b. Money Conversion
    c. Quadratic Equatin
    d. Temperature Conversion
    e. Login control
2. States of ASP.NET Pages
3. Adrotator Control
4. Calendar control
    a. Display messages in a calendar control
    b. Display vacation in a calendar control
    c. Selected day in a calendar control using style
    d. Difference between two calendar dates
5. Treeview control a) Treeview control and datalist b) Treeview operations
6. Validation controls
7. Query textbox and Displaying records
8. Display records by using database
9. Datalist link control
10. Databinding using dropdownlist control
11. Inserting record into a database
12. Deleting record into a database
13. Databinding using datalist control
14. Datalist control templates
15. Databinding using datagrid
16. Datagrid control template
17. Datagrid hyperlink
18. Datagrid button column
19. Datalist event
20. Datagrid paging
21. Creating own table format using datagrid

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III YEAR – V SEMESTER
COURSE CODE: 7BITE1A

ELECTIVE COURSE – I (A) – DESIGN AND ANALYSIS OF ALGORITHMS

Unit - I

Introduction - Algorithms- Algorithm Specification- Performance Analysis-Stacks and queues:Fundamentals-Evaluation of expressions

Unit - II

Trees:BasicTerminology-Binary Trees-Binary Tree Representations-Binary Tree Traversal. Graphs:Terminology and Representations-Traversal.

Unit - III

Linked Lists:Single linked lists-Linked Stacks and queues-Doubly Linked lists-Dynamic Programming:The General Method-MultiStage Graphs-All Pairs Shortest Paths-The Travelling Salesman Problem.

Unit - IV

Binary search – Depth-first search – Breadth-first search – topological sort – Backtracking – Mergesort – finding the closest pair of points – Strassen's matrix product algorithm – insertion sort – quicksort – a lower bound for the sorting problem – selection

Unit - V

Coin changing – Kruskal's algorithm – Prim's algorithm – Dijkstra's algorithm – Huffman codes – The continuous Knapsack problem – computing Fibonacci number – multiplying matrices – the longest-common-subsequence problem – Algorithm of Floyd and Warshall

Text Books:

1. Algorithms, Richard Johnsonbaugh and Marcus Schaefer, Pearson Education Pvt Ltd, Delhi, 2004
2. Fundamentals of Data Structure by Ellis Horrowitz,Sartaj Sahni-Galgotia Publications.
3. Computer Algorithms by Ellis Horrowitz,Sartaj Sahni,Sanguthevar Rajasekaran,University Press,second edition 2009

Books for Reference:

1. Clifford A.Schaffer, A Practical introduction to Data structure & Algorithm Analysis, Prentice Hall of India 1997.
2. Alfred V.Aho, John E.Hopcroft and Jeffery D.Ullman, Data Structures & Algorithms, addition Wesley.

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III YEAR – V SEMESTER
COURSE CODE: 7BITE1B

ELECTIVE COURSE – I (B) – COMPUTER GRAPHICS

Unit - I

Introduction: Overview – Brief History – Applications of Computer Graphics – Video Display Generation – Input Devices – Hard Copy output Devices – Graphics System Software– Output Primitives: Point Plotting – Line Draw Algorithms – Using Equation of a line – DDA – Bresenham's algorithm – Circle Generation Algorithms – Drawing Ellipse

Unit - II

Two Dimensional Transformations: Transformation Principles – Basic Transformations – Matrix Representation – Composite Transformations.

Unit - III

Two dimensional viewing and Clipping: Viewing Transformations – Windows and viewpoints – Aspect Ratio – Clipping and Shielding: Point Clipping – Line Segment Clipping– Convex polygon clipping – Sitherland Hodgman Algorithm.

Unit - IV

Three Dimensional Transformations: Concepts – Basic Transformations: Translation, Scaling, Rotation and Mirror Reflection – Matrix Representation – Composite Transformation.

Unit - V

User Interface design: Components of User interface – The User's model – The Command Language – Styles of Command Language – Information Display – Feedback – Examples.

Text Books:

1. M. Newman and F.Sproull, Interactive Computer Graphics, McGraw Hill.2010
2. Plastok and Gordon Kalley, Computer Graphics, McGraw Hill.2000

Books for Reference:

1. Donald Hearn,M.Pauline Baker,Computer Graphics,2nd Edition,McGraw Hill 1995
2. Foley Feiner, Computer Graphics, Principles and Practice – Addison Wesley.

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III YEAR – V SEMESTER
COURSE CODE: 7BITE2A

ELECTIVE COURSE – II (A) – COMPUTER NETWORKS

Unit - I

Introduction: Uses of Computer Networks – Network Hardware and network software – Reference models – Example Networks – Network Standardization – Physical Layer: Transmission Media – Telephone System – ISDN – Broadband and Narrowband ISDN – ISDN and ATM – Communication Satellites.

Unit - II

Data Link Layer: Design Issues – Error Detection and correction codes – Elementary data link Protocols – Sliding Window Protocols – Protocol Specification and Verification: Finite State models – Petri net models – Media access Sub layer: Multiple access protocols – ALOHA – Carrier Sense multiple Access protocols – Collision free Protocols.

Unit - III

Network Layer: Design Issues – Routing Algorithms – Congestion Control Algorithms – Internetworking: Tunneling – Fragmentation – Firewalls – Network Layer in the internet – IP– Subnets – Network layer in ATM networks: Cell Format – Connection setup – Routing and switching – Services Categories – ATM LANs.

Unit - IV

Transport Layer: Transport Service – Elements of Transport Protocols: Addressing – Floe Control and Buffering – Multiplexing – Crash Recovery – Performance issues – Measuring Network performance – Internet Transport Protocols – TCP – UDP – Protocols for Gigabit Networks.

Unit - V

Application Layer: Network Security – Cryptography – Secret and Public Key Algorithms – DNS – SNMP – Electronic Mail – Electronic Mail Privacy – World Wide Web: Client Side – Server Side – Multimedia – Audio – Video – Data compression – JPEG, MPEG Standards.

Text Books:

1. Andrew S.Tenenbaum, Computer Networks, Third Edition, Prentice Hall of India.2011

Books for Reference:

1. Uless Black, Computer Networks, PHIE.
2. Data and computer communications, PHI, W.Stallings
3. Data Communication and networking by Behrouz A.Forouzen, Tata McGraw Hill Edition.

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III YEAR – V SEMESTER
COURSE CODE: 7BITE2B

ELECTIVE COURSE – II (B) – SECURITY IN COMPUTING

Unit - I

Introduction: Protecting Valuables - Characteristics of Computer Intrusion – Attacks – Security Goals – Vulnerabilities - Computer Criminals – Methods of Defense – Cryptography: Terminology – Representing Characters – Substitution Ciphers – Transpositions – Data Encryption Standard – AES Encryption Algorithm – Public Key Encryption

Unit - II

Program Security: Fixing faults – Unexpected Behavior – Types of Flaws – Non Malicious Program Errors – Viruses and other Malicious code – Targeted Malicious Code – Controls Against Program Threats – Protection in General Purpose Operating System: Protected objects and methods of protection – Memory and Address protection – Control of Access to General objects – File Protection Mechanisms – User Authentication

Unit - III

Trusted Operating system: Trusted system – Security policies – Models of Security – Trusted Operating system Design – Database and Data Mining Security – Introduction to Databases – Security Requirements – Reliability and Integrity – Sensitive Data – Data Mining: Privacy and Sensitivity – Data Correctness and Integrity

Unit - IV

Network Security: Network concepts – Threats in Networks – Network Security controls – Firewalls – Intrusion Detection systems.

Unit - V

Privacy in Computing: Privacy concepts- Privacy principles and policies – Authentication and Privacy – Privacy Preserving Data Mining – Privacy on Web – E-Mail security.

Text Book:

1. Security in Computing - Fourth Edition, Charles P.Pfleeger and Shari Lawrence Pfleeger, Pearson Education Inc., Prentice Hall.

Books for Reference:

1. Information Security – Second Edition, Mark Rhodes Ousley, Mc Graw Hill Education.
2. Computer Security Principles and Practice – Second Edition, William Stallings, Pearson Education.

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III YEAR – VI SEMESTER
COURSE CODE: 7BIT6C1

CORE COURSE - XII – SOFTWARE ENGINEERING

Unit - I

Introduction: Introduction to software engineering – Definitions – some size factors – quality and productivity factors – managerial Issues – Planning a software project: Defining the problem – developing a solution strategy – planning the development process – Planning an organizational structure – Other planning activities

Unit - II

Software Cost Estimation: Software cost factors – Software cost estimation techniques – Estimating software maintenance costs. Software Requirements Definition: The software requirements specification – Formal specification techniques

Unit - III

Software Design: Fundamental design concepts – Modules and modularization criteria – design notations – Design techniques – Detailed design considerations – Real time and distributed system design – Test plan – milestones, walkthroughs and inspections – Design guidelines – Software Implementation: Structured coding techniques – Coding style – Standards and guidelines

Unit – IV

Software Testing: A Strategic approach to software testing – Strategic issues – Unit testing –integration testing – validation testing – System testing – The art of debugging
Software Maintenance – configuration management – Source code metrics – Other maintenance tools and techniques

Unit - V

Software Quality Assurance: Quality concepts – Software quality assurance – Software reviews – formal technical reviews – Statistical quality assurance – SQA plan – ISO 9000 quality standards

Text Book:

1. Software Engineering Concepts – Richard E. Fairley, Tata McGraw Hill Publishing Company Ltd , New Delhi (Chapters: 1, 2, 3.1, 3.2, 3.4, 4.1, 4.2, 5, 6.1, 6.2, 6.3, 9)1997

Books for Reference:

1. Software Engineering – A Practitioner's approach – Roger S. Pressman, (Fourth Edition)McGraw Hill International Editions(Chapters:8.1, 8.3, 8.4, 8.5, 8.7, 8.9, 8.10, 17)
2. An Integrated Approach to Software engineering – Pankaj Jalote, Second Edition Narosa Publishing House
3. Fundamentals of Software Engineering, Carlo Ghezzi, Mehdi Jazayeri, Dino Mandrioli, Prentice Hall of India Pvt. Ltd., New Delhi

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III YEAR – VI SEMESTER
COURSE CODE: 7BIT6C2

CORE COURSE - XIII – OPERATING SYSTEM AND SYSTEM SOFTWARE

Unit - I OPERATING SYSTEMS OVERVIEW

Computer System Overview - Basic Elements, Instruction Execution, Interrupts, Memory Hierarchy, Cache Memory, Direct Memory Access, Multiprocessor and Multicore Organization. Operating system overview - objectives and functions, Evolution of Operating System - Computer System Organization - Operating System Structure and Operations - System Calls, System Programs, OS Generation and System Boot.

Unit - II PROCESS MANAGEMENT

Processes-Process Concept, Process Scheduling, Operations on Processes, Interprocess Communication; Threads- Overview, Multicore Programming, Multithreading Models; Windows 7 - Process Synchronization - Critical Section Problem, Mutex Locks, Semaphores, Monitors; CPU Scheduling and Deadlocks.

Unit – III STORAGE MANAGEMENT

Main Memory-Contiguous Memory Allocation, Segmentation, Paging, 32 and 64 bit architecture Examples; Virtual Memory- Demand Paging, Page Replacement, Allocation, Thrashing; Allocating Kernel Memory, OS Examples.

I/O SYSTEMS

Mass Storage Structure- Overview, Disk Scheduling and Management; File System Storage-File Concepts, Directory and Disk Structure, Sharing and Protection; File System Implementation- File System Structure, Directory Structure, Allocation Methods, Free Space Management; I/O Systems.

Unit – IV INTRODUCTION

System software and machine architecture – The Simplified Instructional Computer (SIC) - Machine architecture - Data and instruction formats - addressing modes - instruction sets - I/O and programming.

ASSEMBLERS

Basic assembler functions - A simple SIC assembler – Assembler algorithm and data structures - Machine dependent assembler features - Instruction formats and addressing modes – Program relocation - Machine independent assembler features - Literals – Symbol-defining statements – Expressions - One pass assemblers and Multi pass assemblers

Unit – V LOADERS AND LINKERS

Basic loader functions - Design of an Absolute Loader – A Simple Bootstrap Loader - Machine dependent loader features - Relocation – Program Linking – Algorithm and Data Structures for Linking Loader - Machine-independent loader features - Automatic Library Search – Loader Options - Loader design options - Linkage Editors – Dynamic Linking – Bootstrap Loaders - Implementation example - MSDOS linker.

Text Books:

1. Abraham Silberschatz, Peter Baer Galvin and Greg Gagne, "Operating System Concepts", 9th Edition, John Wiley and Sons Inc., 2012.
2. Leland L. Beck, "System Software – An Introduction to Systems Programming", 3rd Edition, Pearson Education Asia, 2000.

Books for Reference:

1. William Stallings, "Operating Systems – Internals and Design Principles", 7th Edition, Prentice Hall, 2011.
2. Andrew S. Tanenbaum,"Modern Operating Systems",Second Edition,Addison Wesley, 2001.
3. D M Dhamdhere, "Operating Systems: A Concept-Based Approach", Second Edition, Tata McGraw-Hill Education, 2007.
4. D. M. Dhamdhere, "Systems Programming and Operating Systems", Second Revised Edition, Tata McGraw- Hill, 1999.

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III YEAR – VI SEMESTER
COURSE CODE: 7BIT6C3

CORE COURSE –XIV- PRINCIPLES OF MULTIMEDIA

Unit – I

Introduction

Objectives – History of Multimedia – Multimedia market – Content and copyright – Resources for Multimedia Developers – Products and Evaluations.
Types of products – Evaluation.

Unit – II

Hardware, Operating system and Software

Computer architecture – Standards – Operating Systems and Software – Multimedia Computer architecture.

Text

Elements of Text – Text Data files – Using Text in Multimedia Applications – Hypertext.

Unit – III

Graphics

Elements of Graphics – Images and Color – Graphics File and Applications formats – obtaining Images for Multimedia use – Using Graphics in Multimedia Applications.

Digital audio

Characteristics of Sound and Digital Audio – Digital Audio System – MIDI – Audio File Formats – Using Audio in Multimedia Applications.

Unit – IV

Digital video and animation

Background on Video – Characteristics of Digital Video – Digital Video Data sizing – Video Capture and Playback Systems – Computer Animation – Using Digital Video in Multimedia Applications

Product design

Building Blocks – Classes of Products – Content Organizational Strategies – Storyboarding.

Unit – V

Authoring tools

Multimedia Tool Selection, Features – Categories of Authoring Tools – Selecting the right authoring paradigm – Strategy for selecting a tool.

Multimedia and the Internet

The Internet – HTML and web authoring – Multimedia considerations for the Internet – Design considerations for web pages.

Text Book:

1. **"Multimedia technology and applications"** 2002**, David Hillman**, Galgotia publications Pvt. Ltd. New Delhi.

Books for Reference:

1. **"Multimedia making it works"**, Fifth edition 2002, **Tay Vanghan**, Tata Mcgraw-Hill publishing company Ltd, New Delhi.

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III YEAR – VI SEMESTER
COURSE CODE: 7BIT6PR

CORE COURSE - XV – PROJECT

A maximum of two students can combine and do a project in the subject related to Information Technology with the guidance of a teacher who will be the internal guide. The project has to be submitted to the respective department and evaluated by the internal and external examiner and the marks sent to the university.

III YEAR – VI SEMESTER
COURSE CODE: 7BITE3A

ELECTIVE COURSE - III (A) – MOBILE COMMUNICATION

Unit - I

Introduction – Wireless Transmission – Frequencies for Radio Transmission – Signals – Antennas – Signal propagation – Multiplexing Modulation – Spread Spectrum – Cellular systems.

Unit - II

Medium Access Control – Motivation for a specialized MAC – SDMA – FDMA – DDMA – CDNMA – Comparison of S/T/F/CDMA.

Telecommunication Systems – GSM – DECT – TETRA – UMTS – and IMT – 2000, Satellite systems – GEO 139, LEO 139, MEO 140 – Routing – Localisation – Handover – Broadcast systems – overview, Cyclic Repetition of Data – Digital Audio Broadcasting – Digital Video Broadcasting.

Unit - III

Wireless LAN – Infrared Vs Radio Transmission – Infrastructure and AD HOC Networks – IEEE 802.11 – HIPERLAN – Bluetooth.

Wireless ATM – Motivation for WATM – Wireless ATM working Group – WATM services– Reference model – Functions – Radio Access layer – Handover – Location management – Addressing – Mobile quality of service – Access pointer control Protocol.

Unit - IV

Mobile network layer – Mobile IP – Dynamic host configuration protocol – AD HOC networks.

Mobile Transport Layer – Traditional TCP 292 – Indirect TCP – Snooping TCP, Mobile TCP– Fast Retransmit / Fast Recovery – Transmission / Timeout Freezing, Selective Retransmission – Transaction Oriented TCP.

Unit - V

Support for Mobility – File systems Consistency – World wide Web – Hyper text transfer protocol – Hyper text Markup Language – Approaches that might help wireless access – System Architecture – Wireless Application Protocol.

Text Book:

1. JOCHEN SCHILLER, Mobile Communications, Addison Wesley, 2000.

Book for Reference:

1. Programming WAP, WAP Servelets with WML, WML Script and 3G, by V. K. Jain, Dreamtech Press, 2001.

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III YEAR – VI SEMESTER
COURSE CODE: 7BITE3B

ELECTIVE COURSE - III (B) – E-COMMERCE

Unit - I

Electronic Commerce Framework – Electronic Commerce and Media convergence – The anatomy of E-Commerce applications – Electronic commerce consumer applications – Electronic commerce organization applications. Components of the I-Way – The Internet terminology – History of the Internet - Internet governance: The Internet society – Internet applications

Unit - II

Architectural framework for electronic commerce – WWW as architecture – Web background Hypertext publishing – Technology behind the web – Security and the Web. Types of Electronic Payment systems – Digital Token Based electronic payment systems – Smart cards and electronic payment systems – Credit card based electronic payment systems – Risks of Electronic payment systems – Designing Electronic payment systems

Unit - III

Electronic data Interchange – EDI applications in business – EDI: Legal, security and privacy issues – EDI and Electronic commerce. Standardization and EDI – EDI software implementation – EDI envelope and message transport – Value Added Networks (VANs) – Internet Based EDI. Internal information systems

Unit - IV

The new Age of Information based marketing – Advertising on the interest – Charting the On-line Marketing process – Market Research. Electronic commerce catalogs or directories – Information filtering – consumer – Data interface: Emerging tools

Unit - V

Computer based education and training – Technological components of education on demand– Digital copyrights and electronic commerce. History of software agents – Characteristics and properties of agents.

Text Book:

1. Ravi Kalakota, Andrew Whinston “Frontiers of Electronic Commerce”.

Books for Reference:

1. Jeffrey F. Rayport & Bernard J.Jaworshi, “E-Commerce”, TMH
2. Dhruv NATH, The nuts and bolts of E-Commerce, TMH

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PART – I – LANGUAGE - ARABIC

I YEAR - I SEMESTER
COURSE CODE: 711A

PAPER – I - BASIC ARABIC

Unit I

The Vowels, the Nouns, the Number

Unit II

The Pronouns, Relative Pronouns, the Demonstrative

Unit III

The Adjectives and Phrases

Unit IV

The Possessive

Unit V

The Interrogatives, the Prepositions

Text Book:

Comprehensive Arabic Grammar by Dr.S.K.Bahmani (Pages from 11-100)

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I YEAR – II SEMESTER
COURSE CODE: 721A

PAPER-II-GRAMMAR

Unit I

The Verb

Unit II

Past Tense

Unit III

The Imperfect Tense

Unit IV

The Imperative (Command) and Prohibition

Unit V

The Comparative and Superlative Degree

Text Book:

Comprehensive Arabic Grammar by Dr.S.K.Bahmani (Pages from 128-158,199-203,327-333).

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II YEAR – III SEMESTER
COURSE CODE: 731A

PAPER – III - PROSE

Unit I

Chapter Al-Muzzammil verses from 1-20.

Unit II

Chapter Al-Nahl verses from 10-25.

Unit III

Chapter Al-Nahl verses from 26-34.

Unit IV

Hadeeths 1-10 from Al-Ahadeethus - Sahlah.

Unit V

Hadeeths 1-10 from Al-Ahadeethus - Sahlah.

Text Books:

1. Chapter Al-Muzzammil & Chapter An-Nahl verses from Holy Quran.
2. Al-Ahadeethus – Sahlah by Dr. V.Abdul Raheem.

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II YEAR – IV SEMESTER
COURSE CODE: 741A

PAPER – IV - HISTORY OF ARABIC LITERATURE

Unit I

Muhammad the Prophet of Allah. Quran the Book of Allah.

Unit II

Islam the religion of submission to will of Allah.

Unit III

Abu bakr Siddiq.

Unit IV

Omar bin Katthab.

Unit V

Usman bin affan and Ali bin abi thalib.

Text Book:

History of Arabic Literature by Philip K.Hitti.

PART- I: – TAMIL

Kjyhk; Mz;L – Kjy; gUtk;
ghlf;FwpaPl;L vz;: 711T

jhs;1 – jw;fhyf; ftpijAk; rpWfijAk;

myF 1 ftpij

1. ghujp; - fz;zd; - vd;Njhod;
   (nghd;dth; Nkdp Kjy; tho;j;jpLNtd; tiu)
2. ghujpjhrd; - gj;jphp;if
   (fhhpUs; mfj;jpy;-Kjy; tho;f;if ngw;whu; tiu)
3. ehkf;fy; ftpQh;- khztDf;F
4. gl;Lf;Nfhl;il - Vl;by; gbj;jNjhL ,Ue;J tplhNj!
5. fz;zjhrd; - ghLtJ ehdy;y (MwhtJ ftpijj; njhFjp)
6. eh. fhkuhrd; - Kjy; ftpij
7. kPuh - X…. ,J fdTjhd;!
8. mg;Jy; uFkhd;- Rag;gpurtk;
9. rpw;gp - ts;spak;ik

myF 2 rpW fij **fij muq;fk; -4**

Mrpupau;fs; kzpf;fijfs;

1. ma;f;fz;> kh. muq;fehjd;> cjarq;fu;> NfhgpfpU\;zd;> kh.Nt. rptFkhH> vk;.V. RrPyh. #h;afhe;jd;> gpujpgh uh[Nfhghyd;> rp.Mh; utPe;jpud;> th]e;jp tpkyhjpj;jkhky;yd;

kPdhl;rp Gj;jf epiyak;> kA+uh tshfk>; 48> jhdg;gKjypnjU. kJiu -1. 0452-2345971

myF 3 ,yf;fzk;

1. vOj;Jf;fs; - KjnyOj;Jf;fs;> rhh;ngOj;Jf;fs;> nkhopKjnyOj;J> nkhop ,WjpnaOj;J> ty;ypdk; kpFkplk; - kpfh ,lk; nka;kaf;fk; clk;gLnka;

myF 4 ,yf;fpa tuyhW

1. kuGf;ftpij Njhw;wKk; tsh;r;rpAk;
2. GJf;ftpij Njhw;wKk; tsh;r;rpAk;
3. rpWfij Njhw;wKk; tsh;r;rpAk;

myF 5 gilg;ghw;wy;

1. rpWfij gilj;jy;

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Kjyhk; Mz;L – ,uz;lhk; gUtk;
ghlf;FwpaPl;L vz;: 721T

jhs; 2 – ,ilf;fhy ,yf;fpaKk; GjpdKk;

myF1 rka ,yf;fpak;

m. jpUQhd rk;ge;ju; - jpUtz;zhkiy – jpUg;gjpfk;

1. cz;zhkiy cikahnshLk; …
2. cjpUk; kaph; ,Lntz;jiy …
3. ngUk;Gdy; mz;zhkiy …. vdj; njhlq;Fk; ghly;fs;

M. jpUehTf;furu; - jpUf;Nfhtpy; (jpy;iy) jpUg;gjpfk;

1. md;dk; ghypf;Fk; …
2. mhpr;Rw;w tpidahy; …
3. my;yy; vd;nrAk; vdj; njhlq;Fk; ghly;fs;

,. Re;juh; - jpUg;g+tzk; - jpUj;jyk;

1. jpUTilahh; jpUkhy;….
2. vz;zp ,Ue;Jk; fple;Jk;….
3. rPhpd; kpfg;nghypAe;jpUg;g+tzk; vdj; njhlq;Fk; ghly;fs;

<. khzpf;fthrfh; - jpUthrfk; - jpUr;rjfk; - ifkhWnfhLj;jy;

1. ,Uifahidia…
2. cz;nlhh; Xz;nghUs; …
3. ve;ijaha; vk;gpuhd; vdj; njhlq;Fk; ghly;fs;

c. jpU%yh; - jpUke;jpuk;

1. rptndhL xf;Fk; …
2. jPapDk; nta;ad;…
3. <rd; ,Uf;Fk; … vdj; njhlq;Fk; ghly;fs;

C. nghpaho;thh; - jpUf;Nfhl;bA+h; rpwg;G (Kjy; 5 ghly;fs;)

(ehmfhhpak; nrhy; ,yhjth; vdj;njhlq;Fk; ghly; Kjy; Mikapd; KJfj;jpil vdj;njhlq;Fk; ghly;tiu)

v. rpw;wpyf;fpak;

1. ee;jpf;fyk;gfk; - “fz;nzd;gJk; ,iyNa…
   vdj; njhlq;Fk; ghly;
2. jpUf;Fw;whyf;FwtQ;rp - epyitg; gopj;jy; 4 fz;zpfs;
   (jz;zKJld;…vdj; njhlq;Fk;

ghly; Kjy; ehfnkd;Nw ;... vdj;
njhlq;Fk; ghly; tiu)

3. jkpo;tpL JhJ - jkpohl;rp -35 Kjy; 46
fz;zpfs; tiu (neLq;Nfhy ..
Kjy; mf;futh;j;jpnadj;
njhlq;Fk; fz;zp tiu)

4. gps;isj;jkpo; - Kj;Jf;Fkhurhkp gps;isj;jkpo;
rpw;wpw;gUtk;-ghly; vz; 7>8
gps;iskjp ... kly;tha; mtpo; ...)

5. Kf;$lw;gs;S - gs;spah; Vry;- 3 ghly;fs;
gh. vz;. 165 khnjhUj;jp...
gh. vz; 169 Rw;wpf;fl;l ...
gh. vz; 170 ehl;Lf;Fs;... vdj; njhlq;FtJ.

myF 2. ehty;

n[afhe;jd; - iftpyq;F (ehty;)
kPdhl;rp Gj;jfepiyak;>
kA+uh tshfk;>
48> jhdg;gKjypnjU> kJiu-1
0452-2345971.

myF 3. ,yf;fzk; .

m. ngah; nrhy; (tpsf;fk;) mWtifg;ngah;> MFngah; (6)
tpidahyizAk; ngah;> nganur;rk;

M. tpidr;nrhy; (tpsf;fk;) - tpidKw;W> tpidnar;rk;

,. Ntw;Wikfs;

<. tof;Fr; nrhw;fs; - ,ay;G tof;F > jFjp tof;F

myF 4. ,yf;fpa tuyhW

1. rkak; tsh;j;j jkpo; - irtk;> itztk;> fpwpj;Jtk;> ,Ryhk;
jkpo;g;gzp
2. rpw;wpyf;fpak; - fyk;gfk;> JhJ> FwtQ;rp> guzp>
gs;S> gps;isj;jkpo;.
3. Gjpdk; Njhw;wKk; tsh;r;rpAk;

myF 5. gilg;ghw;wy;

fbjk; vOJjy; - tpz;zg;gk;> ghuhl;L. Gfhh;f;; fbjk;.

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,uz;lhk; Mz;L – %d;whk; gUtk;
ghlf;FwpaPl;L vz;: 731T
jhs; 3 – fhg;gpaKk; ehlfKk;

myF 1

1. rpyg;gjpfhuk; - milf;fyf;fhij
2. kzpNkfiy - Mjpiu gpr;irapl;l fhij

3. fk;guhkhazk; - Ffg;glyk;

Ma fhiyapd; Mapuk; mk;gpf;F
ehafd; Nghu;f;Ffd; vDk; ehkj;jhd;
J}a fq;ifj; JiwtpLk; njhd;ikahd;
fhAk; tpy;ypdd; fy;jpus; Njhspdhd; - vd;w ghly; Kjy;

gzpnkhop flthjhd; gUtuy; ,fthjhd;
gpzpcilatd; vd;Dk;gpuptpdd; tpilnfhz;lhd;
mzp,io kapnyhLk; laDk; ,isNahDk;
jpzpkuk; epiwfhdpy; NrZW newpnrd;whu; - vd KbAk; ghly; tiu cs;s 44 ghly;fs; ghlkhf cs;sit.

- fk;guhkhazk;>mNahj;jpfhz;lk;

4. ngupaGuhzk; - fz;zg;g ehadhu; Guhzk;

va;jpa rPu; Mfkj;jpy; ,ak;gpa G+ ridf; Nfw;gf;
nfha;jky Uk;GdYk; Kjyhd nfhz;lize;jhu;
ikjioAq; fz;lj;J kiykUe;ij topghL
nra;JtUe; jtKila Kdptu; rptNfhrupahu; - vd;w ghly; Kjy;

kq;Fy;tho; jpUf;fhsj;jp kd;ddhu; fz;zpw; Gz;zPu;;
jq;fzhy; khw;wg; ngw;w jiytu;jhs; jiyNkw; nfhz;Nl
fq;iftho; rhilahu; thOq; flT+upw; fyadhuhk;
nghq;fpa Gfopd; kpf;fhu; jpUj;njhz;L GfyYw;Nwd;. - vd KbAk; ghly; tiu cs;s 52 ghly;fs; ghlkhf cs;sd.

5. Njk;ghtzp - ePh;tu kile;j glyk;
6. rPwhg;Guhzk; - ghj;jpkh jpUkzg;glyk; - (195 -200 tiu cs;s ghly;fs;)

myF 2 ehlfk;.

Kidtu; . ,uh Nfhjz;lghzp – NrJf;fiuapNy
(jkpof muR ghpRngw;w tuyhw;W ehlfk;)
fw;gfk; ntspaPL>
rghp ,y;yk; 4/228> itif tPjp
Mj;jpFsk;- kJiu-14
nry;: 9543363371

myF 3 ,yf;fzk;

1. nra;As; cWg;Gfs; :
vOj;J> mir> rPh;> jis> mb> njhil>tpsf;fk;

2. ehd;F tifg;ghf;fspd; nghJ ,yf;fzKk; tiffSk;
   Mrphpag;gh> ntz;gh> fypg;gh> tQ;rpg;gh>
3. mzp ,yf;fzk; :
   ctik> cUtfk;> Ntw;Wik> jw;Fwpg;Ngw;wk;> gpwpJnkhopjy; mzpfs;

myF 4 ,yf;fpa tuyhW

1. Ik;ngUk; fhg;gpak;> IQ;rpWfhg;gpak;>
   fk;guhkhazk; > nghpaGuhzk;
2. ehlfk; Njhw;wKk; tsh;r;rpAk;

myF 5 gilg;ghw;wy;

Xuq;f ehlfk; gilj;jy;

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,uz;lhk; Mz;L – ehd;fhk; gUtk;
ghlf;FwpaPl;L vz;: 741T

jhs; 4 – gz;il ,yf;fpaKk; ciueilAk;

myF 1

m. gj;Jg;ghl;L – neLey;thil KOtJk;
M. ew;wpiz

gh. vz;.133 – NjhNs njhb ;;...ew;wkdhh; (FwpQ;rp)

gh. vz;.139 – cyfpw;F Mzpah .... ngUq;nfsrpfdhh; (Ky;iy)

gh. vz;. 118 –milfiu kh mj;J ... ghiyghba ngUq;fLq;Nfh (ghiy)

gh. vz;.120 – jlkUg;G vUik .... khq;Fbfpohh; (kUjk;)

gh. vz; 138- cth;tpis cg;gpd;;;;... mk;%tdhh; (nea;jy;)

,. FWe;njhif

gh. vz;.132 – ftTf;...rpiwf;Fb Me;ijahh; (FwpQ;rp)

gh. vz;.221 – mtnuh thuhu; ... ciwA+u; KJnfhw;wdhu; (Ky;iy)

gh. vz;. 283- cs;sJ rpijg;Nghu;...ghiyghba ngUq;fLq;nfh (ghiy)

gh. vz;.9- aha; MfpaNs ...fakdhh; (kUjk;)

gh. vz; 248- mJtuy; ... cNyhr;rdhh; (nea;jy;)

<. fypj;njhif

gh. vz;.3 – mUs; jPh;e;j fhl;rpahd; ... nea;jw;fyp

gh. vz;.16 – khky;Kz;lfk;... nea;jw;fyp.

c. mfehDhW

gh. vz;.144 – tUJk; vd;w ehSk;... kJiu msf;fh;...ks;sdhh;(Ky;iy)

gh. vz;.155 – mwd;filg;glh....ghiyghba ngUq;fLq;Nfh (ghiy)

C. GwehDhW

gh. vz;. 100 – ifaJNtNy...xsitahh;

gh. vz;. 182 – cz;lhyk;k ...flYs;kha;e;j ,sk;ngUtOjp

gh. vz;. 276- eWtpiuJwe;j ... kJiug;G+jd; ,sehfdhh;

gh. vz;. 278- euk;G vOe;J ... fhf;ifghbdpahh;

gh. vz; 279- nfLfrpe;ij ... xf;$h; khrhj;jpahh;

v. jpUf;Fws; - 2; mjpfhuk;

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gh. vz;. 156 – fbj;Jf; fUk;gpid ... vdj;njhlq;FtJ
gh. vz;. 161 – nghWg;gh; vd;nwz;zp ... vdj;njhlq;FtJ

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PART - II – ENGLISH

I YEAR – I SEMESTER
COURSE CODE: 712E

COURSE – I - ENGLISH FOR ENRICHMENT – I

Texts Prescribed

1. Gate Way to English – *An Anthology of Prose and Poetry* Ed. By the Board of Editors, Harrows Publications, Chennai.
2. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

Unit I **Prose**

1. Education for New India – C.Rajagopalachari.
2. All about a Dog – A.G.Gardiner
3. I have a Dream – Martin Lutherking

Unit II **Prose**

1. How I Became a Public Speaker – G.B. Shaw
2. With the Photographer – Stephen Leacock
3. Early Influences: Dr. APJ. Abdul Kalam

Unit III **Poetry**

1. Gitanjali (Songs : 1-2) Rabindranath Tagore
2. Shall I Compare thee to a Summer's Day(Sonnet 18)–William Shakespeare
3. On his Blindness – John Milton.

Unit IV **Grammar**

Noun, Pronoun, Verb, Adverb

Unit V Composition

Informal Letter, Comprehension, Dialogue Writing, Hints Developing

Allocation of Working Hours per week

Prose	-	2 hours
Poetry	-	2 hours
Grammar & Composition	-	2 hours
Total -		**6 hours**

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I YEAR – II SEMESTER
COURSE CODE: 722E

COURSE - II – ENGLISH FOR ENRICHMENT – II

Texts Prescribed

1. Gate Way to English – *An Anthology of Prose and Poetry* Ed. by the Board of Editors, Harrows Publications, Chennai.
2. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

Unit I Prose

1. My Greatest Olympic Prize – Jesse Owens
2. Voluntary Poverty – Mahatma Gandhi
3. Helen Kellar – Ishbel Ross

Unit II Prose

1. Coffee Worries – R.K. Narayan
2. A Night Among the Pines – R.L. Stevenson
3. Spoon Feeding – W.R.Inge

Unit III Poetry

1. Daffodils - Wordsworth
2. Mending Wall – Robert Frost
3. A River – A.K.Ramanujan

Unit IV Grammar

Adjective, Preposition, Conjunction and Interjection.

Unit V Composition

Formal Letters, Resume Writing, Precise Writing and General Essays.

Allocation of Working Hours per week

Prose	-	3 hours
Poetry	-	1 hour
Grammar & Composition	-	2 hours
Total -		**6 hours**

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II YEAR – III SEMESTER
COURSE CODE: 732E

COURSE – III - ENGLISH FOR ENRICHMENT – III

Texts Prescribed

1. *Six Short Stories*, Ed. by the Board of Editors, Harrows Publications, Chennai.
2. *One Act Plays*, Ed. by the Board of Editors, Harrows Publications, Chennai.
3. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.
4. *English for Communication*, Ed. by the Board of Editors, Harrows Publications, Chennai.

Unit I Short Stories

1. Two Old Men – Leo Tolstoy
2. The Diamond Necklace – Guy de Maupassant
3. The Verger – Somerset Maugham
4. The Postmaster – Rabindranath Tagore.

Unit II One Act Plays

1. Riders to the Sea – J.M.Synge
2. The Rising of the Moon – Lady Gregory

Unit III One Act Plays

1. A Kind of Justice – Margaret Wood
2. The Refugee – Asif Currimbhoy

Unit IV Grammar

Tenses, Voices, Degrees of Comparison

Unit V Composition

Agenda, Minutes, Notice, Descriptive Writing

Allocation of Working Hours per week

Short Stories - 2 hours
One Act Plays - 2 hours
Grammar & - 2 hours
Composition ----------
Total - 6 hours

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II YEAR – IV SEMESTER
COURSE CODE: 742E

COURSE – IV- ENGLISH FOR ENRICHMENT – IV

Texts Prescribed

1. *Pygmalion* – G.B. Shaw
2. *Swami and Friends* – R.K. Narayan
3. *Tales from Shakespeare* Ed. by the Board of Editors, Harrows Publications, Chennai.
4. Modern English – *A Book of Grammar Usage and Composition* by N.Krishnaswamy, Macmillan Publishers.

Unit I Drama

Pygmalion – G.B. Shaw

Unit II – Fiction

Swami and Friends – R.K.Narayan

Unit III – Tales from Shakespeare

1.The Merchant of Venice
2. Romeo and Juliet
3. The Winter's Tale

Unit IV - Grammar

1. Concord
2. Question Tag
3. Kinds of Sentences
4. Direct and Indirect speeches

Unit V - Composition

1. Expansion of Proverbs
2. Group Discussion
3. Conversation (Apologizing, Requesting, Thanking)

Allocation of Working Hours per week

Drama - 2 hours
Fiction - 2 hours
Grammar & Composition - 2 hours

Total - 6 hours

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B.Sc. COMPUTER SCIENCE

I YEAR – I SEMESTER
COURSE CODE: 7BCEA1

ALLIED COURSE - I – OFFICE AUTOMATION (THEORY& LAB)

Unit I Word

Introduction to Word

Introduction to word processing – Advantages – Starting Word – Creating a Document – Saving the Document–Printing a Document–Resaving and closing a Document–Exiting word

Editing a Document

Opening a Document – Cursor Movement – Editing a Document – Selecting Text – Deleting Text – Replacing Text – Undoing and Redoing changes

Move and Copy Text

Moving text – Using copy to Repeat text – Cut and Paste – Quickly opening Recently used files – Copying Text to another file.

Unit II

Formatting Text and Paragraph

Formatting Text – Using the Font Dialog Box – Using Bullets and Numbering.

Finding and Replacing Text and Checking Spelling

Moving to a specific page – Finding Text – Replace command – Checking Spelling and Grammar

Enhancing a Document

Page setup – Headers and Footers – Print Preview

Unit III

Tables

Creating Tables – Formatting a Table

Graphics

Drawing Toolbar – Word Art – Inserting Graphics

Mail Merge

Mail Merge – Example of Mail Merge – Viewing and Printing Merged Letters

Unit IV EXCEL

Introduction to Electronic Worksheet – Advantages – Excel – Starting Excel – Excel Screen – Organisation of the Worksheet Area – Entering information in a worksheet – Entering numbers – Entering a Formula – Advantages of using a formula – Saving a work book.

Editing cells and using commands and Functions

Aligning Data in cells – Editing Data in a cell – Excel functions – Range – Using a range with sum– Resaving a workbook file – closing a workbook file – Exiting Excel.

Unit V

Moving and Copying, Inserting and Deleting Rows and Columns

Opening an Existing workbook file – Moving Date – Copying Date to another Area – Filling up a cell – Copying a single cell to several cells – Using the mouse to copy Data – Undoing and Redoing actions – Inserting a Row in the worksheet – Inserting columns – Erasing part of a worksheet – Deleting Rows and Columns.

Printing the workbook

Printing the workbook – Using Print Preview – Setting Up Print Area – Using Math functions.

Power Point

Introduction – Creating a Presentation – PowerPoint views – Running a Slide Show – Printing a Presentation.

Access

Starting Access – Menus And Toolbars – Viewing Data – Sorting and Filtering Records – Creating and Printing Reports.

Text Book

1) **"PC SOFTWARE for Windows 98 Made Simple"**, 2006, **R.K.Taxali**, TATA McGraw Hill Publishing Company Limited, New Delhi.
   UNIT I Chapters – 9, 10, 11
   UNIT II Chapters – 12.1, 12.2, 12.4, 13.1 – 13.4, 15.1, 15.6, 15.7
   UNIT III Chapters – 16.1, 16.2, 17.1 – 17.3, 18.1 – 18.3
   UNIT IV Chapters – 20, 21, 22.1 – 22.5, 22.10, 22.11, 22.13
   UNIT V Chapters – 23, 25.1 – 25.3, 28.5, Annexures – B

2**)** **"Introduction to Computers with MS-Office 2000"** 2001, **Alexis Leno & Mathews Leon**, TATA McGraw Hill Publishing Company Limited, New Delhi.
   Unit V Chapters – 18, 19

Book for Reference:

1) **"Microsoft Office"**, **Gordon Padwick, Sue Plumley, Debbie walkowski**, Prentice Hall of India Private Limited, New Delhi.

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I YEAR – II SEMESTER
COURSE CODE: 7BCEA2

ALLIED COURSE - II – COMPUTER ORGANIZATION

Unit I

Number Systems and Codes: Binary Number system – Binary to decimal –decimal to binary – hexadecimal – ASCII code – Excess-3 Code – Gray code.

Digital Logic: The Basic Gates – NOT, OR, AND - Universal Logic Gates – NOR, NAND.

Unit II

Combinatorial Logic Circuits: Boolean Laws and Theorems. - Sum of Products method - Truth table to Karnaugh Map – Pairs, Quads, Octets – Don't Care Conditions- Product-of sums method -Product-of sums Simplifications.

Data Processing Circuits: Multiplexers – Demultiplexers-1-of-16 Decoder – BDC-to-decimal Decoders – Seven-segment Decoders – Encoders – Exclusive-OR Gates- Parity Generators and Checkers.

Unit III

Arithmetic Circuits: Binary Addition- Binary Subtraction – 2'S Complement Representation - 2'S Complement Arithmetic – Arithmetic Building Blocks.

Unit IV

Basic Computer organization and Design: Instruction codes - stored program organization - Computer registers and common bus system - Computer instructions - Timing and control - Instruction cycle: Fetch and Decode - Register reference instructions.

Micro programmed Control: Control memory organization - Address sequencing, micro instruction format and symbolic microinstructions - symbolic micro-program - binary micro-program.

Unit V

Central Processing Unit : General register organization - stack organization - instruction formats - addressing modes - Data transfer and manipulation - Program control.

CISC and RISC - Parallel processing - Pipeline- general consideration.

Input-output organization: Peripheral devices - I/O interface - Memory organization: Memory hierarchy - Main memory - Auxiliary memory.

Text Books:

1. Digital Principles and Applications – Donald P Leach, Albert Paul Malvino, Goutam Saha, 8th edition , McGraw-Hill Education, 3rd reprint 2015.
2. Computer System Architecture, M. Morris Mano, Pearson Education, 3rd edition.,2007

UNIT I Chapters 5: (5.1 to 5.9) and 2: (2.1 to 2.3) Text Book 1
UNIT II Chapters 3: (3.1 to 3.8) and 4: (4.1 to 4.7) Text Book 1
UNIT III Chapters 6: (6.1 to 6.8) Text Book 1
UNIT IV Chapters 5 (5.1 to 5.5) and 7 (7.1 to 7.3) Text Book 2
UNIT V Chapters 8 (8.1 to 8.8), 9 (9.1 to 9.2), Text Book 2
11 (11.1 to 11.5) and 12 (12.1 to 12.3)

Books for Reference:

1. Digital design, R.Anantha Natarajan, PHI Learning, 2015.
2. Principles of digital Electronics, K.Meena, PHI Learning, 2013.

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I YEAR – I/II SEMESTER
COURSE CODE: 7BCEAP1

ALLIED PRACTICAL – I - OFFICE AUTOMATION LAB

MS-WORD

1. Working with Files – Creating and opening documents, Saving documents, Renaming documents, working on multiple documents.
2. Working with Text – Formatting, Moving, copying and pasting text
3. Styles – Apply a style, Apply from the Style dialog box, Create a new style from a model, Modify or rename a style, Delete style.
4. Lists – Bulleted and numbered lists, Nested lists, Formatting lists
5. Table Manipulations.
6. Graphics – Adding clip Art, Add an image from a file, Editing a graphic
7. Spelling and Grammar, AutoCorrect
8. Page formatting – Page margins, page size and orientation, Header and footers, page numbers
9. Mail Merge.
10. Macros – Recording a macro, Running a macro
11. Web wizard – Using the Web Wizard, Creating & Saving web pages, Hyper links.

MS-EXCEL

1. Modifying a Worksheet – Moving through cells, Adding worksheets, rows and columns, Resizing rows and columns, Selecting cells, Moving and copying cells, Freezing panes
2. Macros – recording and running.
3. Formatting cells – Formatting toolbar, Dates and times, Auto formatting.
4. Formula and Functions.
5. Linking worksheets – Relative, absolute and mixed referencing
6. Sorting and Filling – Basic ascending and descending sorted, Complex sorts, Alternating text and numbers with Auto fill, Autofilling functions.
7. Graphics – Adding clip art, add an image from a file
8. Charts – Using chart Wizard, Copy a chart to Microsoft Word

MS-POWER POINT

1. Create a Presentation from a template.
2. Working with Slides-Insert a new slide, Applying a design template, Changing slide layouts, Reordering slides, Hide slides, Create a Custom slide show 7 edit.
3. Adding Content – Resizing a text box, Text box properties, Delete a text box.
4. Video and Audio effects.
5. Color Schemes & Backgrounds
6. Adding clip art, Adding an image from a file
7. Save as a web page.

MS-ACCESS

1. Using Access database wizard, pages and projects.
2. Open an existing database, converting to Access 2000
3. Screen Layouts – Database window, Design view, Datasheet view
4. Creating Tables – Create a Table in design view, Primary key, Indexes, Field validation rules.
5. Datasheet Records – Adding, Editing, Deleting records, Adding and deleting columns & Resizing rows and columns, Finding data in a table & replacing, Print a datasheet.
6. Declaring Table Relationships.
7. Sorting and Filtering – Sorting, Filter by selection, by form, saving & removing a filter.
8. Queries – Create a query in design view, Query Wizard, Find duplicates query ,Delete
9. Forms – Create a form using the wizard, Create a form in Design View.
10. Form Controls.
11. Sub forms – Create a form and sub form at once, Sub form wizard, Drag and drop method.
12. Reports – Using the wizard, Create in Design View, Printing reports.
13. Importing, Exporting, Linking.

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II YEAR – III SEMESTER
COURSE CODE: 7BCEA3

ALLIED COURSE - III – PROGRAMMING IN C (THEORY & LAB)

Unit I

Overview of C: History of C – Importance of C – Basic Structure of C Programs – Programming Style – Character Set – C Tokens – Keywords and Identifiers – Constants, Variables and Data Types – Declaration of Variables – Defining Symbolic Constants – Declaring a variable as a constant – overflow and underflow of data – **Operators and Expressions:** Arithmetic, relational, logical, assignment operators – increment and decrement operators, conditional operators, bitwise operators, special operators – Arithmetic Expressions- Evaluation of Expressions – Precedence of Arithmetic Operators – Type Conversions in Expressions – Operator Precedence and Associativity – Mathematical functions.

Unit II

Managing I/O Operations: Reading and Writing a Character – Formatted Input, Output – **Decision Making & Branching:** if statement - if else statement - nesting of if else statements - else if ladder – switch statement – the ?: operator – goto statement – the while statement – do statement – the for statement – jumps in loops.

Unit III

Arrays: One-Dimensional Arrays – Declaration, Initialization – Two-Dimensional Arrays – Multi-dimensional Arrays – Dynamic Arrays – Initialization. **Strings:** Declaration, Initialization of string variables – reading and writing strings – string handling functions.

Unit IV

User-defined functions: need – multi-function programs – elements of user defined functions – definition – return values and their types – function calls, declaration, category – all types of arguments and return values – nesting of functions – recursion – passing arrays, strings to functions – scope visibility and life time of variables. **Structures and Unions:** Defining a structure – declaring a structure variable – accessing structure members – initialization – copying and comparing – operation on individual members – array of structures – arrays within structures – structures within structures – structures and functions – unions – size of structures – bit fields.

Unit V

Pointers: the address of a variable – declaring, initialization of pointer variables – accessing a variable through its pointer – chain of pointers – pointer increments and scale factors – pointers and character strings – pointers as function arguments – pointers and structures. **Files**: Defining, opening, closing a file – IO Operations on files – Error handling during IO operations – command line arguments.

Text Book:

1. Programming in ANSI C, E.Balagurusamy, 6th Edition, Tata McGraw Hill Publishing Company, 2012.
   UNIT I: Chapters 1 (Except 1.3-1.7, 1.10-1.12), 2 (Except 2.9, 2.13), 3 (Except 3.13)
   UNIT II: Chapters 4 – 6
   UNIT III: Chapters 7, 8 (Except 8.5, 8.6, 8.7, 8.9, 8.10)
   UNIT IV: Chapters 9 (Except 9.20), 10
   UNIT V: Chapters 11 (Except 11.8, 11.10, 11.12, 11.14, 11.15, 11.17), 12 (Except 12.6)

Books for Reference:

1. Programming with C, Schaum's Outline Series, Gottfried, Tata McGraw Hill, 2006
2. Programming with ANSI and Turbo C , Ashok N.Kamthane , Pearson Education, 2006
3. H. Schildt, C: The Complete Reference, 4th Edition, TMH Edition, 2000.
4. Kanetkar Y., Let us C, BPB Pub., New Delhi, 1999.

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II YEAR – III SEMESTER
COURSE CODE: 7BCEA4

ALLIED COURSE IV – PROGRAMMING IN C++ (THEORY & LAB)

Unit I

Software Crisis – Software Evolution – Basic Concepts of Object-Oriented Programming – Benefits of OOP – Object-Oriented Languages - Applications of OOP – Application of C++ - Structure of a C++ Program – Tokens – Keywords – Identifiers – Basic Data Types – Userdefined Data types – Derived data types – Symbolic constants – Type compatibility – Declaration of variables – Dynamic initialization of variables –Reference variables – Operators in C++ - Manipulators – Type cast operator – Expressions and their types-Implicit conversions – Control structures – The main function – Function prototyping – inline functions – Function overloading.

Unit II

Specifying a class – Defining member functions – Making an outside function inline – Nesting of member functions – Private member functions – Array within a class – Memory allocation for objects – Static data members – Static member functions – Array of objects - Objects as function arguments – Friendly functions – Returning objects – Constant member functions – Constructors – Parameterized constructor – Multiple constructors in a class – Constructors with default arguments – Dynamic initialization of objects – Copy constructor – Destructors.

Unit III

Defining operator overloading – Overloading unary operators – Overloading binary operators – Overloading binary operators using friend function – Rules for overloading operators - Defining derived classes – Single inheritance – Making a private member inheritable – Multilevel inheritance – Multiple inheritance – Hierarchical inheritance – Hybrid inheritance - Virtual base classes – Constructors in derived class – Member classes:
Nesting of classes.

Unit IV

Pointer to objects – this pointer – Pointers to derived classes – Virtual functions – Pure virtual functions – C++ Stream classes – Unformatted I/O operations – Managing output with manipulators.

Unit V

Classes of file stream operations – Opening and Closing files – Detecting end of file – More about open() function – File modes, File pointers and their manipulation – Sequential input and output operations – Command-line arguments- Templates: class templates and function templates.

Text Book:

1. Object Oriented Programming with C++**,** E. Balagurusamy, Sixth Edition-2013, McGraw Hill Education (India) Private Limited, New Delhi.

UNIT I – Chapter 1 (Except 1.3, 1.4),
Chapter 2 (Only 2.6),
Chapter 3 (Except 3.20, 3.21, 3.22), Chapter 4
UNIT II – Chapter 5 (Except 5.18, 5.19), Chapter 6 (Except 6.8, 6.9, 6.10)
UNIT III – Chapter 7, Chapter 8
UNIT IV – Chapter 9, Chapter 10
UNIT V – Chapter 11 (Except 11.8), Chapter 12 (Only 12.2, 12.3 and 12.4)

Books for Reference:

1. C++ - The Complete Reference, Herbert Schildt, TMH, 1998.
2. C++ How to Program, Paul Deitel, Harvey Deitel, PHI, Ninth edition (2014).
3. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C ++,Pearson Education, 2006.
4. Object-Oriented Programming With C++, Poornachandra Sarang, 2nd Edition, PHI Learning Private Limited, New Delhi, 2009.
5. Object-Oriented Programming Using C++, Alok Kumar Jagadev, Amiya Kumar Rath and Satchidananda Dehuri, Prentice-Hall of India Private Limited, New Delhi, 2007.

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II YEAR – III/IV SEMESTER
COURSE CODE: 7BCEAP2

ALLIED PRACTICAL – II - PROGRAMMING IN C AND C++ LAB

1. Write a C Program to find the sum of digits.
2. Write a C Program to check whether a given number is Armstrong or not.
3. Write a C Program to check whether a given number is Prime or not.
4. Write a C Program to generate the Fibonacci series.
5. Write a C Program to display the given number is Adam number or not.
6. Write a C Program to print reverse of the given number and string.
7. Write a C Program to find minimum and maximum of 'n' numbers using array.
8. Write a C Program to arrange the given number in ascending order.
9. Write a C Program to add and multiply two matrices.
10. Write a C Program to calculate NCR and NPR
11. Write a program in C++ to add complex numbers using operator overloading
12. Write a program in C++ to multiply complex numbers using operator overloading
13. Write a program in C++ to convert temperature from Fahrenheit to Celsius
14. Write a program in C++ to calculate variance and standard deviation of N numbers
15. Write a program in C++ to find largest value of two numbers using nesting of member functions.
16. Write a program in C++ to find the sum of digits using constructor
17. Write a program in C to prepare the pay bill of employees
18. Write a program in C++ to calculate the volume of sphere, cone and cylinder using inline function
19. Write a program in C++ to prepare the student mark list
20. Write a program in C++ to perform the matrix addition, subtraction, and multiplication using single level inheritance
21. Write a program in C++ to find out the standard deviation using hybrid inheritance

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B.SC., INFORMATION TECHNOLOGY

I YEAR – I SEMESTER
COURSE CODE: 7BITA1

ALLIED COURSE -I– PRINCIPLES OF INFORMATION TECHNOLOGY

Unit - I

An overview of Revolution in computers and communications: From the analog to the digital age: The "New Story" of computers and communications – The six elements of a computer and communication system – Communication: Development in Computer Technology, Developments in communication technology – Computer and communications Technology combined: Connectivity and interactivity The Ethics of information technology.

Unit – II

Application software: Tools for thinking and working – Ethics and intellectual property Rights: The four types of application software – The user interface and other basic user features – Word Processing – Spreadsheets – Database Software – Presentation Graphics Software–Communications Software–Desktop accessories and personal information managers integrated software and studies – Groupware – Internet WEB browsers – Specialized Software.

Unit – III

Communications: Stating along with the information highway: The Practical uses of communications and connectivity – Telephone related communication services – Video/Voice communication: Video conferencing and picture phones – online information services – The internet – Shared Resources: Workgroup Computing, Electronic Data Interchange and intranets: Telecomputing and virtual offices – Using a microcomputer to communicate: Analog and Digital Signals – Modems and Datacomm Software, ISDN Lines and Cable Modems–Communications Channels: communications networks – Local Networks

Unit - IV

Storage and Databases: Foundations for interactivity, Multimedia and knowledge Storage Capacity– Compression and Decompression – Criteria for rating Secondary Storage Devices– Diskettes – Hard Disks – Optical Disks – Magnetic Tapes – Organizing Data in Secondary storage: Databases, Data Storage – Hierarchy and concept of the key field – File management: Basic Concepts – File Management systems – Data management systems – Types of database organization.

Unit - V

Information systems and Software Development: Management Information Systems – The Six Phases of System Analysis and Design – The five Steps in programming –The Five Generations of Programming Languages – Programming Languages – Object oriented and visual Programming – Internet Programming

Text Books:

1. Stacey C Sawyer, Brain K Williams, Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Second Edition, The McGraw Hill Companies Unit I to IV.2009
2. Stacey C Sawyer,Brain K Williams,Sarah E Hutchinson Using Information Technology – Brief Version A Practical Introduction to Computer and Communications Third Edition, McGraw Hill Companies Unit V.2011

Book for Reference:

J Hames O'Brien – Introduction to Information systems.

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I YEAR – II SEMESTER
COURSE CODE: 7BITA2

ALLIED COURSE-II -C++ PROGRAMMING

Unit - I

Basic concepts of Ooops – benefits of Ooop – applications – What is c++. Introduction – tokens – key Identifiers and constants – basic data types – user defined data types – derived data types – operators in C++ resolution operator – manipulators. Functions in C++: Introduction – main function – prototyping call by, return by reference, inline function – overloading– friend and virtual functions.

Unit - II

Classes and Objects – defining member functions – arrays with in a class – static members –static member full – arrays of objects – friend functions – returning objects.

Unit - III

Constructor and Destructor: Constructors – parameterized constructors – multiple constructors– multiple constructors in a class – default arguments – dynamic – copy constructor – destructor.

Unit - IV

Operators overloading and type conversion: definition – unary, binary, binary operators using friend's manipulation string rules for overloading.
Inheritance: types of inheritance – derived class – virtual base class – abstract class.

Unit - V

Pointers, Virtual functions and polymorphism: pointers to objects – this pointer – virtual functions – cons-operations – C++ stream classes – unformatted I/O operation – output with manipulations I/O.

Text Book:

1. E.Balagurusamy, "Object – Oriented programming with C++" Second edition, Tata Megraw hill publishing

Book for Reference:

1. Programming in C++ by John Hubbard, Schaum's Outlines Series.

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II YEAR – III SEMESTER
COURSE CODE: 7BITA3

ALLIED COURSE - III – DISCRETE MATHEMATICS

Unit - I

LOGIC: TF Statements – Connective – Disjunction – Negation – Conditional Statements – Bi conditional Statements – Atomic and Compound Statements – Well formed formulae – The truth table – Tautology – Tautological implication formulae with distinct Truth Tables.

Unit - II

NORMAL FORMS: Principles of Normal forms – Theory of Inference – Open Statements – Quantifiers – Valid Formulae and Equivalence – Theory of Inference for Predicate calculus.

Unit - III

GRAPH THEORY: Definition – Degrees – Sub graph – Isomorphism – Complete graph – Bipartite graph – paths, Cycles – Connectedness.

Unit - IV

TREES: Spanning tree – Kruskal's Algorithm – Prim's Algorithm – Dijkstra's Algorithm – Cutset and cutvertices – Eulerian-Hamiltonian graph.

Unit - V

LATTICE: Binary relation in a set – partition and covering of a set – Equivalence relations – Partial ordering – Posets – Hasse diagram – Lattices – Sub lattices – Properties of Sub-lattices– Special Lattices – Boolean Algebra – Boolean Functions.

Text Book

1. Discrete Mathematics by M.K.Venkataraman, N.Sridharan and N.Chandrasekaran, Nation Publishing co., Chennai

Book for Reference:

1. Discrete Mathematics Structures with applications to Computer Science by Trembly and Manohar – Mc Graw Hill.

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II YEAR – IV SEMESTER
COURSE CODE: 7BITA4

ALLIED COURSE -IV– OPERATION RESEARCH

Unit - I

Development of OR – Definition of OR – Modeling – Features of OR – Main phases of OR – Tools, techniques & methods – scope of OR.

Unit - II

Linear Programming Problem – formulation of LPP – slack & surplus variables – Graphical solution of LPP – Simplex method – Artificial variable Technique – Big – M method – Two phase method.

Unit - III

Duality – Dual simplex method – IPP – Gomory's cutting plane method – Branch and Bound method.

Unit - IV

Mathematical formulation of assignment problem – method for solving the assignment problem – Traveling salesman problem

Unit - V

Mathematical formulation of transportation problem – Initial feasible solution – Optimal solution – Degeneracy in TP – Unbalanced TP

Text Book:

1. Operations Research – Theory & Applications by S.D.Sharma, Kedar Nath Ram Nath & Co. Publishers.

Book for Reference:

1. Linear programming by S.Arumugam & A.Thangapandi Issac, New gamma Publishing House, Palayamkottai–2003.

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B.C.A.

I YEAR – I SEMESTER
COURSE CODE – 7BCAA1

ALLIED COURSE – I - OFFICE AUTOMATION

Unit I

MS Windows – Concepts – Features – Windows Structure – Desktop – Taskbar – Start Menu– My Computer My Pictures – My music – Working with Recycle Bin – Managing files and folders: exploring hard disk – creating new folder, searching files and folders – disk – navigating between folders – coping and moving files and folder from one drive to another – Windows Accessories – calculator – Notepad – Paint – Word pad – Character Map: Windows Explorer: exploring hard disk, coping and moving files and folder from one drive to another Entertainment, Installation of Hardware and Software, Using scanner, system tools, communication, sharing information between computers.

Unit II

MS Word: Introduction to MS Office – Features & area of use – Starting Word – Parts of Word Window – Mouse operations – Keyboard operations – Menus & Commands – Toolbars and their icons – Shortcut Menus – Wizards and Templates – Creating a New Document – Different Page Views and layouts – Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting; Text Editing using various features; Bullets, Numbering, Autoformatting, Printing & various print options **Advanced Features:** Spell Check, Thesaurus, Find & Replace; Headers & Footers; Inserting– Page Numbers, Pictures, Files, Autotexts, Symbols etc.; Working with Columns, Tabs & Indents; Creation & Working with Tables including conversion to and from text; Margins & Space management in Document; Mail Merge, Envelops & Mailing Labels.

Unit III

MS Excel: Introduction – area of use – Concepts of Workbook & Worksheets: Using Wizards; Various Data Types – Using different features with Data, Cell and Texts: Selecting cells – Selecting cells with mouse – Entering and Editing text – Entering numbers, formulas and dates – Text alignment – Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different Views of Worksheets; Column Freezing, Labels, Hiding, Splitting etc.; Use of Formulas, Calculations & Functions; Cell Formatting including Borders & Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with various options.

Unit IV

MS PowerPoint: Introduction & area of use – Creating a New Presentation; Opening – Saving – Closing – Working with Presentation Using Wizards; Slides & its different views: Creating, Inserting, Deleting and Copying of Slides; Menus: File – Edit – View – Insert – Format – Tools – Slide Show – Window – Help – Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Printing Presentations, Notes, Handouts with print options.

Unit V

MS Access: Introduction – Parts of an Access Window – Starting MS Access – Database Creation – Table Creation using Table Wizard – Table Creation using Design view – Saving Database – Query – Form – Reports

Books for Reference:

1. Windows XP Complete Reference. BPB Publications
2. MS Office XP complete BPB publication
3. MS Office 2000 by Sanjay Saxena, Vikas publishing house pvt Ltd.
4. MS Windows XP Home edition complete, BPB Publications
5. I.T. Tools and Applications, A. Mansoor, Pragya Publications

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I YEAR – II SEMESTER
COURSE CODE – 7BCAA2

ALLIED COURSE – II - PROGRAMMING IN C

Unit I

Introduction to computers – types of programming languages – Introduction to C – Structure of a C programs – Constants, Variables – data types – operators and expressions – Input and Output operations – Decision making – branching – looping

Unit II

Arrays: one and two dimensional arrays – character strings: Declaring and initializing string variables – reading strings from terminal – writing strings to screen – arithmetic operations on characters – string handling functions

Unit III

User defined functions: Introduction – need for user defined functions – the form of C functions – return values and their types – calling a function – categories of functions – nesting of functions – recursion – functions with arrays – the scope and lifetime of variables
Structures and Unions: Structure definition – giving values to members – structure initialization – arrays of structures – arrays within structures – structures within structures – structures and functions – unions

Unit IV

Pointers: Introduction – understanding pointers – accessing the address of a variable – declaring and initializing pointers – accessing a variable through it's pointer – pointer expressions – pointer increments – pointers and arrays – pointers and functions – pointers and structures.

Unit V

File Handling: defining and opening a file – closing a file – I/O operations on files – error handling during I/O operations – random access to files – command line arguments

Text Book:

1. Programming in ANSI C – E.Balagurusamy, Tata McGrawHill Publishing Company Ltd, NewDelhi, 2012

Books for Reference:

1. Programming with C – K.R.Venugopal, Sudeep.R Prasad Tata McGrawHill Publishing Company Ltd, NewDelhi.
2. Theory and problems of programming with C – Byron S.Gottfried, Schaum's outline series Tata McGrawHill Publishing Company Ltd, NewDelhi
3. Programming in C D.Ravichandran newage publisher 2009

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II YEAR – III SEMESTER
COURSE CODE – 7BCAA3

ALLIED COURSE – III - FUNDAMENTALS OF COMPUTERS AND INFORMATION TECHNOLOGY

Unit I FUNDAMENTALS OF COMPUTERS

Introduction to Computer system: Classification of Digital computer system – Anatomy of a Digital computer – Computer Architecture - Number System – Memory units – Auxiliary Storage Devices – Input Devices – Output Devices.

Unit II

Computer Software & Software Development: Introduction to Computer System – Operating System – Programming Languages – General Software Features and Trends. Database Management Systems: Data Processing – Introduction to Database Management Systems – Database Design.

Unit III INFORMATION TECHNOLOGY

Telecommunications: Introduction to telecommunications – Computer Networks – Communication Systems – Distributed Systems.
Internet & Intranet: Internet & WWW – E-Mail – Intranets.
Multimedia & virtual reality: Introduction to Virtual reality – Multimedia tools – Introduction to Virtual Reality.

Unit IV

New Technologies in Information Technology: E-Commerce – Hypermedia – Data Warehouse and Data Marts – Data Mining – OLAP – GIS.

Unit V

Applications of Information Technology: Computers in Business & Industry - Computer in Home – Computers in Education & Training – Computers in Entertainment, Science, Medicine and Engineering.

Text Book:

1. Fundamentals of Information Technology, Alexis Leon & Mathews Leon, Leon Tech World.

Books for Reference:

1. Fundamentals of Computers, V. Rajaraman, 4th Edition, PHI Publications, 2006
2. Computers and Commonsense – Roger Hunt and John Shelley, PHI publication
3. Fundamentals of Computers – Comdex computer course kit Wiley publication.

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II YEAR – IV SEMESTER
COURSE CODE – 7BCAA4

ALLIED COURSE – IV - DATA MINING AND WAREHOUSING

Unit I

Introduction – Data mining – Data mining functionalities – kinds of patterns can be mined – classification – major issues. Data warehouse – A multidimensional data model – Data warehouse architecture – Data warehouse implementation – From data warehouse to data mining.

Unit II

Data pre-processing – Data cleaning – Data Integration and Transformation – Data Reduction – Discretization and concept hierarchy generation – Data mining primitives – Data mining Task

Unit III

Association Rule Mining – Mining single dimensional Boolean association rules from transactional databases –. Classification and prediction – Issues regarding classification and prediction – Bayesian classification- Classification by Back propagation – classification based on concepts from association rule mining

Unit IV

Cluster Analysis – A categorization of Major clustering methods - Partitioning methods- Hierarchical methods – Grid based methods -Model based clustering methods – Density – based methods

Unit V

Applications and Trends in Data Mining – Data mining system products and Research prototypes – Additional themes on Data mining – Social Impacts of Data Mining – Trends in Data mining-Mining Spatial Databases – Mining Time-series and sequence data – Mining the World wide web.

Text Book:

1. Jiwei Han, Michelien Kamber, Data Mining Concepts and Techniques , Morgan Kaufmann Publishers an Imprint of Elsevier, 2011.

Books for Reference:

1. Arun K.Pujari, Data Mining Techniques, Universities Press (India) Limited, 2011.
2. George M. Marakas, Modern Data warehousing, Mining and Visualization: Core Concepts, Printice Hall, First Edition, 2011.

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PART IV (I) – (A)

NON – MAJOR ELECTIVE – COURSE - I

I YEAR – I SEMESTER
COURSE CODE: 7NME1A

gs;spapy; jkpo; gapyhj khzhf;fu;fSf;fhd mbg;gilj; jkpo;g; ghlq;fs;

jhs; 1 – jkpo; nkhopapd; mbg;gilfs;

myF – 1

vOj;Jf;fs; – capu; vOj;Jf;fs; – nka;naOj;Jf;fs; – capu;nka;naOj;Jf;fs;

myF – 2

nrhw;fspd; tif mwpjy; – ngau;r;nrhy; – tpidr;nrhy; – ,ilr;nrhy; – cupr;nrhy;

myF – 3

vOj;Jf;fspd; NtWghL mwpjy;:
zfu> dfu vOj;Jf;fs; nrhw;fspy; gapd;W tUjy;
yfu> ofu> sfu NtWghL mwpjy;
ufu> wfu NtWghL mwpjy;.

myF – 4

vOj;Jf;fspd; gpwg;G – cr;rupg;Gg; gapw;rp mspj;jy; – gpioapd;wpg; gbg;gjw;Fg; gapw;rp mspj;jy;.

myF – 5

gpwnkhopr; nrhw;fisf; fz;lwpjy; – jkpo; khjq;fs; – fpoikfs; – vz;fs; – Ritfs; – cwTg; ngau;fs; Mfpatw;iw mwpjy;

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PART IV (I) – (B)

NON – MAJOR ELECTIVE – COURSE - I

I YEAR – I SEMESTER
COURSE CODE: 7NME1B

gs;spapy; Nky;epiyg; gbg;G tiu jkpo; gapd;W fy;Y}upapy; gFjp 1– ,y; jkpo; gapyhj khzhf;fu;fSf;fhd rpwg;Gj; jkpo;g; ghlq;fs;

jhs; – 1 ,f;fhy ,yf;fpak;

myF – 1> 2 ftpij ,yf;fpak;

1. ghujpahu; – jkpo;nkhopAk; jkpoUk;:
   nre;jkpo;ehL – ‘nre;jkpo; ehnlDk; NghjpdpNy vd;w ghly; Kjy; ‘rPdk; kprpuk; atdufk;’ vd;w ghly; tiu cs;s 10 ghly;fs;.
2. ghujpjhrd; – ePq;fNs nrhy;Yq;fs;
   ‘rpj;jpur; NrhiyfNs’ vd;w ghly; Kjy; fpypia tpLj;Jf; fpsu;e;njOthu;’ vd;w ghly;; tiu cs;s 10 ghly;fs;.
3. ehkf;fy; ftpQu; – khztDf;F
   ‘fy;tpngWk; khztdhk; gUtk; fz;Bu’; vd;w ghly; Kjy; ‘ngw;Nwhu;fs; kpfg;ngupJk; twpaNuDk;’ vd;w ghly;tiu cs;s 6 ghly;fs;.
4. ftpkzp Njrpftpehafk; gps;is – cly; eyk; Ngzy;
   ‘clypd; cWjp cilatNu’ vd;w ghly; Kjy; ‘mUik clypd; eynky;yhk;’ vd;w ghly; tiu cs;s 8 ghly;fs;
5. nra;Ak; njhopNy nja;tk; – gl;Lf; Nfhl;il fy;ahz Re;juk;
   ‘nra;Ak; njhopNy nja;tk;’ vd;w ghly; Kjy; ‘fhAk; xUehs; fdpahFk;’ vd;w ghly; tiu cs;s 4 ghly;fs;.
6. kdNk Nfhtpy;! kdpjNd nja;tk;! – K. Nkj;jh
7. Ranfhy;yp – ituKj;J.

myF – 3 ehty; ,yf;fpak;
Nfhfpyh vd;d nra;J tpl;lhs;? --- n[afhe;jd;
(kPdhl;rp Gj;jfepiyak; kJiu)

myF – 4 rpWfij ,yf;fpak;

1. Fwl;il xyp – K.t.
2. nrt;thio – mwpQu; mz;zh
3. ee;jtdj;jpy; Xu; Mz;b – n[afhe;jd;.
4. fjT – fp. uh[ehuhazd;.
5. ,lyhf;Fb uhrh – ehQ;rpy; ehld;.
6. ty;yik je;Jtpl;lha; – Nr. nre;jkpo;g;ghit.
7. jq;fj;jpy; JUg;gpbg;gjpy;iy – fU. KUfd;.

myF – 5 ,yf;fzk;

Kjy; vOj;Jf;fs; – rhu;ngOj;Jf;fs; – nkhop Kjy; vOj;Jf;fs; – nkhop ,Wjp vOj;Jf;fs; – ty;ypdk; kpFk; ,lq;fs;> kpfh ,lq;fs;.

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PART IV (I) – (C)

NON – MAJOR ELECTIVE – COURSE – I

I YEAR – I SEMESTER
COURSE CODE: 7NME1C

COURSE 1 – COMMUNICATIVE ENGLISH
15 hours per Semester – 1 hour per Week

Objective

To enable each learner at the college level to communicate effectively in English both in the spoken and in the written mode

Theory

Practice oriented course. Hence, 75:25 scheme of marking has to be followed. 75 marks for external assessment. 25 marks for internal marks assessment. Internal assessment will be carried out by the teacher who teaches the course while the external evaluation will be done by a group of 2 or 3 teachers who teach the course from the same college or from the nearby colleges.

Unit I BASICS OF ENGLISH

Sentence- Clause-Phrase-Word-Morpheme. Introduction to sounds of English-stress-intonations

Unit II INTRODUCTION TO LSRW SKILLS

Listening –Reading-Speaking-Writing skills

Unit III SPOKEN COMMUNICATION

Participating in Conversation
Preparation of Speech for shorter or longer duration

Unit IV WRITTERN COMMUNICATION-I

Note-Making-Summarizing-Paraphrasing-letter writing

Unit V WRITTEN COMMUNICATION-II

Introduction to preparing curriculum vitae-Creating and verifying personal and official e-mail-Preparing notice circulars, memos and agenda for a meeting-Report writing-Common errors in English Translation.

ACTIVITIES

1. Arrange the conversation between the students.
2. Preparing the speeches (for example, introducing a speaker or proposing a vote of thanks at the college function, explaining an experiment & etc.,)
3. Passage for note making
4. Passage for summarizing
5. Writing a paragraph on any topic(Statements and proverbs can be given)
6. Writing a C.V.
7. Writing a memo/notice/agenda/email/report
8. Ten sentences form Tamil to English & English to Tamil
9. Ten Sentences from error correction.

RECOMMENDED BOOKS

1. "Success with Spoken English II" Dr. Saraswathi and Dr. Noorjahan kother adham (2000), Common Wealth University books, Chennai.
2. "Teaching Spoken English and Communication Skills" Rev.Dr.Francis Soundararaj (1995), T.R.Publication, Chennai.
3. "Developing Communication Skills," Krishna Mohan and Meera Benerji (2002) Macmillan India Limited.
4. 3 volumes – vowels
   – Consonants
   – Rhythm and Intonation prepared by Ciefc and published by Oxford University Press, Chennai.

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PART IV (I) – (A)

NON – MAJOR ELECTIVE – COURSE II

II YEAR – III SEMESTER
COURSE CODE: 7NME3A

gs;spapy; jkpo; gapyhj khzhf;fu;fSf;fhd mbg;gilj; jkpo;g; ghlq;fs;

jhs; 2 – ,yf;fpaKk; nkhopg; gad;ghLk;

myF 1 jkpo; ePjp ,yf;fpaf; fUj;Jf;fis mwpjy;

jpUf;Fws; (fy;tp – 10 Fwl;ghf;fs;)
Mj;jp R+b – Kjy; 30 ghly;fs;
%Jiu – Kjy; 5 ghly;fs;

myF 2 jkpop;d; rpwg;Gfis mwpjy; – (tha;nkhopj; Nju;T)

jkpo;nkhopapd; njhd;ik – rpwg;G – jkpo; ,yf;fpaq;fs; – rq;fg;Gytu;fs;
jkpo;f;fhg;gpaq;fs; – GJf;ftpQu;fs; – Fwpj;j nra;jpfis mwpjy;

myF 3 nrhw;fspd; gad;ghL.

mUQ;nrhw;nghUs; mwpjy; – gpupj;J vOJjy; – Nru;j;J vOJjy; – vjpu;r;nrhy; mwpjy;> XnuOj;J xU nkhop mwpjy; ;.

myF 4 gpioapd;wpj; jkp;o; NgRtjw;Fg; gapw;rp mspj;jy; (tha;nkhopj; Nju;T)

1. gonkhopfs;> ctikfs;> kuGj;njhlu;fs; Mfpait Fwpj;J mwpe;J NgRk; jpwd;fis tsu;j;jy;.
2. tuNtw;Giu> ed;wpAiu Mw;Wtjw;Fg; gapw;rp mspj;jy;
3. fijnrhy;Yk; jpwd;fis tsu;j;jy;.(ePjpf; fijfs; $wy;;)

myF 5 nkhopngau;g;G

Mq;fpyj;jpypUe;J jkpopy; nkhopngau;j;jy;
1. Mq;fpyr; nrhw;fis nkhop ngau;j;jy;
2. Mq;fpyj; njhlu;fisj; jkpopy; nkhopngau;j;jy;

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PART IV (I) – (B)

NON – MAJOR ELECTIVE – COURSE II

II YEAR – III SEMESTER

COURSE CODE: 7NME3B

gs;spapy; Nky;epiyg; gbg;G tiu jkpo; gapd;W fy;Y}upapy; gFjp 1-,y; jkpo; gapyhj khzhf;fu;fSf;fhd rpwg;Gj; jkpo;g;ghlq;fs;.

jhs; 2 – goe;jkpo; ,yf;fpaq;fSk; ,yf;fpatuyhWk;.

myF 1 rq;f ,yf;fpak;

1. ew;wpiz – ghly; vz;: 1. ‘epd;w nrhy;yu;’ – vdj; njhlq;Fk; fgpyu; ghly;.
2. FWe;njhif – ghly; vz;: 3. ‘epyj;jpDk; ngupNj’ vdj; njhlq;Fk; NjtFyj;jhu; ghly;.
3. Iq;FWE}W – kUjk; – Ntl;ifg;gj;J – ghly; vz;.1
4. mfehD}W – ghly; vz;: 4 ‘Ky;iy ite;Edp’ vdj; njhlq;Fk; FWq;Fb kUjdhu; ghly;
5. GwehD}W – ghly; vz;: 182. cz;lhy; mk;k ----- flYs; kha;e;j ,sk;ngUtOjp

myF 2 fhg;gpa ,yf;fpak;

rpyg;gjpfhuk; – tof;Fiu fhij

myF 3 ePjp ,yf;fpak;

1. jpUf;Fws; – gz;Gilik – 10 Fwl;ghf;fs;
2. ehybahu; – ‘fy;tp fiuapy’ vdj; njhlq;Fk; ghly; vz;: 135 (fy;tp)
3. ehd;kzpf;fbif – ‘fs;sp tapw;wpy; mfpy; gpwf;Fk;’ vdj; njhlq;Fk; ghly; vz;: 4
4. ,dpait ehw;gJ – ‘gp;r;irGf; fhapDk; fw;wy; ,dpNj’ vdj; njhlq;Fk; ghly; vz;: 1
5. ,d;dh ehw;gJ – ‘cz;zhJ itf;Fk; ngUk; nghUs;’ vdj; njhlq;Fk; ghly; vz;: 16

myF 4 ,yf;fpatuyhW

1. rq;f fhyk; – vl;Lj;njhif> gj;Jg;ghl;L.
2. fhg;gpa ,yf;fpa tuyhW – Ik;ngUq; fhg;gpaq;fs; – IQ;rpW fhg;gpaq;fs;
3. rpw;wpyf;fpaq;fs; Njhw;wKk; tsu;r;rpAk;
4. GJf;ftpij Njhw;wKk; tsu;r;rpAk;.

myF 5 ,yf;fzk;

1. nrhy;tif – ngau;> tpid> ,il> cup
2. mzp ,yf;fzk; – ctik mzp> cUtf mzp> jw;Fwpg;Ngw;w mzp> cau;T etpw;rp mzp.

3. GJf;ftpij ,yf;fzk; – gbkk; FwpaPL.

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PART IV (I) – (C)

NON – MAJOR ELECTIVE – COURSE II

II YEAR – III SEMESTER
COURSE CODE: 7NME3C

COURSE II – EFFECTIVE EMPLOYABILITY SKILLS

Unit I Curriculum Vitae & Facing the Interview

Applying for jobs, Preparing the curriculum Different formats vita, Facing the interviews, Frequently Asked Questions (FAQs).

Unit II Interpersonal Communication

One to one Communication
One to group Communication

Unit III Group Discussion

Listening, Ice-breaking, Leader – Member Moderates his role responsibility, Conflict, Management, Consensus, Steps involved

Unit IV Team Work

Qualities Selection constant & comfort, Orientation Review Tea, Review of the team work

Unit V Motivation

Leadership & Motivation, Behaviour, Motives Managerial Skills

Books for Reference:

1. E.H.McGrath, S.J., "Basic Managerial Skills For All", Prentice-Hall of India Private Limited, New Delhi 110 001. ISBN-0-87692-498-4.
2. D.K.Sarma, "You & Your Career", Wheeler Publishing, 755, Anna Salai, Chennai 600002. ISBN 81-7544-170-4. -1999
3. Indian Jaycees, "Skills" Series, published by Indian Jaycees.
4. S.P.Sachdeva, "Interview In A Nutshell", Sudha Publications (P) Ltd., B-5, Prabhat Kiran, Rajendra Place, New Delhi 110 008.

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PART IV (2) – SKILL BASED SUBJECTS (SBS)
GROUP I – SET I
II YEAR – III SEMESTER
COURSE CODE: 7SBS3A1

COURSE I – COMPETITIVE EXAMINATION SKILLS

Objectives:

- To build a sense of awareness among students through proper guidance about various competitive examinations in order to motivate students for prospective career in government and corporate sector.
- To intensively guide students for competitive examinations like TNPSC, UPSC, SSC, RRB, IBPS etc.

Unit I

Public Service Commission: Tamil Nadu Public Service Commission (TNPSC) and its role - History of TNPSC - Constitutional Provisions on the Formation, Functions, and Powers of Public Service Commissions for the Union and for the States - TNPSC and its rules of Procedure.

Eligibility and examination pattern: TNPSC - Union Public Service Commission (UPSC) - Staff Selection Commission (SSC) - Railway Recruitment Board (RRB) – Institute of Banking Personnel Selection (IBPS).

Unit II

Intelligence, creativity & application, testing & assessment - Types, verbal abilities & fluency

Unit III

Numerical ability:

Numbers, simplification, time and work, percentage, fraction, speed and distance, simple and compound interest, ratio and proportion

Unit IV

Spatial and perceptual abilities, situation reaction test

Unit V

Memory and inductive reasoning, Logical reasoning, Coding and Decoding, Direction Test, Syllogism

Books for Reference:

1. Ajay rai, “intelligence tests”, sterling paperbacks, published by sterling publishers pvt. Ltd., l-10, green park extension, new delhi 110 016., 2001
2. Competition success review magazines.

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GROUP I – SET I

II YEAR – III SEMESTER
COURSE CODE: 7SBS3A2

COURSE II – EXECUTIVE SKILLS

Objectives:

- To understanding good leadership behaviors
- To prepare themselves for training after reviewing administrative matters and making introduction
- To understand qualities and strengths
- To understand housekeeping and documentation skill

Unit I

Professionalism: professional approach & behaviour – rational vs. Emotional decisions – analysis of self-competence and self confidence – qualities of an effective executive

Unit II

Corporate etiquette: dressing occasions – formal – semi formal and informal – eating habits– table manners – body language: kinesics and proximity

Unit III

Housekeeping skills: cleanliness at work place – organizing the work table and shelves – spatial utility and energy saving habits – office files and personal computer / laptop management

Unit IV

Front office skills: reception and greeting – telephone manners – effective visitor appointments management – preparation to attend office meetings – preparation to hold office meetings

Unit V

Documentation: objectives, report writing, how to write minutes, preparation methods, and report for media?

Books for Reference:

1. Naveen kumar, sudan a. S; managerial skill development, first edition (2004), anmol publications
2. Lesikar & flatley, basic business communication, new delhi: tata mcgraw hill
3. www.executiveworld.com
4. www.selfconfidence.co.uk
5. www.senselang.com

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GROUP I – SET I

II YEAR – III SEMESTER
COURSE CODE: 7SBS3A3

COURSE III – DISASTER MANAGEMENT

Objectives:

- To provide students an exposure to disaster, their significance and types.
- To ensure that students begin to understand the relationship between vulnerability, disasters, disaster prevention and risk reduction.
- To gain a preliminary understanding of approaches of disaster risk reduction (drr)
- To enhance awareness of institutional processes in the country and
- To develop rudimentary ability to respond to their surroundings with potential disaster response in areas where they live with due sensitivity.

Unit-I
Introduction to disasters

Concepts, and definitions (disaster, hazard, vulnerability, resilience, risks)

Unit –II
Disasters: classification, causes, impacts

Including social, economic, political, environmental, health, psychological, etc., Differential impacts- in terms of caste, class, gender, age, location, disability global trends in disasters urban disasters, pandemics, complex emergencies, climate change.

Unit – III
Approaches to disaster risk reduction

Disaster cycle – its analysis, phases, culture of safety, prevention, mitigation and preparedness, community based DRR, structural – non structural measures, roles and responsibilities of community, panchayati raj institutions/ urban local bodies (PRIs/ULBs), states, centre, and other stake-holders.

Unit –IV
Inter-relationship between disasters and development

Factors affecting vulnerabilities, differential impacts, impact of development projects such as dams, embankments, changes in land-use etc. Climate change adaption. Relevance of indigenous knowledge, appropriate technology and local resources.

Unit –V
Disaster risk management in India

Hazard and vulnerability profile of India
Components of disaster relief: water, food, sanitation, shelter, health, waste management

Institutional arrangements (mitigation, response and preparedness, dm act and policy, other related policies, plans, programmes and legislation).

Books for Reference:

1. Alexander David, Introduction in ' Confronting Catastrophe', Oxford University Press, 2000
2. Andharia J. Vulnerability in Disaster Discourse, JTCDM, Tata Institute of Social Sciences Working Paper no.8, 2008
3. Blaikie, P, Cannon T. Davis Ii, Wisner B 1997. At Risk Natural Hazards, peoples' Vulnerability and Disaster, Routledge.
4. Coppola P Damon, 2007, Introduction to International Disaster Management.
5. Carter, Nick 1991. Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.
6. Cuny, F. 1983. Development and Disasters, Oxford University Press.
7. Document on World Summit on Sustainable Development 2002.
8. Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.
9. Government of India, 2009. National Disaster Management Policy,
10. Gupta Anil K, Sreeja S. Nair. 2011 Environmental Knowledge for Disaster Risk, Management, NIDM, New Delhi
11. Indian Journal of Social Work 2002. Speical Issue on Psychological Aspects of Disasters, Volume 63, Issue2, April.
12. Kapur, Anu & others, 2005: Disasters in India Studies of grim reality, Rawat Publishers, Jaipur.
13. Parasuraman S, Acharya Niru 2000. Analysis forms of vulnerability in a disaster, The Indian Journal of Social Work, vol 61, issue 4, October.
14. Pelling Mark, 2003, The Vulnerability of Cities: Natural Disaster and Social Resilience Earthscan publishers, London.
15. Reducing risk of disasters in our communities, Disaster theory, Tearfund, 2006.
16. UNISDR, Natural Disasters and Sustainable Development: Understanding the links between Development, Environment and Natural Disasters, Background paper No.5. 2002.
17. IFRC, 2005. World Disaster Report: Focus on Information in Disaster, PP.182-225.

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GROUP I – SET II

III YEAR – V SEMESTER
COURSE CODE: 7SBS5A4

COURSE I – ENTREPRENEURIAL DEVELOPMENT SKILLS

Objectives:

- To learn the concepts, principles of entrepreneurship and to develop entrepreneurial interest and qualities
- To impart the process and procedure involved in setting up of a small enterprise and to acquire the necessary managerial skills to run a small-scale industry

Unit I

Concept of Entrepreneurship and basics of selection of project/business

Qualities of an entrepreneur – Classification of industries as tiny, small, medium and large Infrastructure facilities, threats and Opportunities-Corporate Social Responsibility

Unit II

Preparation of Project Proposal

Introduction to nature of business – techniques of market survey – goal setting, funding institution, departmental licenses and clearance – production capacity – fixed capital – working capital and total investment – costing, pricing, profit assessment – return on capital investment, Break Even Point and Cash Flow

Unit III

Marketing skills

Salesmanship, credit sales, customer management, negotiation skills, business tie ups, export possibilities and policies

Unit IV

Management of Men, Materials, Money, Machine and Methods (the 5Ms)

Management of man power, problem solving, purchasing techniques, inventory management– Quality control and standards – resource mobilization – Financial planning, record keeping and accounting, knowledge of employees' welfare measures – plant selection and layout.

Unit V

Industrial Management

Technology up gradation – value addition – diversification – utilization of waste and by products – concepts of zero discharge

Books for Reference:

1. Entrepreneurial Development – S.S.Khanna, S.Chand & Co.
2. Entrepreneurial & Management of Small Business – CED, Madurai – 10.
3. Entrepreneurship Development – S.P.Saravanan, Sul

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GROUP I – SET II

III YEAR – V SEMESTER
COURSE CODE: 7SBS5A5

COURSE II – HERITAGE AND TOURISM

Objectives:

- To understand the definitions, terminology and concepts of cultural heritage and its relationships with tourism.
- To Understand heritage tourism supply by examining different categories of heritage attractions and the contexts within which heritage exists and additional perspectives on scale from the supply perspective
- To understand the role of interpretation in cultural heritage sites and the relevance of such interpretation approaches to visitors.
- Provide a framework to plan, design, and assess interpretation programs for tourists

Unit I

Tourism – Introduction – Concepts – Significance – Forms of Tourism – Effects of Tourism – Social, Economic and Environmental aspects – Human Rights

Unit II

Importance of preserving heritage – Heritage Spots in India – In Tamil Nadu – Brief history of the heritage spots – The role of heritage spots in promoting tourism – UNESCO guidelines on Heritage

Unit III

Role of Government in promoting tourism – ITDC- TTDC-Palace on wheels – Travel industry service network – Land (rail and road) Air – Water – Travel Agency – Hospitality and Accommodation

Unit IV

Travel Guide – Features – requirements – One's role as a guide – Income and Employability – Qualities and skills of a professional travel or tourist guide

Unit V

Project work – Field visit to heritage and tourism spots in Sivagangai and Ramanathapuram Districts and submission of a report (15 to 25 pages)

Books for Reference:

Bhatia, A. K – Tourism Development Principles and Practices, (Sterling Publishers (P) Ltd., New Delhi)

Ananand M. M – Tourism and Hotel Industry in India (Sterling Publishers (P) Ltd., New Delhi)

Acharya Ram – Tourism and Cultural Heritage (Rosa Publications: Jaipur, 1986)

Jha, S.M – Tourism Marketing (Himalaya Publishing House)

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GROUP I – SET II

III YEAR – V SEMESTER
COURSE CODE: 7SBS5A6

COURSE III – MARKETING AND SALES MANAGEMENT

Objectives:

- To acquire analytical skills for solving marketing related problems and challenges and to familiar with the strategic marketing management process
- To learn the elements of sales force to be an effective component of an organization's overall marketing strategy.

Unit I

Introduction: Evolution of Marketing – Types of Marketing: Consumer Products Marketing, Industrial Marketing and Services Marketing – Demographic and Behavioural Dimensions of Marketing – Marketing Planning

Unit II

Basics of Market Segmentation, Targeting and Positioning – Components of The Marketing Mix: Product – Price – Place – Promotion – Distribution Channels: Types – Merits and Demerits

Unit III

Marketing Vs Selling – Nature and Scope of Sales Management – Personal Selling and Salesmanship – Selling Function – Understanding Consumer's Decision Making Process – Sales Organization and Types Of Selling

Unit IV

Prospecting – Approaching The Customer – Sales Presentation – Sales Demonstration – Negotiating Buyer Concerns – Closing The Sale – Post Sales Service and Complaint Handling

Unit V

Modern Trends in Marketing and Sales: Internet Marketing – Direct Marketing – Multi Level Marketing – Relationship Marketing – Selling through Kiosks

Books for Reference:

1. Chunawalla, S. A., Sales Management, 5th Edition (2007), Himalaya Publishing House
2. Havaldar, Krishna; Sales And Distribution Management, 1st Edition (2006), Tata Mcgraw Hill
3. Perreault, Jr., William; Mccarthy, E. Jerome, Basic Marketing, 15th Edition, 2006, Tata Mcgraw Hill

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GROUP I – SET II

III YEAR – V SEMESTER
COURSE CODE: 7SBS5A7

COURSE IV – URBAN PLANNING

Objectives

- To expose the students the various aspects of urban planning.
- To provide students an exposure to development plans, plan formulation and evaluation.
- To gain a preliminary understanding of urban forms, size and infrastructure

Unit I Introduction to urban planning

Urban planning and development- definition of terms- explanation of concepts- trends of urbanization- international, national and regional level- positive and negative impacts of urban development.

Unit II Planning process

Various definitions of town and country planning - principles of planning- types and levels of urban plans- stages in planning process- goals and objectives of planning - delineation of planning areas- surveys and analysis.

Unit III Development plans, plan formulation and evaluation

Scopes and content of regional plan- definition of development plan; types of development plans: master plan, city development plan, structure plan, district plan, action area plan, subject plan, town planning scheme, regional plan, sub-regional plan; planning of industrial estates development strategies- formulation and evaluation.

Unit IV Urban forms, size and infrastructure

Obligatory and discretionary services - implication of urban form and size on services - norms and standards - national and local guidelines - recommendations of rakesh mohan committee.

Unit V Essential Services

Demand strategy, issues and tasks, operation and management aspects of each service– water supply, sewerage / drainage, solid waste management, roads and street lighting and living environment.

Books for References:

1. Karat Singh, “Rural Development, Principles, Policies And Management Stages”, Sage Publication India Pvt.Ltd, 2009
2. George Chanwick, “A System View Planning”, Pergamon Press,Oxford1978
3. Cpheeri, M/C Ua, ‘ Manual On Water Supply And Sewerage’, New Delhi, 1991
4. Dhaliwal S.S, ‘Urban Infrastructure Development In Small And Medium Towns’ Deep And Deep Publications, 2004.

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GROUP II – SET I

II YEAR – IV SEMESTER
COURSE CODE: 7SBS4B1

COURSE I – ACCOUNTING SKILLS

Objectives:

- To introduce basic Accounting principles, ethics in accounting and preparation of financial statements.
- To analyze the business problem by incorporating diverse perspective of accounting techniques and to develop competent decision skills in the areas of accounting

Unit I

Introduction to Accounting – Accounting principles – Accounting equation – Double entry system – Characteristics – Classification of Accounting principles.

Unit II

Books of Accounting – Journal – Accounting Process – Classification of Accounts – Compound Journal Entries – Important consideration for recording transaction

Ledger: Difference between Journal & Ledger – Cashbook and Subsidiary Books – Purchase Books – Invoice, Sales Book, Return Book, Debit and Credit notes

Unit III

Trial balance: Meaning of Trial Balance, Objective and Importance of Trial Balance

Errors: Meaning and location of Errors.

Unit IV

Financial Accounts: Meaning and typing of Financial Statements, procedure for preparing accounts – Profit and Loss Accounts – Balance Sheet – Manufacturing Account – Adjustment and treatment of adjustment.

Unit V

Introduction to Accounting Package – Introduction to Tally: Features, advantages, defining the cells, format the data, entering data, functional keys and simple calculation – Excel: features, advantages, defining the cell range, functional keys, entering the data, defining the functions and simple calculations.

Text Book:

1. M.C.Shakla, T.S.Grawal and S.C.Gupta – "Advanced Accounts" S. Chand & Company Ltd, New Delhi, Fourteenth Edition, 1999.

Books for Reference:

1. Mukesh Mahajan, P.S.Gills, V.P.Sharma and H.S.Punia, Fundamentals of Accountancy, Unistar Books Pvt. Ltd., Chandigarh, 2001.
2. Sundeep Sharma, Principles of Accounting (A Complete Hand Book), Shree Niwas Publication, Jaipur, First Edition, 2004.
3. Douglas Garbutt, Accounting Foundation (An Introductory), Pitman, Publishing Limited, London, First Edition, 1980.

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GROUP II – SET I

II YEAR – IV SEMESTER
COURSE CODE: 7SBS4B2

COURSE II – EMERGENCY AND MEDICAL LAB SKILLS

Objectives:

- To recognize the nature and seriousness of the patient's condition or extent of Injuries to assess requirements for emergency medical care
- Administer appropriate emergency medical care based on assessment findings of the patient's condition
- To Perform safely and effectively the expectations of the job

Unit I

First Aid – Fracture and Fire
First Aid – Drowning and Snake animal, rodent bites.
First Aid – Diarrhoea, Dysentery and Heat Stroke

Unit II

Traffic Rules
Road accidents: precautions, preventions & emergency steps to be taken on the spot advantages of 108 ambulance.

Unit III

Basic Clinical lab Tests
Blood, Urine, saliva, stool Tests

Unit IV

Awareness Programmes on the importance of locally available herbal plants and Vegetables. Skin lashes poor eye-sight anemia

Unit V

Project on Locally available native treatments for various Health Problems (Project Report 15 to 25 Pages)

Books for Reference:

1. Era.Su.Muthu and Meera Ravishankar, "First Aid", aug-2013 published by Sura Books (PVT) Ltd., 1620, 'J' Block, 16th Main Road, Anna Nagar, Chennai – 600 040.
2. Dr.Rama Rao, "Handbook of First Aid", Chennai.

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GROUP II – SET I

II YEAR – IV SEMESTER
COURSE CODE: 7SBS4B3

COURSE III – YOUTH RED CROSS

Objectives:

- To make the students to know about the birth, organizational set up, principles, emblem and activities of Red Cross society and to develop leadership traits

Unit I: History and Organization of Red Cross Society:

Henry Dunand – memories of Salbarino – Origin of Red Cross Society – Geneva Convention IRCS – Organization – objectives – Administrative structure – Organizational set up of Indian Red Cross Society

Unit II: Principles of Red Cross Society, Emblem and its uses:

Humanity – Impartiality – Neutrality – Independence – Voluntary service – Unity – Universality Aims of Emblem – Red Cross – Red Crescent – protective use – indicative use – abuse

Unit III: IRCS activities and YRC:

Mission: Indian Red Cross Society - Organizational Structure of IRCS Junior/Youth - Formation procedure at Indian Red Cross Society, National Headquarters -Types of conflicts & National Disasters – Role of Red Cross Society in relief activities Youth Red Cross Movement – origin – objectives – organization – activities

Unit IV: Leadership Development:

First war of Indian Independence – Gandhiji and Non Violence – Nethaji and INA Leadership – types and traits – Man management Duty and discipline, factors affecting duty and discipline Indian Citizenship – duties and responsibilities

Unit V: Civil Defence and Self Defence:

Civil defence – organization – aim and services – aid to civil authorities in emergency Fire fighting – types of fire, spreading of fire, fire extinguishing and equipments Self defence – unarmed combat – attacking and throws – vital parts of human body .

Books for Reference:

1. Nagendran, N.A. A guide to Youth Red Cross Society. Thiagarajar College, Madurai.

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GROUP II – SET II

III YEAR – VI SEMESTER
COURSE CODE: 7SBS6B4

COURSE II – FRUIT AND VEGETABLE PRESERVATION SKILLS

Objectives:

- To understand the science, principles and techniques involved in fruits and vegetables preservation techniques
- To impart thorough knowledge on the technical skills in various aspects of food processing and preservation

Unit I

Principles, Methods, types of Preservation.
Preservation media and mode of action of preservation. Traditional & Modern methods.

Unit II

Study of various types of equipments – care & precautions and usage.
Study of various types of containers.

Unit III

Vegetables & their product preservation Methods
Importance of personal hygiene and sanitary standards

Unit IV

Fruits & their preservation

Unit V

Project:

1. Mapping of preservation practices & centre's

(or)

2. Preservation practices specific to fruits & Vegetables in your area
   (Project Report 15 to 25 Pages)

Books for Reference:

1. Srivastava R.P. and Kumar.S "Fruit and Vegetable Preservation: Principles"
2. Ranjit Singh "Fruits" National Book Trust.
3. Girdhari Lal Tandon et al "Preservation of Fruit and Vegetable Products".

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GROUP II – SET II

III YEAR – VI SEMESTER
COURSE CODE: 4SBS6B5

COURSE III – EQUIPMENT HANDLING SKILLS FOR EVENTS

Objectives:

- To impart the characteristics of various types of electrical and electronic equipments used in events
- To learn about the working, handling and troubleshooting skills on various electrical and electronic gadgets

Unit I

Event that require different electrical & electronic gadgets – Positioning mikes, speakers, LCD Projectors collar mikes & screen

Unit II PA System and Audio Recording

Components of PA System – Working principles of amplifier, mike and speaker – Wiring system trouble shooting and rectification – tape recorders and principles of operation – troubleshooting and maintenance

Unit III VCD/DVD Handling and Videography

Operating principles of VCD and DVD – TV connection – principles of Videography – operation of video-cameras

Unit IV LCD Operations and Power-Point Presentation

Principles of LCD – mode setting – visibility adjustments – computer incorporation – power point presentation

Unit V Photography and Image Editing

Principles – manual and digital cameras – view setting and focus – computer interface – image editing – CD writing.

Books for Reference:

1. "Using Information Technology" Williams Sawyer, Hut Chinson Tata Mc Graw-Hill
2. "Introduction to Information System" James A.O.Bries Tata Mc Graw-Hill
3. "Digital Image Processing" Rafael C. Gonzalez Richard E Wood, Prentice Hall of India

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GROUP II – SET II

III YEAR – VI SEMESTER
COURSE CODE: 7SBS6B6

COURSE IV- NATIONAL SERVICE SCHEME(NSS)

Objectives:

- To enable the students to understand the community in which they work
- To develop among themselves a sense of social and civic responsibility
- To develop competence required for group-living and sharing of responsibilities
- To acquire leadership qualities and democratic attitude
- To develop capacity to meet emergencies and national disasters
- To practice national integration and social harmony.

Unit I:

Introduction to NSS :Orientation and structure of NSS - The history of NSS- Objectives- Symbol and meaning- NSS hierarchy from national to college level,

Regular activities: Distribution of working hours- association between issues and programs- community project- urban rural activities, association- modes of activity evaluation-concept of society- development of Indian society - Features- Division of labours and cast system in India

Unit II:

Features of Indian constitution: Provisions related to social integrity and development,

Social Justice: The concept- features - Inclusive growth- the concept- feature,

Basic social issues in India: Degeneration of value system, family system - Gender issues - Regional imbalance

Unit III

Special campaigning activity :Concept of camp: Identification of community problems- importance of group living- team building- adaption of village- planning for camp- pre, during and post campaigning activities

Unit IV

Training and orientation of the program unit in college: Leadership training – formation of need based programs- concept of campus to community(C To C) activities

Unit V

Social Integration: Meaning of value and types- human values and social responsibilities Indian Value system: Understanding of society, Physical: Physical exercise, Yoga, etc, **Cultural:** Basics of performing arts as tool for social awareness, street play, creative dance, patriotic song, Folk song and folk dance- National integration.

Books for Reference:

1. National Service Scheme Manual (Revised),Ministry of Human Resource Development of India.
2. Guidelines from Ministry of Human Resource Development of India. (Downloaded from the Website of Ministry of HRD, Govt. of India).

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GROUP II – SET II
III YEAR – VI SEMESTER
COURSE CODE: 7SBS6B7
COURSE IV- NATIONAL CADET CORPS(NCC)

Objectives:

- After going through this unit, the students would be able to gain an insight into aims and objectives of NCC.
- Explore the importance of NCC in nation building.
- Understand the concept of National Integration and its importance.

Unit – I

National Cadet Corps(NCC)-Introduction to NCC- Genesis –Objectives of NCC- Concept of Training in NCC- Organization of the NCC – Associate NCC officers – Cert Exam.

Unit –II National Integration:

National interests, Objectives, Threats and Opportunities. Religions, culture, traditions and customs of India, Importance and necessity. Freedom struggle and nationalist movement in India **Drill:**Foot drill, Arms drill, Ceremonial drill, Qualities of immediate and implicit obedience of orders.

Unit-III Social Awareness and Community Development:

NGO's Role and Contribution, Drug abuse and trafficking, Basics of social service and its need, Civic responsibility, Contribution of youth towards social welfare, Rural development programmes.

Unit –IV Environmental Awareness and Conservation:

Natural resources conservation and management, Water conservation and rain water harvesting, Hygiene and sanitation, structure and function of the human body, infectious and contagious diseases and its prevention.

Unit –V Personality Development and Leadership:

Introduction to personality development, self awareness, communication skills, Leadership traits, Time management.

Books for Reference:

1. Anonymous. 1995. Officers training manual. PRECIS, NCC, OTS, Kamptee
2. Bose, R and Faust, L. 2011. Mother Teresa, CEO, Unexpected Principles for Practical Leaders, Tata McGraw Hill Publications, New Delhi.
3. Ganapathi, R. 2003. Swami Vivekanandar, Ramakrishna Math Press, Chennai.
4. Gandhi, M.K. 1983. An Autobiography or The story of My Experiments with Truth, Navajivan Publishing House, Ahamedabad
5. Gupta, S.K. and Joshi, R. 2008. Human Resource Management, Kalyani Publishers, New Delhi.
6. Kalam, A.P.J. 1999. Wings of Fire, University Press, Hyderabad
7. Mishra, R.C. 2000. A Hand book of NCC, Kanti Prakashan, Etawah.Precis
8. Rana, B.S 2004. Maharana Pratap, Diamond Books (P) Ltd., New Delhi. Rana, B.S. 2004. Chatrapati Shivaji, Diamond Books (P) Ltd., New Delhi

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PART-IV (3)

COURSE CODE: 7BES2
I YEAR – II SEMESTER

COURSE – ENVIRONMENTAL STUDIES

Unit I The Multidisciplinary Nature of Environmental Studies

Definition, Scope and importance
Need for public awareness

Unit II Natural Resources

Renewable and non-renewable resources

a) Forest Resources: Use and over-exploitation, deforestation, case studies, Timber extraction, mining, dams and their effect on forests and tribal people
b) Water Resources: Use and over-Utilization of surface and ground water, floods, drought, conflicts over water, dams- benefits and problems.
c) Mineral resources: Use and exploitation, experimental effects of extracting and using mineral resources, case studies.
d) Food resources: world food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy resources, Case studies.
f) Land resources: Land as a resource, land degradation, main induced landsides, soil-erosion and desertification
    - Role of individual in conservation of natural resources
    - Equitable use of resources for sustainable lifestyle

Unit III Ecosystems, Bio-diversity and its conservation

Ecosystems

- ✓ Concept of an Ecosystem
- ✓ Structure and function of an Ecosystem
- ✓ Energy Flow in the Ecosystem
- ✓ Food Chains, Food Webs and Ecological Pyramids

Biodiversity and its conservation

- ✓ Introduction- Definition: Genetic, Species and Ecosystem Diversity
- ✓ Bio-Geographical Classification of India
- ✓ Value of Biodiversity: Consumptive Use, Productive Use, Social Ethical, Aesthetic and Option Values.
- ✓ Biodiversity at Global, National and Local Levels
- ✓ India as a Mega-Diversity Nation
- ✓ Hot Spots of Biodiversity
- ✓ Threats to Biodiversity: Habitat Loss, Poaching of Wildlife, Man-Wildlife Conflicts
- ✓ Endangered and Endemic Species of India
- ✓ Conservation of Biodiversity in-Situ and Ex-Situ Conservation of Biodiversity

Unit IV Environmental Pollution

- Causes, Effects and Control measures of:-
    a. Air Pollution
    b. Water pollution
    c. Soil pollution
    d. Marine pollution
    e. Noise pollution
    f. Thermal pollution
    g. Nuclear hazards

Unit V Field Work

- Visit to a local area to document environmental assets–river/ forest/ grassland/ hill/ mountain
- Visit to a local polluted site- Urban/Rural/Industrial/Agricultural
- Study of common Plants, insects, birds
- Study of simple ecosystem-pond, River, Hill slopes, etc

Books for Reference:

1. Agarwal, K.C.2001 Environmental Biology, Nidi Publ.Ltd., Bikaner
2. Bharucha Erach The Biodiversity of India, Mapin Publishing Pvt. Ltd, Ahamedabad-380013,India, Email: mapin@cent.net®
3. Burner R.C. 1989, Hazardous Waste Inclineration McGraw Hill Inc.480p
4. Clark R.S. Marine Pollution, Clanderson Press Oxford(TB)
5. Cunnigham, W.P.Cooper, T.H.Gorhani, E& Hepworth, M.T 2001 Environmental Encylopedia, Jaico Publ. House, Mumbai, 1196p.
6. De.A.K.Environmental Chemistry, Wiley Eastern Ltd.
7. Down to Earth, Centre for Science and Environment®
8. Gleick H.P. 1993, Water in crisis, Pacific Instutue for studies in Dev, Environment & Security, Stockholm Env. Institute,Oxford Univ.Press,473p
9. Hawlinks R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
10. Heywood, V.H & Watson, R.T.1995, global biodiversity Assesment, Cambridge Univ.Press, 114op
11. Jadhav, H&Bhosale V.M.1995, Environmental Protection and Laws, Himalaya Pub; House, Delhi 284p
12. Mckinney, M.L & Schoch, RM.1996 Environmental Science systems& Solutions, web enhanced edition 639p
13. Mhaskar A.K.Matter Hazardous, techno-Science Publications(TB)
14. Miller T.G. Jr.Environmental Science wadsworth Publicing Co(TB)
15. Odurm, E.P.1971 fudamentalof Ecology, W.B.Saunders Co. USA 584p
16. Rao M.N & Datta, A.K., 1987, Tehchno-Science, Waste water Treatment. Oxford& IBH publ, Co.Pvt. Ltd.,345p
17. Sharma B.K. 2001, environemtal chemistry Goel publ,House,Meerut
18. Survey of the Environmental the Hindu(M)
19. Townsend C, harper J, and Michael Degon,Essential of ecology,Blakewell Science (TB)
20. Trivedi R.K., Hand book of Environmental laws, Rules, Guidelines, compliances and Standards, Vol I and II, Enviro Meida ®
21. Trivedi R.K. & P.K.Goel Introduction to Air pollution,Techno-Science Publications (TB)
22. Wanger K.D, 1998 Environmental Management W.B. Environmental Management. W.B.Saunders Co. Philadelphia, USA.499p

PART – IV (4)

II YEAR – IV SEMESTER
COURSE CODE: 7BVE4

COURSE – VALUE EDUCATION

Definition

The learning and practice of facts which have eternal value is what is contemplated by value education. It can also be the process by which a good citizen is moulded out of a human being. The evolution of a good human being is when he realises that his conscience shows to him the rightness of his action.

Objective

To create an awareness to values among learners and help them adopt them in their lives.

Unit I

Definition – Need for value Education – How important human values are – humanism and humanistic movement in the world and in India – Literature on the teaching of values under various religions like Hinduism, Buddhism, Christianity, Jainism, Islam, etc. Agencies for teaching value education in India – National Resource Centre for Value Education – NCERT– IITs and IGNOU.

Unit II

Vedic Period – Influence of Buddhism and Jainism – Hindu Dynasties – Islam Invasion – Moghul invasion – British Rule – culture clash – Bhakti cult – social Reformers – Gandhi – Swami Vivekananda – Tagore – their role in value education.

Unit III

Value Crisis – After Independence

Independence – democracy – Equality – fundamental duties – Fall of standards in all fields – Social, Economic, Political, Religious and Environmental – corruption in society.

Politics without principle – Commerce without ethics – Education without Character – Science without humanism – Wealth without work – Pleasure without conscience – Prayer without sacrifice – steps taken by the Governments – Central and State – to remove disparities on the basis of class, creed, gender.

Unit IV

Value Education on College Campus

Transition from school to college – problems – Control – free atmosphere – freedom mistaken for license – need for value education – ways of inculcating it – Teaching of etiquettes – Extra-Curricular activities – N.S.S., N.C.C., Club activities – Relevance of Dr.A.P.J. Abdual Kalam's efforts to teach values – Mother Teresa.

Unit V

Project Work

1. Collecting details about value education from newspapers, journals and magazines.
2. Writing poems, skits, stories centering around value-erosion in society.
3. Presenting personal experience in teaching values.
4. Suggesting solutions to value – based problems on the campus.

Recommended Books:

1. Satchidananda. M.K. (1991), "Ethics, Education, Indian unity and culture" – Delhi, Ajantha publications.
2. Saraswathi. T.S. (ed) 1999. Culture", Socialisation and Human Development: Theory, Research and Application in India" – New Delhi Sage publications.
3. Venkataiah. N (ed) 1998, "Value Education" New Delhi Ph. Publishing Corporation.
4. Chakraborti, Mohit (1997) "Value Education: Changing Perspectives" New Delhi: Kanishka Publications.
5. "Value Education – Need of the hour" Talk delivered in the HTED Seminar – Govt. of Maharashtra, Mumbai on 1-11-2001 by N.Vittal, Central Vigilance Commissioner.
6. "Swami Vivekananda's Rousing call to Hindu Nation": EKnath Ranade (1991) Centenary Publication
7. Radhakrishnan, S. "Religion and culture" (1968), Orient Paperbacks, New Delhi.

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II YEAR – IV SEMESTER
COURSE CODE: 7BMY4

COURSE – MANAVALAKALAI YOGA

VALUE EDUCATION
kdtsf;fiy Nahfh

A Brief Introduction about Manavalakalai Yoga

In the "Manavalakalai Yoga", practices formulated by Thathuvagani Vethathiri Maharishi do not have any bearing on religion, caste or creed. This is an education for culturing the mind. It does not contain any customary observances of any sect. It comprises only rational and scientific education and practices. These are offered to all people without any discrimination.

Learning and practicing Manavalakalai Yoga by students would help them to acquire physical health, mental acuteness, strength of life force and wisdom. Offering this yoga to students is the only means through which social welfare could be derived. On the whole, Manavalakalai Yoga would be of immense help to achieve a holistic life for any human folk.

"For education to be complete, it should include not only the training of the intellect but also the refinement of the heart and discipline of the soul" declared Dr.Radhakrishnan.

The heart of education is to educate the heart and such an education alone can lead too health, happiness and harmony. It is the need of the hour that the students of colleges and Universities and the general public be given a basic spiritual knowledge about their body, mind, soul, the cosmic link that runs through every system of the universe binding us all and above all, their duty to society of which every individual is a part. Every individual knowingly or unknowingly lives by the labours of the various sections of society and as a solemn duty it is imperative on our part back to the society as much as we can by labour of our body or mind or both. Our education to be socially relevant, it must inculcate in our youth this duty consciousness. Every institution has this obligation to the society.

The quality of Mind determines the quality of the Man. Mind can be considered to be the collective form of the thoughts arising spontaneously. An understanding of this leads to corrective measures on the thoughts and evolution of good thoughts only. Then only good thoughts, words and deeds and also other virtues would prevail among the students.

This course strives to achieve the following:

- To train and develop the physical body for leading a healthy life.
- To rejuvenate the life energy, to retard the ageing process and to achieve spiritual development
- To offer meditation practices and introspection so as to strengthen the mind, increase its will power, concentration, creativity and receptivity and ultimately to transform the mind to achieve self realization
- To help every individual to realize the enduring values of peace, non-violence and harmony to revitalize human society for restoring its sanity and strength

Annexure – II

Details of number of Centres and Yoga Masters in each District of Tamil Nadu

S. No.	District	Centres	Yoga Masters
1.	Ariyalur District	9	39
2.	Chennai District	127	676
3.	Coimbatore District	122	678
4.	Cuddalore District	50	212
5.	Dharmapuri District	22	118
6.	Dindigul District	41	186
7.	Erode District	101	506
8.	Kanchipuram District	109	522
9.	Kanniyakumari District	11	79
10.	Karur District	16	67
11.	Krishnagiri District	13	72
12.	Madurai District	29	182
13.	Nagapattinam District	16	64
14.	Namakkal District	34	185
15.	The Nilgiri District	37	172
16.	Perambalur District	21	88
17.	Pudukottai District	34	152
18.	Ramanathapuram District	15	79
19.	Salem District	75	403
20.	Sivaganga District	20	100
21.	Thanjavur District	66	306
22.	Theni District	18	101
23.	Thirunelveli District	98	457
24.	Thiruvallur District	68	303
25.	Thiruvannamalai District	34	222
26.	Thiruvarur District	66	276
27.	Tutikorin District	36	162
28.	Tiruchy District	77	379
29.	Vellore District	80	418
30.	Villupuram District	31	160
31.	Viruthunagar District	13	110
	Total	**1489**	**7667**

kdtsf;fiy Nahfh		80 Hours
Units	**Title of the Paper**	**Hrs of Instruction**
Unit I Yoga and Physical Health (16 Hours)	1.1. Physical Structure of Human Body	4 hours
	1.2 Simplified Physical Exercises	4 hours
	1.3 Maharasanas	4 hours
	1.4 Yogasanas	4 hours
Unit II Art of Nurturing life Force and Mind (16 hours)	2.1 Maintaining Youthfulness	4 hours
	2.2 Sex and Spirituality	4 hours
	2.3 Ten Stages of Mind	4 hours
	2.4 Mental Frequency	4 hours
Unit III Sublimation (16 hours)	3.1 Purpose of life	4 hours
	3.2 Analysis of Thought	4 hours
	3.3 Moralization of Desire	4 hours
	3.4 Neutralization of Anger	4 hours
Unit IV Human Resource Development (16 hours)	4.1 Eradication of Worries	4 hours
	4.2 Benefits of Blessings	4 hours
	4.3 Greathness of Friendship	4 hours
	4.4 Individual Peace	4 hours
Unit V Law of Nature (16 hours)	5.1 Cause and Effect System	4 hours
	5.2 Purity of Thought and Deed	4 hours
	5.3 Love and Compassion	4 hours

VALUE EDUCATION
kdtsf;fiy Nahfh

80 Hours

Unit I Yoga and Physical Health

1.1 Physical Structure – Three bodies – Five limitations
1.2 Simplified Physical Exercises – Hand Exercises – Leg Exercises – Breathing Exercises – Eye Exercises – Kapalapathi
1.3 Maharasanas 1-2 Massages – Acu-puncture – Relaxation
1.4 Yogasanas – Padmasana – Vajrasanas – Chakrasanas (Side) – Viruchasanas – Yoga muthra – Patchimothasanas – Ustrasanas – Vakkarasanas – Salabasanas

Unit II Art of Nurturing the life force and Mind

2.1 Maintaining the youthfulness – Postponing their ageing process
2.2 Sex and Spirituality – Significance of sexual vital fluid – Married life – Chastity
2.3 Ten Stages of Mind
2.4 Mental frequency – Methods for concentration

Unit III Sublimation

3.1 Purpose and Philosophy of life
3.2 Introspection – Analysis of Thought
3.3 Moralization of Desires
3.4 Neutralization of Anger

Unit IV Human Resources Development

4.1 Eradication of worries
4.2 Benefits of Blessings
4.3 Greatness of Friendship
4.4 Individual Peace and World Peace

Unit V Law of Nature

5.1 Unified force – Cause and Effect system
5.2 Purity of Thought and Deed and Genetic Centre
5.3 Love and Compassion
5.4 Cultural Education – Five Fold Culture

VALUE EDUCATION
kdtsf;fiy Nahfh – Fwpg;G

,sk; taJ KjNy cliyAk;> kdijAk; gf;Ftkhf guhkhpf;f Ntz;baJ xt;nthUthpd; flikahFk;. ehk; cz;Zk; czT jhd; clyhf khw;wk; ngWfpwJ. mt;thW clyhf khw;wk;ngWk;nghOJ gy;NtW ,uhrad khw;wq;fs; njhlh;e;J eilngWfpd;wd. ,jdhy; tsh;r;rp> khw;wk;> jsh;r;rp Vw;gLfpd;wd. clk;gpy; xt;nthU nry;Yk; xU nghpa ,uhrad njhopw;rhiyNghy; nray;gLfpwJ. ,J rhpahf nray;gl clw;gapw;rp kw;Wk; Nahfrdq;fs; kpfTk; cWJizahf mikfpd;wd.

xt;nthU kdpjDk; 100 tUlk; Nehapd;wp tskhf thoKbAk;. clypy; caph; vd;w Mw;wy; El;gkhdJ. kfj;Jtk; tha;e;jJ. ,e;e capuhw;wy;jhd; midj;J ,af;fq;fSf;Fk; fhuzkhf ,Uf;fpwJ. capuhw;wiy Nkk;gLj;jpf; nfhs;tjw;Fk; ePz;l ehs; tho;tjw;Fk; cfe;j vspikahd gapw;rp Kiwfis xt;nthUtUk; Rygkhf njhpe;Jf; nfhz;L tho KbAk;.

kdk; ,y;yhj kdpjh;fs; ,y;iy. Mdhy; kdjpd; El;gq;fis KOikahf Ghpe;Jnfhz;l kdpjh;fSk; mjpfk; ,y;iy. MfNt kd xh;ikf;fhd gapw;rpia Nkw;nfhz;lhy; rhjhuz kdpjh;fSk; kdjstpy; cah;e;J tho KbAk;. ,sik fhyj;jpNyNa kdk; gf;Ftk; mile;jhy; tho;T ntw;wpahfTk; ,d;gkakhfTk; mikAk;.

kdpjtho;T kpfTk; GdpjkhdJ> Nkd;ikahdJ. tho;tpd; Nehf;fj;ijAk;> tho;f;ifj; jj;Jtj;ijAk; njhpe;Jf;nfhs;Sk;nghOJ ,jd; rpwg;ig czh;e;J nfhs;syhk;. vz;zq;fs; vt;thW Njhd;Wfpd;wd? mtw;iw vg;gb ey;yitahf khw;WtJ? Mirfisf; rPuikj;Jf; nfhz;L epiw kdNjhL tho;tJ vg;gb? rpdk; ,y;yhky; rfpg;Gj; jd;ikAld; tho KbANkh? vd;w Nfs;tpfSf;F tpiliaj; njhpe;Jf; nfhz;lhy; Fzeyj;jpy; cah;e;J thoyhk;.

ghuj ehL kdpj tsk; kpFe;jJ. kf;fspd; vz;zpf;ifNahL ey;y kdk; gilj;jth;fspd; vz;zpf;ifAk; mjpfkhFk;NghJ ,jd; Kd;Ndw;wk; gy klq;F cah;e;J tpsq;Fk;. jtwhd mZFKiw> Njhy;tpapy; KbAk;NghJ ftiyahf khWfpwJ. rhpahf jpl;lkpl;L tho;e;jhy; ftiy ,y;yhky; tho KbAk;. xt;nthW kdpjDk; gpwiu kjpj;J tho;j;jg; gofpdhy; ,dpikahd el;G cUthFk;> ey;y ez;gh;fs; fpilg;gJ xt;nthUtUf;Fk; ngUk; nrhj;jhf mikAk;. mq;Fjhd; rfpg;Gj;jd;ik> tpl;Lf;nfhLj;jy;> jpahfk; vd;gJ kyh;e;J kzk; tPRk;. ,e;j el;Gjhd; FLk;gj;jpYk;> rKjhaj;jpYk; mikjpia cUthf;fp kfpo;r;rpiag; ngUf;Fk;.

,d;iwa ,isQh;fs; tpQ;Qhd mwptpYk; gy;NtW JiwfspYk; kpFe;j Njh;r;rp ngw;W tpsq;Ffpwhh;fs;. mNjhL Nrh;e;J nghpath;fis kjpj;jy;> gzpe;J elj;jy;> ,aw;ifapd; xOq;fikg;ig Ghpe;Jnfhs;Sjy;> gpwh;f;Fj; Jd;gk; juhj tifapy; jdJ tho;f;if Kiwia mikj;Jf;nfhs;Sjy;> Jd;gg;gLk; kdpjh;fSf;F Xbr; nrd;W cjTjy; Nghd;wtw;wpYk; caUk;NghJjhd; kdpj rKjhak; gyk; ngw KbAk;. vy;NyhhplKk; md;Gk;> fUizAkhf elf;Fk; gf;Ftk; fpilf;Fk;. ,it vy;yhk; xUq;Nf fpilf;Fk; tifapy; ,e;j kdtsf;fiy Nahfh vd;w ghlj;jpl;lk; mikf;fg;gl;Ls;sJ. ,jidg; gbf;Fk; khzth;fs; fy;Y}hpfspy; xOf;fKk;> fz;zpaKk; ngw;W tho;thh;fs;. rKjhaj;jpy; cah;e;j gz;Gs;sth;fshfTk;> ey;y Fbkf;fshfTk; tho;thh;fs;.

VALUE EDUCATION
kdtsf;fiy Nahfh – Fwpg;G

1) NahfKk; cly;eyKk; (16 hours)

1.1 clyikg;G – 3 cly;fs; – Ie;jpy; msTKiw
1.2 vspaKiw clw;gapw;rp – ifg;gapw;rp – fhy; gapw;rp – %r;Rg;gapw;rp – fz; gapw;rp – fghygjp
1.3 kfuhrdk; 1-2 – cly; Nja;j;jy; – mf;Fgpu\h; gapw;rp – cly; jsh;j;jy;
1.4 Nahfrdq;fs; – gj;krhdk; – t[;uhrdk; – rf;fuhrdk; (gf;fthl;by;) – tpUr;rhrdk; – NfhfKj;uh – gr;rp Nkhj;jhrdk; – c];l;uhrdk; – tf;fuhrdk;– ryghrdk;

2) caph;tsKk; – kdtsKk; (16 hours)

2.1 ,sik fhj;jy; – KJikiaj; js;spg;NghLjy;
2.2 ghYzh;Tk; Md;kPfKk; – tpj;jpd; kfpik – ,y;yw tho;T – fw;Gnewp
2.3 kdjpd; gj;J gbepiyfs;
2.4 kd miyr;Roy; – kd xh;ikf;fhd gapw;rpfs;

3) Fzeyg;NgW (16 hours)

3.1 tho;tpd; Nehf;fk; – tho;f;ifj; jj;Jtk;
3.2 mfj;jha;T – vz;zk; – Muha;jy;
3.3 Mir rPuikj;jy;
3.4 rpdk; jtph;j;jy;

4) kdpjts Nkk;ghL (16 hours)

4.1 ftiy xopj;jy;
4.2 tho;j;Jk; gaDk;
4.3 el;G eyk;
4.4 jdpkdpj mikjp – cyf mikjp

5) ,aw;if epajp (16 hours)

5.1 xUq;fpizg;G Mw;wy; – nray;tpisTj; jj;Jtk;
5.2 kdj;J}a;ik> tpidj;J}a;ik – fUikAk;
5.3 md;Gk; fUizAk;
5.4 gz;ghl;Lf; fy;tp – Ie;njhOf;fg; gz;ghL

VALUE EDUCATION kdtsf;fiy Nahfh		
Units	**Title of the Paper**	**Hrs of Instruction**
Unit I NahfKk; cly;eyKk; (16 Hours)	1.1 clyikg;G	4 hours
	1.2 vspaKiw clw;gapw;rp	4 hours
	1.3 kfuhrdk;	4 hours
	1.4 Nahfhrdq;fs;	4 hours
Unit II caph;tsKk; kdtsKk; (16 hours)	2.1 ,sikf;fhj;jy;	4 hours
	2.2 ghYzh;Tk; Md;kPfKk;	4 hours
	2.3 kdjpd; 10 gbepiyfs;	4 hours
	2.4 kd miyr;Roy;	4 hours
Unit III Fzeyg;NgW (16 hours)	3.1 tho;tpd; Nehf;fk;	4 hours
	3.2 vz;zk; Muha;jy;	4 hours
	3.3 Mir rPuikj;jy;	4 hours
	3.4 rpdk; jtph;j;jy;	4 hours
Unit IV kdpjtsk; Nkk;ghL (16 hours)	4.1 ftiy xopj;jy;	4 hours
	4.2 tho;j;Jk; gaDk;	4 hours
	4.3 el;G eyk;	4 hours
	4.4 jdpkdpj mikjp	4 hours
Unit V ,aw;if epajp (16 hours)	5.1 nray;tpisTj; jj;Jtk;	4 hours
	5.2 kdj;J}a;ik> tpidj;J}a;ik	4 hours
	5.3 md;Gk; fUizAk;	4 hours
	5.4 gz;ghl;Lf; fy;tp	4 hours

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WOMEN'S STUDIES

II YEAR – IV SEMESTER
COURSE CODE: 7BWS4

COURSE – INTRODUCTION TO GENDER STUDIES

Objectives

- To gain knowledge on Gender Ideology
- To understand the concepts of HDI, GDI and GEM
- To know the Women Development Policies and Programmes

Unit I

Gender Identity: Gender Ideology – Sex Vs Gender – Biological Determinism – Dualism – Reductionism – Objectification – Socialization and Internalization

Unit II

Gender Roles: Division of Labour – Sex Role – Stereotypes – Gender Role – Work – Family and Gender – Motherhood – Production and Reproduction

Unit III

Gender Equality / Equity: Equality Vs Equity, HDI, GDI and GEM – Gender Inequality in Certain Vital Measures of Development: Sex Ration, Life Expectancy, Literacy Level – Work Participation – Decision Making and Political Participation

Unit IV

Strength of Women: Hormones and Chromosomes – Physical Differences – Record of the Fastest Men and Women in the World – Atthelets – Brain and Intelligence – Emotions.

Unit V

Development Policies and Programmes: WID – WAD – GAD – Approaches: Welfare – Anti-Poverty – Efficiency – Equity – Empowerment – Central and State Government Women Development Schemes.

Unit VI

Women Empowerment: Meaning and Concepts, Empowerment Levels – Framework – Empowerment Tools – Capability Approach

Bibliography

1. Sahay Sushama, "Women and Empowerment: Approaches as and Strategies", Discovery Publishing House, Delhi, 1988
2. Kapur Promilla, "Empowering the Indian Women" Publication division, Ministry of Information and Broadcasting, Government of India 2001
3. Thilakavathi G & B.Regina Papa, Gender Sensitization Course Material, Chennai: Tamil Police, 2003
4. Selvy Thiruchandran, Idology, Caste, Class and Gender, A Gender Specific Analysis
5. Poornima Advani, Course Curriculum on Gender Sensitization of Police Officers, New Delhi National Commission for Women 2000
6. Foucault, M. The History of Sexuality, London: Penguin 1981
7. Eleanor Leacock, Women, Power and Authority in invisibility and power ed. Leela Dube etal. Delhi: Oxford University Press, 1986
8. Bayly, C.A. (ed) – An illustrated History of Modern India London: OUP
9. Kamal Bhasin, Understanding Gender, Bangalore: Kali for Women 2001
10. Ann Oakley, Sek, Gender and Society, London: Temple Smith, 1972
11. Hughes, Christina, Key concepts in Feminist Theory and Research London: SAGE Publications, 2002
12. Kurian Priya and foran John. Bhaunani, Kum-Kum Feminist Futures: Re-imagining women, culture and Development, London, New York Books 2003
13. Hess B.Beth. Lorber Judih Ferree Marx Myra. Revisioning Gender Thousand Oaks. London New Delhi SAGE Publication, 1999

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PART V

II YEAR – III SEMESTER
COURSE CODE: 7BEA3

PART – V – EXTENSION ACTIVITIES

Extension Activities will be organized for 2 days in the Third Semester. The programme may be organized in any Saturday and Sunday.

A meeting of all the staff of the College (Teaching, Administrative and Technical Staff) be conducted before departing to the camp in which each and every aspect like Programmes to carried out, accommodation, food, medical aid, transport facilities, etc., should be thoroughly discussed.

One credit will be allotted for this Extension Activities. The marks allotted for each camp will be 100. Each student participating in the camp will be evaluated internally for 100 marks. The criteria for evaluation of Extension Activities will be as follows:

S. No.	Criteria	Maximum Marks
1.	Interaction with villagers	10
2.	Participation / Attitude towards work	10
3.	Participation in interaction and discussion	10
4.	Knowledge of problems / issues	10
5.	Organising & decision making ability	20
6.	Expression: a) Cultural programmes	10
	b) Report Writing	20
7.	Ability to adjust and work in a team	10
	Total	**100**

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B.Sc. MATHEMATICS

I YEAR - I SEMESTER
COURSE CODE: 7BMAA1

ALLIED COURSE - I – ANCILLARY MATHEMATICS I

Unit – I

Matrices – Characteristic Equation and Cayley Hamilton Theorem (Proof not included) – Finding the inverse of a matrix using Cayley – Hamilton Theorem – Eigen values and Eigen vectors.

Unit – II

Equations of the first order but of Higher Degree – Equations solvable for dy / dx – Equations solvable y, x – Clairaut's form – Linear equations with constant coefficients – Finding the complementary function and particular integral of the type $e^{ax,}$cos ax, sinax.

Unit – III

Differential Calculus – Successive Differentiation – n^{th} derivative of standard functions (Derivation not needed) problems – Leibnitz formula for the n^{th} derivative of a product (proof not needed) simple problems only – curvature and radius of curvature in Cartesian coordinates only – problems.

Unit – IV

Integral Calculus – Integration by Parts – Bernoulli's formula – Definite integrals – properties – problems.

Unit – V

Trigonometry : Expression for sinnθ, cosnθ and tannθ, $\sin^n\theta$, $\cos^n\theta$ (n being a +ve integer) Expansion of sinθ, cosθ, tanθ in powers of θ (only problems in all the above)

Text Books:

1. Modern Algebra by Dr. S.Arumugam and A.ThangapandiIssac, Scitech Publications, Chennai, 2003.
2. Differential Equations and its Applications by S.Narayanan and T.K.ManickavachagomPillay, S.Viswanathan (Publishers & Printers) Pvt. Ltd., 2015.
3. Calculus VolumeI by S.Narayanan&T.K.ManicavachagomPillay, S.Viswanathan (Printers & Publishers) Pvt. Ltd, 2006.
4. CalculusVolumeII by S.Narayanan&T.K.ManicavachagomPillay, S.Viswanathan (Printers & Publishers) Pvt. Ltd, 2014.
5. Ancillary Mathematics Paper I (Revised) by. S.Arumugam and A.ThangaPandi Isaac, New Gamma Publishing House,Palayamkottai,2002

Unit I	Chapter 7sections 7.7 & 7.8 of (1)
Unit II	Chapter 4 sections 1, 2.1, 2.2, 3.1 of (2) Chapter 5 sections upto 4.2 (b) of (2)
Unit III	Chapter 3sections 1.2, 1.3, 2.1, 2.2 (problems only) of (3) Chapter 10 sections 2.1 & 2.3 of (3)
Unit IV	Chapter 1 sections 11, 12, 15.1 of (4)
Unit V	Chapter 4 sections 4.1, 4.2, 4.3 of (5)

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I YEAR - II SEMESTER
COURSE CODE: 7BMAA2

ALLIED COURSE - II – ANCILLARY MATHEMATICS II

Unit – I

Vector Calculus – Vector Differentiation – Gradient – Divergence – Curl – Properties – Results.

Unit – II

Linear equations with constant coefficients with Right hand side of the from e^{ax} v where vis any function of $x – x^m$ (a power of x) m being a positive integer – Linear equations with variable coefficients (Homogeneous Differential Equations only)

Unit – III

Fourier Series – Definition – Fourier Series Expansion of Periodic Functions with Period 2π – Even and Odd functions – Half range Fourier Series – Problems.

Unit – IV

Interpolation – Newton's Interpolation formula – Central Difference Interpolation formulae – Lagrange's interpolation formulae.

Unit – V

Correlation – Rank Correlation – Regression lines and Regression coefficients.

Text Books:

1. Analytical Geometry of Three Dimensions and Vector Calculus by Dr. S.Arumugam and A.Thangapandi Issac, New Gamma Publishing House, Palayamkottai, Reprint 2006.
2. Differential Equations and its Applications by S.Narayanan and T.K.Manicavachagom Pillay, S.Viswanathan (Printers and Publishers) Pvt. Ltd., 2015.
3. Calculus Volume III by S.Narayanan &T.K.Manicavachagom Pillay, S.Viswanathan Printers & Publishers, 2014.
4. Numerical Analysis with Programming in C by Dr. S.Arumugam, A.Thangapandi Issac and Dr. A.Somasundaram, New Gamma Publishing House, Palayamkottai, June, 2013.
5. Statistics by Dr. S.Arumugam and Mr. A.Thangapandi Issac, New Gamma Publishing House, Palayamkottai.

Unit I	Chapter 5 sections 5.1 to 5.4 of (1)
Unit II	Chapter 5 section 4.2(c),(d);sections 5.1 to 5.5 of (2)
Unit III	Chapter 6 sections 1 to 4, 5.1, 5.2 of (3)
Unit IV	Chapter 4 sections 4.1 to 4.3 of (4)
Unit V	Chapter 6 sections 6.1 to 6.3 of (5)

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II YEAR - III SEMESTER
COURSE CODE: 7BMAA3

ALLIED COURSE - III – ANCILLARY MATHEMATICS III

Unit – I

Partial Differential Equations – Formation of Partial Differential Equations by eliminating arbitrary constants and arbitrary functions – Complete, Particular, Singular and General integral.

Unit – II

Solving Lagrange's linear equation $Pp + Qq = R$,Solution of equations of Standard types $f(p, q) = 0$, $z = px + qy + f(p, q)$, $f(z, p, q) = 0$, $f_1(x, p) = f_2(y, q)$.

Unit – III

Laplace Transform – Definition – Laplace transform of some Standard Functions – problems – Inverse Laplace Transform – Standard formulae – problems.

Unit – IV

Numerical Differentiation – Derivatives using Newton's Forward Difference formula – Derivatives using Newton's Backward Difference formula – Derivatives using Newton's Central difference formula – Maxima and Minima of the interpolating polynomial.

Unit – V

Beta and Gamma functions – Relations between them – Evaluation of multiple integrals using Beta and Gamma functions.

Text Books:

1. Differential Equations and Applications by Dr. S.Arumugam and A.ThangapandiIssac, New Gamma Publishing House, Palayamkottai, Edition 2014.
2. Numerical Analysis with Programming in C by Dr. S.Arumugam, Prof. A.ThangapandiIssac& Dr. A.Somasundara, New Gamma Publishing House, Palayamkottai, Edition, 2013.
3. Calculus Volume II by S.Narayanan and T.K.ManicavachagomPillay, S.Viswanathan (Printers & Publishers) Pvt. Ltd, 2014.

Unit I	Chapter 4 sections 4.1 & 4.2 of (1)
Unit II	Chapter 4 sections 4.3, 4.4 of (1)
Unit III	Chapter 3 sections 3.1 & 3.2 of (1)
Unit IV	Chapter 5 of (2)
Unit V	Chapter 7 sections 2,3,4 &5 of (3)

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II YEAR - IV SEMESTER
COURSE CODE: 7BMAA4

ALLIED COURSE - IV – OPTIMIZATION TECHNIQUES

Unit – I

Origin and Development of O.R. – Definition of O.R. – Linear Programming – Mathematical formulation – Graphical method – Problems.

Unit – II

Simplex method using Slack and surplus variables.

Unit – III

Transportation Problem – Definition – Finding initial basic feasible solution by North – West Corner rule – Least Cost method – Vogel's Approximation method.

Unit – IV

Assignment problem – Definition – Finding optimal solution by using Hungarian method.

Unit – V

Sequencing Problem – Processing n jobs through two machines – processing n jobs through K machines – problems.

Text Book:

1. Operations Research (14^{th} edition) by Kanti Swarup, P.K.Gupta & Man Mohan, Sultan Chand & Sons, Publishers, New Delhi, 2008.

Unit I	Chapter 1sections 1.1 to 1.3 Chapter 2 sections 2.1 to 2.4 Chapter 3 sections 3.1 to 3.3
Unit II	Chapter 3 sections 3.4 & 3.5 Chapter 4 sections 4.1 to 4.3 (Theorems not included)
Unit III	Chapter 10 sections 10.1 – 10.3, 10.5, 10.8, 10.9
Unit IV	Chapter 11 sections 11.1, 11.2 & 11.3
Unit V	Chapter 12 sections 12.1 – 12.5

Books for Reference:

1. Operations Research (2^{nd} edition) by P.K.Gupta and D.S.Hira, S.Chand& Co., New Delhi, 2004.

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B.Sc. ELECTRONICS & COMMUNICATION

I YEAR – I SEMESTER
COURSE CODE: 7BECA1

ALLIED COURSE - I – ANALOG AND DIGITAL ELECTRONICS

Unit I Resistors And Capacitors

RESISTORS: Definition And Measuring Unit Of Resistance- Fixed, Variable- Construction And Characteristics – Color Coding- Connecting Resistor In Series And Parallel.. **CAPACITORS**: Definition And Measuring Unit Of Capacitance-- Fixed, Variable- Types Of Capacitors- Principle Of Capacitance-Connecting Of Resistor And Capacitor In Series And Parallel.

Unit II Electrical Elements And Network Theorem

Potential Difference- Electric Current- Power- Electromotive Force- Ohm's Law- Kirchoff's Law : Kirchoff's Voltage Law- Kirchoff's Current Law- Current Divider- Voltage Divider-Norton's Theorem-Thevenin's Theorem-Super Position Theorem- Maximum Power Transfer Theorem.

Unit III Number System, Codes and Logic Gates

Decimal, Binary, Octal and Hexa Decimal numbers – Conversion – Floating point representation – Binary addition, Subtraction and Multiplication – 1's and 2's compliments – Binary Coded Decimal (BCD) – Excess three – Grey code – NAND and NOR as universal.

Unit IV Combinational and Sequential Systems

Half and Full Adder – Half and Full Subtractor –Binary multiplier – Comparator – Multiplexer – Demultiplexer – Encoder – Decoder **SEQUENTIAL SYSTEMS:** Latches – Flip-Flops – R-S, D, J-K, Master Slave flip

Unit V Memories

Memories: ROM – PROM – PLDs – RAM – Magnetic Bubble memory– Magnetic core memory – Optical memory – Compact Disk Rom – Analog memory

Text Books:

1. Digital Design – M.Morris Mano – Pearson Education – 3rd Edition – 2004
2. Digital Electronics and Logic Design – B.Somanathan Nair – PHI – 2002
3. B.V.Narayana Rao "PRINCIPLES OF ELECTRONICS", Wiley Eastern Limited, 1992.
4. S.Salivahanan, N.Suresh Kumar, A.Vallavaraj "ELECTRONIC DEVICES AND CIRCUITS"-Tata McGraw- Hill Publishing Company Limited, New Delhi. 1998.
5. "DIGITAL LOGIC APPLICATIONS AND DESIGN" – John M.Yarbrough – CENGAGE Learning –India reprint 2009
6. Malvino & Leech, "DIGITAL PRINCIPLES AND APPLICATIONS", Tata McGraw Hill Edition V, 2002.

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I YEAR – I / II SEMESTER
COURSE CODE: 7BECAP1

ALLIED PRACTICAL - I – ANALOG AND DIGITAL ELECTRONICS LAB & MICROPROCESSORS AND MICRO CONTROLLER LAB
(Twenty Four Experiment)

1. Logic gates using 74xx IC's
2. Verification of Boolean and Demargan's theorem
3. NAND as Universal Gate
4. NOR as Universal Gate
5. Half adder and Full Adder
6. Half subtractor and Full subtractor
7. Two Bit comparator
8. Multiplexer
9. De multiplexer
10. Encoder
11. Decoder
12. Study of Flip-Flops
13. Study of shift Registers
14. Binary counter
15. Ring counter
16. Decade Counter
17. Block of Data transfer using 8085 or 8051ALP
18. Find Smallest / Biggest Number in an array using 8085 or 8051 ALP
19. Sorting the number in ascending order using 8085 or 8051 ALP
20. Sorting the number in Descending order using 8085 or 8051ALP
21. Add 'n' bytes stored in external RAM using 8051 ALP
22. Illustrate addition, subtraction, multiplication and division of two 8 bit numbers. Using Address Label Mnemonic Comment Using 8051
23. Add two 2 byte numbers using Address Label Mnemonic Comment using 8051ALP
24. Subtract 2 byte number from another 2 byte number using Address Label Mnemonic Comment using 8051 ALP
25. Illustrate logical operations like AND, OR, NOT and XOR using Address Label Mnemonic Comment using 8051 ALP
26. Convert Decimal number to its equivalent Hexadecimal number.8085/8051 ALP
27. Convert Hexadecimal number to its equivalent Decimal number.8085/8051 ALP

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I YEAR – II SEMESTER
COURSE CODE: 7BECA2

ALLIED COURSE – II - 8085 MICROPROCESSOR

Unit I 8085 Microprocessor

Hardware Architecture – pin diagram – Signals – Address Decoding — I/O interfacing – program counter- stack- stack pointer-PSW-flags-I/O Ports

Unit II Programming of 8085 Microprocessor

Instruction format and addressing modes – Assembly language format – Data transfer, Data transfer instructions Arithmetic instructions-logical instructions– Programming: Looping, counting & indexing .

Unit III Data Transfer Scheme and Time Delay

Programmed data transfer – DMA data transfer – Serial Data transfer – Memory mapped I/O– I/O mapped I/O – IN and OUT instructions execution – Time delay using a single register – Time delay using a register pair . Function of PUSH, POP, CALL and RET instructions.

Unit IV Programmable Logical Interfacing Devices

Block Diagrams – Programming 8255 A – Programming 8257 – programming 8259 – Programming 8253 – Programming 8279.

Unit V Microprocessor Based System Design

LED interfacing – Seven Segment Display interfacing – ADC interfacing – DAC interfacing – Traffic light interfacing – Semiconductor memories – Classification – ROM, RAM – Static RAM – Dynamic RAM – PROM – EPROM – EEPROM – CCD.

Text Books:

1. "Microprocessor and Microcontrollers", Krishna Kant Eastern Company Edition, Prentice – Hall of India, New Delhi, 2007.
2. Muhammad Ali Mazidi & Janice Gilli Mazidi, R.D.Kinely 'The 8051 Micro Controller and Embedded Systems', PHI Pearson Education, 5th Indian reprint, 2003.

Books for Reference:

1. R.S. Gaonkar, 'Microprocessor Architecture Programming and Application', Wiley Eastern Ltd., New Delhi.
2. The 8088 & 8086 Microprocessors, Walter A Tribal & Avatar Singh, Pearson, 2007, Fourth Edition.

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II YEAR – III SEMESTER
COURSE CODE: 7BECA3

ALLIED COURSE III – ELECTRONICS IN EVERYDAY LIFE

Unit I ELECTRICAL SAFETY

General principles of electrical safety – Electricity and Human body - Electric shock and burn - Respiratory protection - Risk assessment and management - Safety against over voltage, extra-low and residual voltages - Hazardous areas, Electrical insulation - Electrical fires, Arc flash - Safety issues with emerging energy sources

Unit II ELECTRICAL ACCESSORIES AND EARTHING

Switches – holders – sockets – ceiling rose – plugs – main switch – fuse –circuit breaker – Earthing/grounding – importance – components of earthing system – types of earthing – pipe , plate and rod earthing – SI specifications of earthing

Unit III SMART ELECTRONICS

Historical Background of processor and Memory storage- Smart Phone, TAB, Laptop, Kindle – LCD and LED TV – smart watch- Medical diagnosis based on smart phone- Human–Computer Interaction

Unit IV ENERGY DEVICES

Energy density vs Power density – Primary, Secondary Batteries- Wet Cell, Dry Cell-Alkaline-Lithium ion –Flow battery- Supercapacitor- Fuel Cell

Unit V ENERGY CONSERVATION

Renewable Energy Source- Photovoltaic Cell – Energy Efficient lamps (CLF, LED)-Green Computing-Home appliance- Energy efficiency in Vehicles – Solar car

Books for Reference:

1. John Cadick , Mary Capelli-Schellpfeffer, Dennis K. Neitzel, Al Winfield “Electrical Safety Handbook”, 4th Edition, McGraw-Hill Education 2012, ISBN: 0071745130
2. V.K. Mehta, Rohit Mehta “Objective Electrical Technology”, S Chand; 2nd New edition edition, 2004, ISBN: 8121920973
3. Stefan Poslad “Ubiquitous Computing: Smart Devices, Environments and Interactions” Wiley,2009, ISBN: 978-0-470-03560-3
4. B. E. Conway “Electrochemical Supercapacitors: Scientific Fundamentals and Technological Applications” Springer US, 1999, ISBN: 9780306457364
5. Katerina E. Aifantis, Stephen A. Hackney, R. Vasant Kumar “High Energy Density Lithium Batteries: Materials, Engineering, Applications” John Wiley & Sons, 2010, ISBN: 9783527630028
6. K. V. Sharma, P. Venkataseshaiah “Energy Management and Conservation” I K International Publishing House Pvt. Ltd; First Edition edition, ISBN: 9381141290 Wiley: Hand book of international Electrical Safety practices

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II YEAR – III / IV SEMESTER
COURSE CODE: 7BECAP2

ALLIED PRACTICAL - II – COMMUNICATION ELECTRONICS LAB
(Any 15 Experiments)

1. Study of smart phone
2. Photo voltaic cell
3. Smartphone
4. Study of LCD
5. Study of wet cell and dry cell
6. Installing system and application software
7. Understanding control panel settings
8. Working with Antivirus Software
9. Working with Backup and Archival Utilities
10. CRT trouble shooting
11. Key board trouble shooting
12. SMPS trouble shooting
13. Amplitude Modulation
14. Amplitude De Modulation
15. Frequency Modulation
16. Frequency Demodulation
17. Pulse Position Modulation
18. Pulse Amplitude Modulation
19. Pulse Width Modulation
20. Amplitude Shift Keying Modulation
21. Amplitude Shift Keying Demodulation
22. Frequency Shift Keying Modulation
23. Frequency Shift Keying Demodulation
24. Frequency Division Multiplexing
25. Time Division Multiplexing
26. Optical Analog LED Modulator
27. Optical Analog LASER Modulator
28. Semiconductor Photo Detector

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II YEAR – IV SEMESTER
COURSE CODE: 7BECA4

ALLIED COURSE - IV - COMMUNICATION ELECTRONICS

Unit I Amplitude Modulation

Basic Element of Communication system with Block diagram – Need for Modulation – Types of Communication systems – Basics of AM – Derivation of AM – Modulation Index – types of modulation

Unit II Frequency and Pulse Modulation

Basics of FM – Equation of FM – Modulation Index – FM modulator (Direct Method) — FM transmitter – Fm Receiver – Basics of Phase Modu

Pulse Modulation:- Sampling – Bandwidth and Bit rates – FDM – TDM – PAM – PTM – PPM – PWM.

Unit III Digital Communication

Shift keying Techniques – ASK Modulation and Demodulation – FSK – PSK –.
Basic system Operation of FDMA, TDMA, CDMA

Unit IV Fiber Optics Communication

Block diagram of Optical Fiber Communication system – Types of Fiber – LED – Laser Diode – PIN diode – Optical transmitter – Optical Receiver – Fiber optics system performance

Unit V Computer Communication

Digital data Transmission – Signal Encoding and Decoding – Transmission Modes – Types of Error – Error Detection and Correction (CRC) – Line Configuration – DTE and DCE Interface – Flow control and Error Control – Stop and Wait Flow Control – Automatic Repeat Request .

Text / Reference Books:

1. Electronic Communication Systems – William Scheweber – PHI – Fouth Edition – 2002
2. Principles of Communication Engineering – A.K. Gautam – Published by S.K.KATARIA & SONS New Delhi – Second Edition 2003 (Unit - 1, 2 and 3)
3. Electronic Communications Principles and Systems – William D.Stanley, CENGAGE Learning India Edition (Unit – 4)
4. Data Communications and Networking – Behrouz A.Forouzan – TATA McGraw Hill – 2nd Edition – 2003 (Unit – 5).

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