

# **SADAKATHULLAHAPPA COLLEGE**

**(AUTONOMOUS)**

**(Reaccredited by NAAC at an 'A' Grade with a CGPA of 3.40 out of 4.00 in the III cycle An ISO 9001:2008 Certified Institution)**

**RAHMATH NAGAR, TIRUNELVELI- 11.**

**Tamilnadu**

## **DEPARTMENT OF COMPUTER APPLICATION (Unaided)**



### **CBCS SYLLABUS**

**For**

**B.C.A**

**(Applicable for students admitted in June 2015 and onwards)**

**(As per the Resolutions of the Academic Council  
Meeting held on 23.02.2016)**



## CONTENTS

<b>Sl. No.</b>	<b>Course Title</b>	<b>Subject Code</b>	<b>Page No.</b>
1	Course Structure	-	1
2	,f;fhyj; jkpo;	15UTAL11	9
3	rkaj jkpo;	15UTAL21	11
4	Applied Grammar and Translation - I	15UARL11	14
5	Applied Grammar and Translation - II	15UARL21	15
6	Prose, Poetry and Remedial Grammar - I	15UENL11	16
7	Prose, Poetry and Remedial Grammar - II	15UENL21	17
8	Fundamentals of Computers	15UCAC11	18
9	Principles of Programming in C	15UCAC12	19
10	C++ Programming	15UCAC21	20
11	Basic Mathematics	15UCAC22	21
12	Computer Application Core Practical - I	15UCAC2P	22
13	Programming in JAVA	15UCAC31	23
14	Digital Technology	15UCAC32	24
15	Computer Networks	15UCAC33	25
16	GUI Programming	15UCAC41	26
17	Computer System Architecture	15UCAC42	27
18	Operating Systems	15UCAC43	28
19	Computer Application Core Practical - II	15UCAC4P	29
20	Data Structures	15UCAC51	30
21	ASP.Net	15UCAC52	31
22	Software Engineering	15UCAC53	32
23	Oracle	15UCAE5A	33
24	VB.Net	15UCAE5B	34
25	Data Mining	15UCAC61	35
26	Computer Graphics and Multimedia	15UCAC62	36
27	Project	15UCSP61	37
28	Computer Application Core Practical - III	15UCAC6P1	38
29	Computer Application Core Practical - IV	15UCAC6P2	39

<b>Sl. No.</b>	<b>Course Title</b>	<b>Subject Code</b>	<b>Page No.</b>
30	C # Programming	15UCAE6A	40
31	PHP	15UCAE6B	41
32	Computer Application Core Elective Practical - A	15UCAE6PA	42
33	Computer Application Core Elective Practical - B	15UCSE6PB	43
34	Office Automation	15UITA11	44
35	Multimedia Tools	15UITA21	45
36	Allied I - Practical	15UITA2P	46
37	Web Designing	15UITA31	47
38	Unix and Shell Programming	15UITA41	48
39	Allied II - Practical	15UITA4P	49
40	Desktop publishing	15UCAS31	50
41	RDBMS	15UCAS41	51
42	Internet & HTML	15UCAN31	52
43	Desktop Publishing	15UCAN41	53
44	List of Non-major Elective subjects	-	54
45	Environmental Studies	15UEVS11	56
46	Value Education - I	15USVE2A	58
47	Value Education - II	15USVE2B	59
48	Scheme of Examinations	-	60

**B.C.A. (Bachelor of Computer Application)**  
**COURSE STRUCTURE (CBCS)**  
**(Applicable for students admitted in June 2015 onwards)**

<b>ALLIED I - Computer Science</b>				<b>ALLIED II - Computer Science</b>					
<b>I SEMESTER</b>				<b>II SEMESTER</b>					
<b>P</b>	<b>COURSE</b>	<b>H/W</b>	<b>C</b>	<b>P</b>	<b>COURSE</b>	<b>H/W</b>	<b>C</b>		
<b>I</b>	Tamil / Arabic	6	3	<b>I</b>	Tamil / Arabic	6	3		
<b>II</b>	English	6	3	<b>II</b>	English	6	3		
<b>III</b>	Core - 1	4	4	<b>III</b>	Core - 3	4	4		
	Core - 2	3	4		Core - 4	3	4		
	Core Practical - I*	3	-		Core Practical - I*	3	3		
	Allied I	3	4		Allied II	3	4		
	Allied Practical - I*	3	-		Allied Practical - I*	3	2		
<b>IV</b>	Environmental Studies	2	1	<b>IV</b>	Value Education - I	2	1		
				Value Education - II					
<b>TOTAL</b>			<b>30</b>	<b>19</b>	<b>TOTAL</b>			<b>30</b>	<b>24</b>
<b>III SEMESTER</b>				<b>IV SEMESTER</b>					
<b>III</b>	Core - 5	5	4	<b>III</b>	Core - 8	5	4		
	Core - 6	5	4		Core - 9	5	4		
	Core - 7	5	4		Core - 10	5	4		
	Core Practical - II *	3	-		Core Practical - II *	3	3		
	Allied III	3	4		Allied IV	3	4		
	Allied Practical - II *	3	-		Allied Practical - II*	3	2		
<b>IV</b>	Skill Based Elective - 1	3	2	<b>IV</b>	Skill Based Elective - 2	3	2		
	Non Major Elective -1	3	2		Non Major Elective - 2	3	2		
				<b>V</b>	Extension Activities	--	1		
<b>TOTAL</b>			<b>30</b>	<b>20</b>	<b>TOTAL</b>			<b>30</b>	<b>26</b>
<b>V SEMESTER</b>				<b>VI SEMESTER</b>					
<b>III</b>	Core - 11	6	5	<b>III</b>	Core - 14	6	5		
	Core - 12	5	5		Core - 15	5	5		
	Core - 13	5	5		Core - 16 - Project	5	5		
	Core Practical - III*	3	-		Core Practical - III*	3	3		
	Core Practical - IV*	3	-		Core Practical - IV*	3	3		
	Core Elective - 1	5	6		Core Elective - 2	5	6		
	Core Elective Practical *	3	-		Core Elective Practical *	3	3		
<b>TOTAL</b>			<b>30</b>	<b>21</b>	<b>TOTAL</b>			<b>30</b>	<b>30</b>

\* Practical Examination – End of even semester

**G1-S**

<b>B.C.A.</b>						
<b>DISTRIBUTION OF CREDITS, NO. OF PAPERS &amp; MARKS</b>						
<b>Part</b>	<b>Course</b>	<b>Semester</b>	<b>Hrs.</b>	<b>Credits</b>	<b>No. of Papers</b>	<b>Marks</b>
<b>I</b>	Tamil / Arabic	I to II	12	6	2	200
<b>II</b>	English	I to II	12	6	2	200
<b>III</b>	Core + Core Practical	I to VI	95	77	15 + 4	1900
	Core Elective + CE Practical + Project	V & VI	21	20	2 + 1 + 1	400
	Allied + Practical	I to IV	24	20	4 + 2	600
<b>IV</b>	Environmental Studies	I	2	1	1	100
	Social Value Education	II	2	1	1	100
	Skill Based Elective	III & IV	6	4	2	200
	Non Major Elective	III & IV	6	4	2	200
<b>V</b>	Extension Activities	I to IV	--	1	1 (No Exam)	100
<b>TOTAL</b>			<b>180</b>	<b>140</b>	<b>40</b>	<b>4000</b>

**SEMESTER WISE DISTRIBUTION OF HOURS**

<b>Part</b>	<b>I</b>	<b>II</b>	<b>III</b>				<b>IV</b>			<b>Total</b>
	<b>T/A</b>	<b>ENG</b>	<b>Core + Pract</b>	<b>CE</b>	<b>PRO</b>	<b>Allied+ Pract</b>	<b>SBE</b>	<b>NME</b>	<b>VE/ES</b>	
<b>I</b>	6	6	7 + 3	-	-	3 + 3	-	-	2	<b>30</b>
<b>II</b>	6	6	7 + 3	-	-	3 + 3	-	-	2	<b>30</b>
<b>III</b>	-	-	15 + 3	-	-	3 + 3	3	3	-	<b>30</b>
<b>IV</b>	-	-	15 + 3	-	-	3 + 3	3	3	-	<b>30</b>
<b>V</b>	-	-	16 + 6	5 + 3	-	-	-	-	-	<b>30</b>
<b>VI</b>	-	-	11 + 6	5 + 3	5	-	-	-	-	<b>30</b>
<b>TOT</b>	<b>12</b>	<b>12</b>	<b>71+24=95</b>	<b>10+6=16</b>	<b>5</b>	<b>12+12=24</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>180</b>

**B.C.A. - CBCS Syllabus**

**(Applicable for students admitted in June 2015 onwards)**

**TITLE OF THE PAPERS, CREDITS & MARKS**

<b>I SEMESTER</b>								
<b>P</b>	<b>SUB</b>	<b>Title of the paper</b>	<b>S.CODE</b>	<b>H/W</b>	<b>C</b>	<b>MARKS</b>		
						<b>I</b>	<b>E</b>	<b>T</b>
<b>I</b>	TA 1	Applied Grammar and Translation - I	15UTAL11	6	3	25	75	100
	AR 1	Applied Grammar and Translation - I	15UARL11					
<b>II</b>	EN 1	Prose, Poetry and Remedial Grammar - I	15UENL11	6	3	25	75	100
<b>III</b>	C1	Fundamentals of Computers	15UCAC11	4	4	25	75	100
	C2	Principles of Programming in C	15UCAC12	3	4	25	75	100
	CP-1	Computer Application Core Practical - I	-	3	-	Examination II Semester		
	AI-1	Office Automation	15UITA11	3	4	25	75	100
	AI-P	Allied I - Practical	-	3	0	Examination II Semester		
<b>IV</b>	ES	Environmental Studies	15UEVS11	2	1	25	75	100
<b>TOTAL</b>				<b>30</b>	<b>19</b>	<b>150</b>	<b>450</b>	<b>600</b>
<b>II SEMESTER</b>								
<b>I</b>	TA 2	Applied Grammar and Translation - II	15UTAL21	6	3	25	75	100
	AR 2	Applied Grammar and Translation - II	15UARL21					
<b>II</b>	EN 2	Prose, Poetry and Remedial Grammar - II	15UENL21	6	3	25	75	100
<b>III</b>	C3	C++ Programming	15UCAC21	4	4	25	75	100
	C4	Basic Mathematics	15UCAC22	3	4	25	75	100
	CP-1	Computer Application Core Practical - I	15UCAC2P	3	3	40	60	100
	AI-2	Multimedia Tools	15UITA21	3	4	25	75	100
	AI-P	Allied I - Practical	15UITA2P	3	2	40	60	100
<b>IV</b>	VE	Islamic Value Education	15USVE2A	2	1	25	75	100
		Value Education	15USVE2B					
<b>TOTAL</b>				<b>30</b>	<b>24</b>	<b>230</b>	<b>570</b>	<b>800</b>

### B.C.A. - CBCS Syllabus

(Applicable for students admitted in June 2015 onwards)

#### TITLE OF THE PAPERS, CREDITS & MARKS

<b>III SEMESTER</b>								
<b>P</b>	<b>SUB</b>	<b>Title of the paper</b>	<b>S.CODE</b>	<b>H/W</b>	<b>C</b>	<b>MARKS</b>		
						<b>I</b>	<b>E</b>	<b>T</b>
<b>III</b>	C5	Programming in JAVA	15UCAC31	5	4	25	75	100
	C6	Digital Technology	15UCAC32	5	4	25	75	100
	C7	Computer Networks	15UCAC33	5	4	25	75	100
	CP-II	Computer Application Core Practical – II	-	3	-	Examination IV Semester		
	AII-1	Web Designing	15UITA31	3	4	25	75	100
	AII-P	Allied II - Practical	-	3	-	Examination IV Semester		
<b>IV</b>	SBE1	Desk Top Publishing	15UCAS31	3	2	25	75	100
	NME1	Choose from the list	-	3	2	25	75	100
<b>TOTAL</b>				<b>30</b>	<b>20</b>	<b>150</b>	<b>450</b>	<b>600</b>
<b>IV SEMESTER</b>								
<b>III</b>	C8	GUI Programming	15UCAC41	5	4	25	75	100
	C9	Computer System Architecture	15UCAC42	5	4	25	75	100
	C10	Operating Systems	15UCAC43	5	4	25	75	100
	CP-II	Computer Application Core Practical – II	15UCAC4P	3	3	40	60	100
	AII-2	Unix & Shell Programming	15UITA41	3	4	25	75	100
	AII-P	Allied II – Practical	15UITA4P	3	2	40	60	100
<b>IV</b>	SBE2	RDBMS	15UCAS41	3	2	25	75	100
	NME2	Choose from the list	-	3	2	25	75	100
<b>V</b>	EX	Extension Activities (Choose from the list)	-	--	1	--	100	100
<b>TOTAL</b>				<b>30</b>	<b>26</b>	<b>230</b>	<b>670</b>	<b>900</b>



**B.C.A. - CBCS Syllabus**

**(Applicable for students admitted in June 2015 onwards)**

**TITLE OF THE PAPERS, CREDITS & MARKS**

<b>V SEMESTER</b>								
<b>P</b>	<b>SUB</b>	<b>Title of the paper</b>	<b>S.CODE</b>	<b>H/W</b>	<b>C</b>	<b>MARKS</b>		
						<b>I</b>	<b>E</b>	<b>T</b>
<b>III</b>	C11	Data Structures	15UCAC51	6	5	25	75	100
	C12	ASP.Net	15UCAC52	5	5	25	75	100
	C13	Software Engineering	15UCAC53	5	5	25	75	100
	CP-III	Computer Application Core Practical – III	-	3	-	Examination VI Semester		
	CP-IV	Computer Application Core Practical – IV	-	3	-	Examination VI Semester		
	CE1	A) ORACLE	15UCAE5A	5	6	25	75	100
		B) VB.Net	15UCAE5B					
	CE-P	Computer Application Core Elective Practical – A	-	3	-	Examination VI Semester		
		Computer Application Core Elective Practical – B	-					
	<b>TOTAL</b>				<b>30</b>	<b>21</b>	<b>100</b>	<b>300</b>
<b>VI SEMESTER</b>								
<b>III</b>	C14	Data Mining	15UCAC61	6	5	25	75	100
	C15	Computer Graphics and Multimedia	15UCAC62	5	5	25	75	100
	C16	Project	15UCSP61	5	5	-	100	100
	CP-III	Computer Application Core Practical – III	15UCAC6P1	3	3	40	60	100
	CP-IV	Computer Application Core Practical – IV	15UCAC6P2	3	3	40	60	100
	CE2	A) C # Programming	15UCAE6A	5	6	25	75	100
		B) PHP	15UCAE6B					
	CE-P	Computer Application Core Elective Practical–A	15UCAE6AP	3	3	40	60	100
		Computer Application Core Elective Practical–B	15UCAE6BP					
<b>TOTAL</b>				<b>30</b>	<b>30</b>	<b>195</b>	<b>505</b>	<b>700</b>

**B.C.A. CBCS Syllabus**  
**PART I AND II SUBJECTS - TITLE OF THE PAPERS, CREDITS & MARKS**  
**(Applicable for students admitted in June 2015 and onwards)**

**TITLE OF THE PAPERS, CREDITS & MARKS**

<b>GROUP I COURSES (ONE YEAR LANGUAGE COURSES)</b> <b>(B.Com., B.Com. (C.A.), B.Com. (Finance), B.B.A., B.Sc. (Computer Science), B.Sc. Information Technology and B.C.A.)</b>							
<b>SEM</b>	<b>Title of the paper</b>	<b>S.CODE</b>	<b>H/W</b>	<b>C</b>	<b>I</b>	<b>E</b>	<b>T</b>
<b>PART I - TAMIL</b>							
<b>I</b>	செயல்பாடுகள்	15UTAL11	6	3	25	75	100
<b>II</b>	பாடல்கள்	15UTAL21	6	3	25	75	100
<b>TOTAL</b>			<b>12</b>	<b>6</b>	<b>50</b>	<b>150</b>	<b>200</b>
<b>PART I - ARABIC</b>							
<b>I</b>	Applied Grammar and Translation - I	15UARL11	6	3	25	75	100
<b>II</b>	Applied Grammar and Translation - II	15UARL21	6	3	25	75	100
<b>TOTAL</b>			<b>12</b>	<b>6</b>	<b>50</b>	<b>150</b>	<b>200</b>
<b>PART II - ENGLISH</b>							
<b>I</b>	Prose, Poetry and Remedial Grammar - I	15UENL11	6	3	25	75	100
<b>II</b>	Prose, Poetry and Remedial Grammar - II	15UENL21	6	3	25	75	100
<b>TOTAL</b>			<b>12</b>	<b>6</b>	<b>50</b>	<b>150</b>	<b>200</b>

<b>B.C.A. - CBCS Syllabus</b>								
<b>TITLE OF THE PAPERS, CREDITS &amp; MARKS</b>								
<b>SEM</b>	<b>SUB</b>	<b>Title of the paper</b>	<b>S.CODE</b>	<b>H/W</b>	<b>C</b>	<b>MARKS</b>		
						<b>I</b>	<b>E</b>	<b>T</b>
<b>I</b>	C1	Fundamentals of Computers	15UCAC11	4	4	25	75	100
	C2	Principles of Programming in C	15UCAC12	3	4	25	75	100
	CP-I	Computer Application Core Practical – I	-	3	-	Examination II Semester		
<b>II</b>	C3	C++ Programming	15UCAC21	4	4	25	75	100
	C4	Basic Mathematics	15UCAC22	3	4	25	75	100
	CP-I	Computer Application Core Practical – I	15UCAC2P	3	3	40	60	100
<b>III</b>	C5	Programming in JAVA	15UCAC31	5	4	25	75	100
	C6	Digital Technology	15UCAC32	5	4	25	75	100
	C7	Computer Networks	15UCAC33	5	4	25	75	100
	CP-II	Computer Application Core Practical – II	-	3	-	Examination IV Semester		
<b>IV</b>	C8	GUI Programming	15UCAC41	5	4	25	75	100
	C9	Computer System Architecture	15UCAC42	5	4	25	75	100
	C10	Operating Systems	15UCAC43	5	4	25	75	100
	CP-II	Computer Application Core Practical – II	15UCAC4P	3	3	40	60	100
<b>V</b>	C11	Data Structures	15UCAC51	6	5	25	75	100
	C12	ASP.Net	15UCAC52	5	5	25	75	100
	C13	Software Engineering	15UCAC53	5	5	25	75	100
	CP-III	Computer Application Core Practical – III	-	3	-	Examination VI Semester		
	CP-IV	Computer Application Core Practical – IV	-	3	-	Examination VI Semester		
	CE1	A) Oracle	15UCAE5A	5	6	25	75	100
		B) VB.Net	15UCAE5B					
	CE-P	Computer Application Core Elective Practical – A	-	3	-	Examination VI Semester		
Computer Application Core Elective Practical – B		-						
<b>VI</b>	C14	Data Mining	15UCAC61	6	5	25	75	100
	C15	Computer Graphics and Multimedia	15UCAC62	5	5	25	75	100
	C16	Project	15UCSP61	5	5	-	100	100
	CP-III	Computer Application Core Practical – III	15UCAC6P1	3	3	40	60	100
	CP-IV	Computer Application Core Practical – IV	15UCAC6P2	3	3	40	60	100
	CE2	A) C # Programming	15UCAE6A	5	6	25	75	100
		B) PHP	15UCAE6B					
	CE-P	Computer Application Core Elective Practical – A	15UCSE6AP	3	3	40	60	100
		Computer Application Core Elective Practical – B	15UCSE6BP					
<b>TOTAL</b>				<b>116</b>	<b>97</b>	<b>625</b>	<b>1675</b>	<b>2300</b>

**DEPT. OF COMPUTER APPLICATION  
CBCS SYLLABUS**

<b>PART III - ALLIED I &amp; II - INFORMATION TECHNOLOGY</b>								
SEM	P	TITLE OF THE PAPER	S.CODE	H/W	C	MARKS		
						I	E	T
I	AI-1	Office Automation	15UITA11	3	4	25	75	100
	AI-P	Allied I - Practical	-	3	-	Examination II Semester		
II	AI-2	Multimedia Tools	15UITA21	3	4	25	75	100
	AI-P	Allied I - Practical	15UITA2P	3	2	40	60	100
III	AII-1	Web Designing	15UITA31	3	4	25	75	100
	AII-P	Allied II - Practical	-	3	-	Examination IV Semester		
IV	AII-2	Unix & Shell Programming	15UITA41	3	4	25	75	100
	AII-P	Allied II - Practical	15UITA4P	3	2	40	60	100
<b>TOTAL</b>				<b>24</b>	<b>20</b>	<b>180</b>	<b>420</b>	<b>600</b>

**PART IV - SKILL BASED ELECTIVE (FOR B.C.A.)**

SEM	P	TITLE OF THE PAPER	S.CODE	H/W	C	MARKS		
						I	E	T
III	1	Desk Top Publishing	15UCAS31	3	2	25	75	100
IV	2	RDBMS	15UCAS41	3	2	25	75	100
<b>TOTAL</b>				<b>6</b>	<b>4</b>	<b>50</b>	<b>150</b>	<b>200</b>

**PART IV - NON-MAJOR ELECTIVE  
(FOR OTHER MAJOR STUDENTS)**

III	1	Internet & HTML	15UCAN31	3	2	25	75	100
IV	2	Desktop Publishing	15UCAN41	3	2	25	75	100
<b>TOTAL</b>				<b>6</b>	<b>4</b>	<b>50</b>	<b>150</b>	<b>200</b>

**PART IV - EVS & VALUE EDUCATION  
(FOR ALL MAJOR STUDENTS)**

I	1	Environmental Studies	15UEVS11	2	1	25	75	100
II	2	Value Education - I	15USVE2A	2	1	25	75	100
		Value Education - II	15USVE2B					
<b>TOTAL</b>				<b>4</b>	<b>2</b>	<b>50</b>	<b>150</b>	<b>200</b>

**PART - V**

SEM	Extension Activities (Choose any one)	S.CODE	H/W	C	I	E	T
I to IV	Enviro Club	15UEXEVC	-	1	-	100	100
	NCC	15UEXNCC					
	NSS	15UEXNSS					
	Physical Education	15UEXPHY					
	Red Ribbon Club	15UEXRRC					
	Sadakath Outreach Programme	15UEXSOP					
	Youth Red Cross	15UEXYRC					
	Youth Welfare	15UEXYWL					
			-	1	-	100	100

<b>PART – 1 TAMIL</b>			
<b>Kjy gUtk</b>			
<b>Part – 1</b>	<b>,f;fhyj jkpo</b>		<b>15 UTAL11</b>
Hrs/Week : 6	Hrs/Sem : 90	Hrs/Unit : 18	Credits : 3

Nehf;fk :

❖ jkpo;g gīlg;gpyf;fpaq;fshd GJf;ftpijfs;> rpWfijfs Mfpatw;iw vOj  
itj;jy;

❖ r%fk gw;wpa rpe;jidfisg; gilg;gpyf;fpaq;fs; %yk Vw;gLj;Jjy;.

myF - 1

jko;r; nra;As - GJf;ftpījfs

- |  |   |                            |
|--|---|----------------------------|
| 1. my;yh`                                    | - | kfhftp ghujpahh            |
| 2. jkOf;F mKnjd;W ngah;                      | - | ghNte;jh; ghujpjhrd        |
| 3. ghly                                      | - | gl;Lf;Nfhl;il fy;ahzRe;juk |
| 4. Mapuk jpUehkk ghb                         | - | ftpf;Nfh mg;Jy; uFkhd      |
| 5. Njrg;gpjhTf;F xU njUg;<br>ghlfddpd mQ;ryp | - | K. Nkj;jh                  |
| 6. e;J nghpJ MW rpwpJ                        | - | itukj;J                    |
| 7. kīo nfhLf;Fk                              | - | ftpauR fz;zjhrd;           |
| 8. vj;jpirapypUe;J vwpag;gl;LJ               | - | fy;ahz;[p                  |
| 9. rpNdfpjd; jho;thd tPL                     | - | fyhg;gphpah                |
| 10. J}f;fk tpw;w fhRfs;                      | - | urpft;Qhdpahh              |
| 11. Njhoh; NkhrpPudhh;                       | - | Qhdf;Sj;jd;                |
| 12. taYk tho;Tk                              | - | eh.Kj;Jf;Fkhh              |
| 13. flTs; Nghw;w                             | - | ftpkzp                     |
| 14. ez;gNd                                   | - | fyPy; [Pg;uhd;             |

myF -2 (rpWfījfs fsQ;rpak;)

- |                          |   |                     |
|--------------------------|---|---------------------|
| 1. fhQ;rīd               | - | GJikg;gpj;jd;       |
| 2. rkntsp                | - | tz;zjhrd;           |
| 3. nrhh;f;f fd;dpif      | - | fUzhkzhsd;          |
| 4. fhyj;jpd; Mtuj;::;jdk | - | Njhg;gpy; KfkJkPuhd |
| 5. fdtpy; cjph;e;j g+    | - | ehWk;g+ehjd;        |
| 6. uh[kPd                | - | fPuD}h; [h`ph;uh[h  |
| 7. ez;gd;                | - | jPd;                |

**myF- 3 C iueil**

1. gbg;gJ RfNk – nt. , iwad;G ,.M.g.  
ePA: nrQ;Rup Gf; `T]; (gp) ypl; nrd;id.

**myF- 4 ,yf;fpa tuyhW**

1. jkpo;g GJf;ftpijfs Njhw;wKk tsh;r;rpAk
2. jkpo;r rpWfijfs Njhw;wKk tsh;r;rpAk
3. jlk gjpj;j jkpo;r rpWfijahrphpah;fs
4. jw;fhyj jkpo;g; GJf;ftpijfs; rpWfijfspd; Nghf;F

**myF- 5 ,yf;fzk**

1. vOj;J tif gw;wpa tpsf;fk  
KjnyOj;Jfs;> rhh;ngOj;Jfs;> Rl;nLOj;Jfs; tpdhntOj;Jfs;
2. nkhop Kjy vOj;Jf;fs;> nkhop ,Wj) vOj;Jfs
3. ty;ypdk kpFkplq;fs;> kpfh ,lq;fs;

<b>PART – 1 TAMIL</b>			
<b>,uz;lhk; gUtk</b>			
<b>Part – 1</b>	<b>rkaj jkpo;</b>		<b>15 UTAL21</b>
Hrs/Week : 6	Hrs/Sem : 90	Hrs/Unit : 18	Credits : 3

Nehf;fk :

❖ **gyrkaf; fUj;Jf;fis** xg;gpl;Lr rka ey;ypzf;fj;Njhl khzth;fs; **tho**  
**,g;gUtk Jiz** GhpfwJ.

❖ **jkpo;ehL muRg; gzpahsh Njh;thizaj** Njh;Tf;F khzth;fis  
**Maj;jg;gLj;Jjy;**

myF- 1

**jkpo;r; nra;As (Jiw ntsaPL)**

### **irtk**

1. **Njtthuk**

**jpUehTf;furh**

- **khrrpy; tPizAk...**
- **ehkhu;f;Fk Fbay;Nyhk...**
- **mg;gd; e' mk;ik e...**
- **Njhlila nrtpad;...**
- **NtAW Njhsp gq;fd;...**
- **kUe;jit ke;jpuk...**
- **gpj;jh gpiw#b...**

**jpUQhdrk;ge;jh;**

**Re;ju%h;j;j) ehadhh**

2. **jpUthrfk**

**khzpf;fthrfh;**

- **ghy; epide;J};Lk...**

3. **jpUntk;ghit**

- **MjpAk me;jKk ,y;yh...**

4. **jpUke;jpuk**

**jpU%yh;**

- **xd;Nw FyKk xUtNd NjtDk...**

### **itztk**

5. **ngha;ifaho;thu**

**G+jj;jho;thu**

**Ngaho;thu**

- **itak jfspah...**

- **md;Ng jfspah...**

- **jpUf;fz;Nld;...**

6. **jpUg;ghit**  
**Mz;lsh;** - khu;fopj; **jpq;fs;...**
7. **tī sahj** - kf;fl; nry;tk;

**ngs i:ik**

8. Gj;jgpuhd; - K.uh.ngUkhs;  
**fowd i:itk**
9. ,NaR fhtpak (rpy gFjpf;)  
- fz;**zjhrd;**  
**.J:vhk**
10. egpfs; ehaf khd;kpa kQ;rh) - **rjhtjhd) nra;Fj;jk;gpg;ghtyh;** (Fwpg;gpl;l ghly;fs;)
11. **Fzq;Fb k];jhd ghly;fs;** - ghrf;fapw;W **tīy**
12. Qhdg; Gfo;r;rp - **jf;fiy** gPh;KfkJ mg;gh
13. myfpyh mUSk - , **iwaUl ftpkzp.** fh.mg;Jy;fg+h  
**ePi .yf:foaq;fs**

14. **jpUf;Fws (thd rpwg;G)**
15. ehybahl - **fy;t; fiuapy**
16. ,d;dhehw;gJ - **Md;wtpj;j...**  
**myF- 2 Gidk**
- "fy;kuk" - **jpyftj)**

**myF - 3 cīueīl (jko;j; Jīw ntsaPL)**

1. egpfs; ehafk (ly;) md;gpd; **jhafk**
2. **rjf;fj;Jy;yh`** mg;gh mth;fspd **tho;Tk gzpAk**
3. **ft;fh.K.n-hpg** - j.K.rh fhrhikjPd;
4. **ftpf;Nfh mg;Jy;uFkhd;d; ftpijfs**
5. **jkpo; ,yf;fpaq;fspy; kdpjNear; rpe;jidfs**
6. , **izaj;jpy; jkpo;**  
**myF- 4 (Nghl;bj Njh;Tj jahhg;G)**

**.yf:fpa tuyhW**

1. **īrtk) itztk) fwpj;Jtk) ,Ryhk tsh;j;j jkpo;**
2. Gfo; ngw;w **jkpo; E}y;fs;> E}yhrphpah;fs**
3. **jkpo;ehL muRg; gzpahsh Njh;thizak elj;Jk Nghl;bj; Njh;Tf;Fhpa**  
**nghJj;jkpo; ghlj;jpl;lk - Xh mwpKfk**



**myF- 5 ,yf;fzk**

Nth;r;nrhy mwpjy mfuthpirg;gb khw;wpaikj;jy nra;tpid  
nra;ag;ghl;Ltpid jd;tpid gpwtpid cld;ghL vjph;kiw> nra;jp thf;fpak  
fyit thf;fpak ngah;tpid ,il> chpr;nrhw;fspd ,yf;fzk kw;Wk ngah;r;nrhy  
tpidr;nrhy; tifs yfu sfu zfu ufu wfu NtWghLfs;

<b>Part - I ARABIC</b>			
<b>Applicable for Group I Courses (One Year Language Courses) such as B.Com, B.Com. (C.A) B.Com, (Finance) , B.B.A, B.Sc. Computer Science, B.Sc., Information Technology and B.C.A.</b>			
<b>PAPER-I</b>	<b>APPLIED GRAMMAR AND TRANSLATION-I</b>	<b>15UARL11</b>	
<b>Hrs/ Week: 6</b>	<b>Hrs/ Sem: 90</b>	<b>Hrs/ Unit: 18</b>	<b>Credits: 3</b>

**Unit I :-**

**Lessons 1 to 5 (Reader)**

**Unit II :-**

**Lessons 6 to 10**

**Unit III :-**

**Grammar Portions**

- 1) Al Mufrad wal- muthanna wal jam"
- 2) Huroof ul Jarr
- 3) Asmaa – ul Ishaarah.
- 4) Adawaatul Istifhaam
- 5) Ad Damaair – ul – Munfasilah Val Muthasilah
- 6) Al-Idaafah
- 7) Al Muftada wal khabar
- 8) As-sifatu wal mausoof
- 9) Al mudhakkar wal muannath
- 10) Asmaa-ul-mausool

**Unit IV :-**

**Lessons 11 to 15**

**Unit V :-**

**Lessons 16 to 20**

**TEXT BOOKS**

- 1) Duroosul Lughatil Arabiya Part – I (Reader) - Lessons 1 to 20 only by Dr.V. Abdur Rahim. Available at Islamic foundation Trust, 78 Perambur High Road , Perambur, Chennai- 600 012.
- 2) An-Nahwul Waadih Ibtidayee – Part I (Grammar, selected topics only) by Ali Al-jaarim and Mustafa Ameen. Available at Hilal Book House , Tirurkad, Angadipuram, Kerala.

<b>Semester - II</b>			
<b>PAPER-II</b>	<b>APPLIED GRAMMAR AND TRANSLATION-II</b>		<b>15UARL 21</b>
<b>Hrs/ Week: 6</b>	<b>Hrs/ Sem: 90</b>	<b>Hrs/ Unit: 18</b>	<b>Credits: 3</b>

**Unit I :-**

**Lessons 1 to 3 (Reader)**

**Unit II :-**

**Lessons 4 to 7**

**Unit III :-**

**Grammar Portions**

- 1) Inna wa Akhavaatuha.
- 2) Ismut Tafleel
- 3) AlMali wal Mularee
- 4) Al-Amr wan Nahi
- 5) Al Fa-il
- 6) Al Maf-ool
- 7) Al-Asmaul Mausool
- 8) Taqseemu Fihl ila As-saheeh wal Muhtal
- 9) Ismul Maf"ool
- 10) Ismul Faa"il.

**Unit IV**

**Lessons 8 to 11**

**Unit V**

**Lessons 12 to 15**

**TEXT BOOKS**

1. *Duroosul Lughatil Arabiya Part - II (Reader) Lessons 1 to 15 only by Dr.V. Abdur Rahim. Available at: Islamic foundation Trust, 78 Perambur High Road , Perambur, Chennai-600 012.*
2. *An-Nahwul Waadih Ibtidayee -Part I &II (Selected Grammar Portions only) by Ali Al-jaarim and Mustafa Ameen. Available at: Hilal Book House , Tirurkad, Angadipuram, Kerala.*

**PART - II ENGLISH**  
**ONE - YEAR LANGUAGE COURSE**  
**B.Com., B.Sc. Computer Science, Information Technology, B.B.A.,**  
**B.Com, (C.A), B.C.A., and B.Com (Finance)**

I SEMESTER			
<b>EN1</b>	<b>PROSE, POETRY AND REMEDIAL GRAMMAR - I</b>		<b>15UENL11</b>
<b>Hrs/ Week: 6</b>	<b>Hrs/ Sem: 90</b>	<b>Hrs/ Unit: 18</b>	<b>Credits: 3</b>

**Objectives:**

1. To answer comprehensive questions on passages of moderate level of difficulty.
2. To analyse the prescribed prose pieces and to attempt a critical appreciation of the poems.
3. To write grammatically.

**UNIT I - PROSE**

1. Letter to a Teacher - Nora Rossi and Tom Cole (Trans.)
2. Spoken English and Broken English - George Bernard Shaw
3. Voluntary Poverty - M.K. Gandhi

**UNIT II - PROSE**

4. A Snake in the Grass - R.K. Narayan
5. The Civilization of Today - C.E.M. Joad
6. Kamala Nehru - Jawaharlal Nehru

**UNIT III - POETRY**

1. On His Blindness - John Milton
2. Upon Westminster Bridge - William Wordsworth
3. When I have Fears - John Keats

**UNIT IV - FUNCTIONAL GRAMMAR**

1. Articles and Nouns (Units 68-80 of Intermediate English Grammar)
2. Pronouns and Determiners (Units 81-90 of Intermediate English Grammar)

**UNIT V - FUNCTIONAL GRAMMAR**

3. Reported Speech (Units 46-47 of Intermediate English Grammar)
4. Questions and auxiliary verbs (Units 48-51 of Intermediate English Grammar)
5. „ing“ and the infinitive (Units 52-67 of Intermediate English Grammar)

**TEXTBOOKS:**

1. T. Srirama, Colin Swatridge. ed. College Prose and Poetry. TRINITY, New Delhi: Trichy, 1989 (rpt. 2014).
2. Raymond Murphy. ed. Intermediate English Grammar. New Delhi : Cambridge University Press, 1994 (rpt. 2006).

<b>II SEMESTER</b>			
<b>EN2</b>	<b>PROSE, POETRY AND REMEDIAL GRAMMAR - II</b>		<b>15UENL21</b>
<b>Hrs/ Week: 6</b>	<b>Hrs/ Sem: 90</b>	<b>Hrs/ Unit: 18</b>	<b>Credits: 3</b>

**Objectives:**

1. To answer comprehensive questions on passages of moderate level of difficulty.
2. To analyse the prescribed prose pieces and to attempt a critical appreciation of the poems.
3. To write grammatically.

**UNIT I - PROSE**

1. With the Photographer - Stephen Leacock
2. Professions for Women - Virginia Woolf
3. On Letter Writing - Alpha of the Plough

**UNIT II - PROSE**

4. The Night the Ghost Got In - James Thurber
5. The Donkey - Sir. J.Arthur Thomson
6. A Cup of Tea - Katherine Mansfield

**UNIT III - POETRY**

1. The Flower - Alfred Lord Tennyson
2. Homage to a Government - Philip Larkin
3. Obituary - A.K. Ramanujan

**UNIT IV - FUNCTIONAL GRAMMAR**

1. Present and Past (Units 1-6 of Intermediate English Grammar)
2. Present Perfect and Past ( Units 7-18 of Intermediate English Grammar)
3. Future (Units 19-22 of Intermediate English Grammar)

**UNIT V - FUNCTIONAL GRAMMAR**

4. Future (Units 23-25 of Intermediate English Grammar)
5. Modals (Units 26-36 of Intermediate English Grammar)
6. Conditionals and „Wish" (Units 37-40 of Intermediate English Grammar)
7. Passive (Units 41-45 of Intermediate English Grammar)

**TEXTBOOKS:**

1. T. Srirama, Colin Swatridge. ed. College Prose and Poetry. TRINITY, New Delhi: Trichy, 1989 (rpt. 2014).
2. Raymond Murphy. ed. Intermediate English Grammar. New Delhi: Cambridge University Press, 1994 (rpt. 2006).

## DEPART OF COMPUTER APPLICATION

### BCA SYLLABUS

(Applicable for students admitted in June 2015 onwards)

<b>PART III – CORE , CORE ELECTIVE &amp; PROJECT</b>
--

<b>I SEMESTER</b>
-------------------

<b>C 1</b>	<b>FUNDAMENTALS OF COMPUTERS</b>	<b>15UCAC11</b>	
<b>Hrs / Week : 4</b>	<b>Hrs / Sem : 60</b>	<b>Hrs / Unit : 12</b>	<b>Credits : 4</b>

#### UNIT I

An overview of the computer system- the shapes of computers today – Transforming Data into information –CPUs used in personal computers.

#### UNIT II

Standard method of input –Alternative methods of input- monitor sound system- Devices that output Hardcopy – Types of storage devices- Measuring device performance.

#### UNIT III

Operating system Basics- Pc operating Systems – Database management systems and Enterprise software- Networking Basics- networking at home and abroad.

#### UNIT IV

Internet Basics - Gelling Online - working online - Understanding multimedia – creating and Distributing New Media content.

#### UNIT V

The Basic of information systems- Building information systems – Creating computer programs- programming languages and the programming process.

#### TEXT BOOK :

Introduction to computers fourth Edition by peter Norton, Tata McGrew Hill.Chapters : 1 - 12, 16 - 20, 23 - 28.

<b>I SEMESTER</b>			
<b>C 2</b>	<b>PRINCIPLES OF PROGRAMMING IN C 15UCAC12</b>		
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 4</b>

### **UNIT I**

Identifiers & Keyword – Data types – Constants– Variables – Input statement – Output Statement –Operators – Expressions – Assignment statement – IF, IF ELSE, SWITCH – Loop Statement – FOR Loop, WHILE LOOP , DO WHILE LOOP – Break Statement – Go To Statement.

### **UNIT II**

Function & Program Structure – Defining Function – Return Statement – Types of Function – Argument – Local & Global Variable – Scope of the Variable – Recursion-**string functions**

### **UNIT III**

Array Notation – Array Declaration – Initialization – Processing with Array – Array And Functions – Multidimensional array character array – Pointer declaration – Pointer Arithmetic – Array of Pointers – Pointers & Functions.

### **UNIT IV**

Preprocessors – Macros – Header Files – Standard Functions – Structures– Union – Bit fields – Type def – Enumeration.

### **UNIT V**

Structures – Declaration of structure – Members – Accessing the members of a structure – Arrays of structures – Pointer to structure-**File handling-File operations-Creating and accessing a data file**

### **TEXT BOOK:**

1. Programming with C by E. Balagurusamy.

### **Reference Book:**

Programming with C by Thamarai Selvi.

Programming with C by Byron S.Gottfried

<b>II SEMESTER</b>			
<b>C 3</b>	<b>C++ PROGRAMMING</b>		<b>15UCAC21</b>
<b>Hrs / Week : 4</b>	<b>Hrs / Sem : 60</b>	<b>Hrs / Unit : 12</b>	<b>Credits : 4</b>

### **UNIT I - Classes and objects**

Introduction – structures in C – structures in C++ – declaring objects – The public Keyword – defining member functions – characteristics of member function – out side member function inline – Rules for inline functions – data hiding or encapsulation – classes, objects and memory – static variable and functions – static object – Array of objects

### **UNIT II - Constructors and Destructors**

Introduction – Constructors and destructors – Characteristics of constructors and destructors – Types of constructors – calling constructors and destructors – qualifier and nested classes

### **UNIT III - Operator overloading and Inheritance**

Introduction – the keyword operator – overloading unary operator – overloading binary operators – overloading with friend function – type conversion – Rules for overloading operators - Inheritance – access specifiers and simple inheritance – Protected data with private inheritance – types of inheritance – single inheritance – Multilevel inheritance – multiple inheritance – hierarchical inheritance – hybrid inheritance.

### **UNIT IV - Pointers and Arrays**

Introduction – pointers declaration – pointer to class – pointer to object – the this pointer – pointer to derived classes and base classes – arrays – characteristics of arrays – initialization of arrays using functions – arrays of classes – binding in C++ – pointers to derived classes objects.

### **UNIT V - Virtual functions and files**

Virtual function – rules for virtual function – pure virtual functions – virtual functions in derived classes – file stream classes – steps of file operations – Checking for errors – finding end of a file – file opening modes – file pointers and manipulators – manipulators with arguments – sequential read and write operators – binary and ASCII files – random access operation.

### **TEXT BOOK :**

1. Object Oriented Programming with C++ by E. Balagurusamy.

### **REFERENCE BOOK:**

C++ Programming by Ravichandran.



<b>II SEMESTER</b>			
<b>C 4</b>	<b>BASIC MATHEMATICS</b>		<b>15UCAC22</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs/Unit : 9</b>	<b>Credits : 4</b>

### UNIT I

**Number Systems and Equations** : - Numbers - Natural - Whole - Rational - Irrational Real - Algebraic expression - factorisation - Equations - linear equations with two or three unknowns - solutions of quadratic equations - permutation - combinations - binomial expansion.

### UNIT II

**Set theory** : Sets and elements, Universal Set and Empty Set, Subsets, Venn Diagrams, Set Operations, Algebra of Sets and Duality, Finite, Infinite Sets and Counting Principle, The Inclusion-Exclusion Principle, Classes of Sets, Power Sets, Partitions.

### UNIT III

**Logic and Proportional Calculus** : Propositions and Compound Propositions , Basic Logical Operations, Propositions and Truth Tables, Tautologies and Contradictions, Logical Equivalence, Algebra of propositions, Conditional and Biconditional statements, Arguments, Logical Implication

### UNIT IV

**Matrices** : - Basic concepts - matrix addition - scalar multiplication - Multiplication of Matrix - inverses of a matrix - solution through linear equations - matrix method.

### UNIT V

**Commercial Arithmetic** : - Percentages - ratio and proportion - simple interest - compound interest - discount - banker's discount - true discount.

### TEXT BOOK :

1. Business Mathematics - D.C. Sancheti and V.K.Kapoor Publisher: Sultan Chand & Sons, New Delhi.
2. Discrete Mathematics - Seymour Lipschutz and Marc Lars Lipson - Schaum's Series - Third Edition - Tata McGraw Hill Publications.
3. A text book of Business Mathematics by G.K. Ranganath - Himalaya Publishing House, Delhi.

### REFERENCE BOOK :

1. A text book of Business Mathematics by G.K. Ranganath - Himalaya Publishing House, Delhi.

<b>I &amp; II SEMESTERS</b>		
<b>CP I</b>	<b>CORE PRACTICAL - I ( Exam end of II Sem )</b>	<b>15UCAC2P</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credits : 3</b>

### **PRINCIPLES OF PROGRAMMING IN C PRACTICAL**

1. Program using If statement.
2. Program using while & do – while statement.
3. Program using switch statement.
4. Program using for statement.
5. Program using one dimensional array.
6. Program using two dimensional arrays.
7. Program using Functions.
8. Programs using Recursions.
9. Program using strings.
10. Program using Structure, pointers.

### **C++ PROGRAMMING PRACTICAL**

1. Write a c++ program using class.
2. Write a c++ program using pointers.
3. Write a c++ program using Inline.
4. Write a c++ program using method overloading.
5. Write a c++ program using constructor and destructor.
6. Write a c++ program using multiple inheritance
7. Write a c++ program using operator overloading.
8. Write a c++ program using multi-level inheritance.
9. Write a c++ program using virtual function.
10. Write a c++ program using file concept.

<b>III SEMESTER</b>			
<b>C 5</b>	<b>PROGRAMMING IN JAVA</b>	<b>15UCAC31</b>	
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 4</b>

### **UNIT I**

Features of Java : History – Characteristics of Java - Developing and Running a Java Program – Structure of a java program – Variables – Features of java – Data types – Type Conversion and casting – arrays – operators – Bitwise Operators – Left shift , right shift – Unsigned right shift operators – relation – Boolean logic – ternary operators. Branching and Looping Statements: If, If-else, nested if else, if else if statement – Switch case- while loop- do while- for loop- break, continue and return statement

### **UNIT II**

Classes methods and objects examples-declaring objects – methods in classes – constructors –this keyword- class structure- Extension to classes and methods: Methods overloading – passing objects to methods- passing arguments – returning objects – recursion – nested classes – string handling – command line execution .

### **UNIT III**

Inheritance: basic concepts – multilevel hierarchy – method overriding – abstract classes – Packages and Interfaces.

### **UNIT IV**

Errors and Exception Handling: Compile time, runtime errors – exceptions – try and catch multiple catch- throw – java"s built-in-exceptions. Multiple thread programming: java threads creating several threads – deadlock – controls on threads.

### **UNIT V**

Input Output Operations: reading characters, sentences, writing to console, file processing , copying files Applets: Various applets: chkr, cs, de, font, ga ,lbg, rc, rrc,sp, common.html file. Graphics and Text: lines, rectangles, ellipse, arcs, polygons, paint mode, fonts, text .Event handling

### **TEXT BOOK:**

1. Programming in java2 – R. Rajaram, SCITECH Publications (India) Pvt Ltd, Chennai 2001
2. Java2 – Complete Reference, Tata McGraw Hill Publications

### **REFERENCE BOOKS:**

1. Thomaswu – An Introduction to Object Oriented Programming with Java, Tata McGraw Publications, 2001

III SEMESTER			
C 6	DIGITAL TECHNOLOGY	15UCAC32	
Hrs / Week : 5	Hrs / Sem : 75	Hrs / Unit : 15	Credits : 4

#### UNIT I

Number system: Binary Addition and Subtraction – Binary Multiplication and Division Converting Decimal numbers to Binary- Negative numbers – Use of Complements to Negative numbers – Binary number complements – BCD – Octal and Hexadecimal number systems. .

#### UNIT II

Boolean algebra and Gate networks: Fundamental concepts of Boolean algebra – Logical multiplication – AND gates and OR gates – complementation and inverters – logic expressions evaluation – Basic laws of Boolean Algebra – De Morgan's theorem – Duality of boolean algebra - Boolean Algebra – Sum of Products(SOP) and Product of Sums(POS) – Map Simplification using Karnaugh Maps – Don't care conditions – Design using NAND gates - Design using NOR gates – NAND-TO-AND and NOR-TO-OR gates.

#### UNIT III

Logic Design : Flip-Flop – Gated flip flops – Master- Slave flip flops – SR flip-flop – D flip-flop – JK flip flop - shift registers – Binary counters – BCD counters

#### UNIT IV

Arithmetic Design : Construction of the ALU - Integer representation - Half Adder – Full Adder – Parallel Binary Adder – BCD Adder – Shift Operation

#### UNIT V

Counters : Binary counter – Ripple counter - BCD counters – Synchronous and Asynchronous counters – shift counter – Ring counter – Up down counter

#### TEXT BOOKS:

1. Digital computer Fundamentals – Thomas C.Bartee, sixth Edition , McGraw – Hill Publications

UNIT I - Chapters 2.4 to ,2.12

UNIT II - Chapters 3.1 to 3.23

UNIT III - Chapters 4.1 to 4.9

UNIT IV - Chapters 5.1 to 5.5 , 5.10, 5.11,5.14

UNIT V - Chapters 4.8, 4.9

#### REFERENCE BOOKS:

1. Digital principles and Applications – Malvino and leach, TMH publications, fifth Editions.
2. Digital Electronics – V.K.puri, TMH Publication, 1997.

III Semester			
C7	COMPUTER NETWORKS		15UCAC33
Hrs / Week : 5	Hrs / Sem : 75	Hrs / Unit : 15	Credits : 4

### UNIT I

Introduction – Data Communication – Networks – Protocols and Standards – Standards Organizations. Basic Concepts: Line Configuration – Topology – Transmission Mode – Categories of Networks – Internetworks.

**The OSI Model :** The Model – Functions of the layers (Physical, Data Link, Network, Transport, Session, Presentation and Application Layers)

### UNIT II

Transmission Media Guided Media (Twisted – Pair Cable, Coaxial Cable, Optical Fiber) – Unguided media (Radio Frequency Allocation, Propagation of Radio Waves, Terrestrial Microwave, Satellite Communication, Cellular Telephony)

### UNIT III

DataLink Control : Line Discipline – Flow Control – Error Control. Network Layer Function : Circuit Switching – Packet Switching – Message Switching – Network Layer(Connection – Oriented and Connectionless services).

### UNIT IV

LAN : Project 802, Ethernet – IEEE 802.3 CSMA/CD – Implementation – Token Bus – Token Ring – FDDI MAN : IEEE 802.6(DQDB).

### UNIT V

**Transport Layer :** Duties of the transport Layer. **Session Layer :** Session and Transport Interaction – Synchronization Points – Session Protocol Data Unit – **Presentation Layer :** Translation – Encryption / Decryption – Authentication Data Compression Application Layer : Message Handling System – File Transfer, Access and Management, Virtual Terminal, Directory Services, Common Management Information Protocol.

### TEXT BOOK :

“Introduction to Data Communication and Networking” – Behrouz Forouzan – Tata Mcgraw Hill, 3<sup>rd</sup> Edition, 2006.

UNIT I – Chapters 1,2,3

UNIT II – Chapters 7.1,7.2

UNIT III – Chapters 10.1,10.2,10.3,14.1,14.2,14.3

UNIT IV – Chapters 12.1,12.2,12.3,12.4,12.5,12.6,13.1

UNIT V – Chapters 22.1,23

### REFERENCE BOOKS :

“COMPUTER NETWORKS” – Andrew S. Tanenbaum, 4th Edition, PHI.

<b>IV SEMESTER</b>			
<b>C 8</b>	<b>GUI PROGRAMMING</b>		<b>15UCAC41</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 4</b>

### **UNIT I**

**Integrated Development Environment (IDE) And Forms :**  
 Introducing Visual BASIC- Learning the IDE Features- Working with Forms:  
 The Anatomy

of a Form- Working with Form Properties- Tweaking a Form's  
 Properties- Introducing Form events- Introducing Form methods- Working  
 with Multiple Document Interface (MDI) Forms.

### **UNIT II**

**Logic And Program Flow, Data Types :** Understanding Logical  
 operators- Making Comparisons- Evaluating Conditions in code- Performing  
 repetitive tasks. Introducing variables- variable types- Arrays- Constants.

### **UNIT III**

**Selecting And Using Controls :** Introducing Controls- Command  
 Buttons-Text Boxes-Labels- Option Buttons- Check Boxes- Frame controls-  
 List Boxes- Combo Boxes- Image objects- Picture objects Timers- Scroll  
 Bars- Drive Lists- Directory List Boxes- File List Boxes.

### **UNIT IV**

**Modules, Classes, Menus, And Tool Bars:** Introducing Code Modules  
 and Classes- Creating a Code Library- Working with sub procedures-  
 Working with Function procedures- Using Private and public sub  
 procedures. Understanding the Menu Object- Creating a menu with the  
 Menu

### **UNIT V**

**Storing And Retrieving Data, Dialog Boxes :** Working with ASCII  
 Files- Data controls- Understanding the Anatomy of a database- Creating  
 data bases with Visual Data Manager- Creating a Data base Table- Creating  
 a Query- Modifying a table- DAO-RDO-ADO-Data reports.

### **TEXT BOOK:**

1. Visual BASIC 6 In Record Time – Steve Brown – bpb Publications.

### **REFERENCE BOOKS:**

1. Visual BASIC 6 – Paul Sheriff – PHI
2. The Complete Reference Visual Basic 6 – Noel Jerke - Tata Mcgraw - Hill Edition

<b>IV SEMESTER</b>			
<b>C 9</b>	<b>COMPUTER SYSTEM ARCHITECTURE</b>		<b>15UCAC42</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 4</b>

#### **UNIT I**

**Basic Computer Organization** : Instruction Codes- Computer Registers – Computer Instructions-Timing and Control- Instruction Cycle- Control Memory- Address Sequencing

#### **UNIT II**

**CPU** : General Register Organization-Stack Organization-Instruction Formats-Addressing Modes- Program Control

#### **UNIT III**

**Computer Arithmetic** : Hardware Implementation and Algorithm for Addition,Subtraction, Multiplication, Division- Booth Multiplication Algorithm-Floating Point Arithmetic

#### **UNIT IV**

**I/O and Memory Organization** : I/O Interface –Asynchronous Data Transfer – Modes of I/O Transfer- Priority Interrupt-Direct Memory Access- Memory Hierarchy-Main Memory-Auxiliary Memory-Associative Memory- Cache Memory- Virtual Memory

#### **UNIT V**

**Advanced Processing** : RISC, CISC Characteristics –Parallel Processing- Pipe Lining- Vector Processing – Array Processors – Multi Processors – InterConnections Structures.

#### **TEXT BOOK :**

1. M. Morris Mano - Computer System Architecture -Third Edition

Unit I - Chapters - 5.1 to 5.5, 7.1 to 7.2

Unit II - Chapters - 8.1 to 8.5, 8.7

Unit III - Chapters - 10.1 to 10.5

Unit IV - Chapters - 11.2 to 11.6, 12.1 to 12.6

Unit V - Chapters - 8.8,9.1,9.6,9.7, 13.1 and 13.

<b>IV SEMESTER</b>			
<b>C 10</b>	<b>OPERATING SYSTEMS</b>		<b>15UCAC43</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 4</b>

#### **UNIT I**

Operating Systems Objectives and Functions - Operating System and User / Computer Interface, Operating System as a Resource Manager : Evolution of Operating Systems – Serial Processing, Sample Batch Systems, Multi Programmed Batch Systems, Time Sharing Systems.

#### **UNIT II**

Process Description, Process Control – Processes and Threads, Concurrency – Principles of Concurrency, Mutual Exclusion – Deadlock Prevention, Deadlock Detection, Deadlock Avoidance. Memory Management - Memory Management Requirements – Fixed Partitioning, Placement Algorithm, Relocation in a Paging System - Sample Segmentation.

#### **UNIT III**

Virtual Memory – Paging – Address Translation in a Paging System, Segmentation – Organization, Address Translation in a Segmentation System – Combined Paging and Segmentation – Virtual Memory – Operating System Software – Fetch Policy, Placement Policy and Replacement Policy.

#### **UNIT IV**

Scheduling – Types of Scheduling, Scheduling Algorithms, Scheduling Criteria, FIFO, Round Robin, Shortest Process Next, Shortest Remaining Time, Feedback Scheduling – Fairshare Scheduling.

#### **UNIT V**

I/O Management and disk scheduling – Organization of the I/O function – The Evaluation of the I/O function, Logical Structure of the I/O function, I/O Buffering, Disk I/O – Disk Scheduling Algorithms, Disk Cache. File Management – Files, File Management Systems, Secondary Storage Management – File Allocation.

#### **TEXT BOOK:**

1. William Stallings, Operating Systems, Second Edition, Maxwell McMillan, International Editions, 1997.(unit I)
2. Silberschatz A. Peterson J.L.,Galvan P.Operating System Concepts. Third Edition.(unit II,III,IV,V)

#### **REFERENCE BOOKS :**

- 1.Dental H.M., An Introduction to Operating Systems, Addison Wesley Publishing Co., 1998.
2. Charles Crowley, Operating Systems – A Design Oriented Approach, IRWIN Publication.



<b>III &amp; IV SEMESTERS</b>		
<b>CP I</b>	<b>CORE PRACTICAL - II</b>	<b>( Exam end of IV Sem ) 15UCAC4P</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credits : 3</b>

### **PROGRAMMING IN JAVA PRACTICAL**

- 1 Write a java program using class
- 2 Write a java program using inheritance
- 3 Write a java program using interfaces
- 4 Write a java program using packages
- 5 Write a java program to create a user defined exception
- 6 Write a program using threads
- 7 Create an applet program to draw multiple shapes
- 8 Create a java program using event handling
- 9 Create a java programming using Files

### **GUI PROGRAMMING PRACTICAL**

- 1 Arithmetic Calculator.
- 2 Menu Creation with simple file and edit options.
- 3 Designing a color mixer using basic colors.
- 4 Create a file open dialogue box to load a picture.
- 5 Create an application to format the text inside the text box.
- 6 Viewing records using data base controls.
- 7 Adding records to database
- 8 Display the information in the report form.
- 9 Create an application to move the elements from list to list and add new items.
- 10 Picture Animation.

V SEMESTER			
C 11	DATA STRUCTURES	15UCAC51	
Hrs / Week : 6	Hrs / Sem : 90	Hrs / Unit : 18	Credits : 5

### UNIT-I ARRAYS AND STRUCTURES

Arrays-Dynamically Allocated Arrays-Structures and Unions-Polynomials-Sparse Matrices : The Abstract Data Type,Sparse matrix representation,transpose a sparse matrix-Representation of Multidimensional Arrays-Strings

### UNIT-II STACKS AND QUEUES

Stacks-Abstract data type Stack-add,delete elements from stack-Queues-Abstract data type queue-add,delete elements from queue-Circular Queues-Evaluation of Expressions-Evaluating postfix expressions-infix to postfix-Multiple stacks and Queues..

### UNIT-III LINKED LISTS

Singly linked lists and Chains-Representing chains in C - create a two node list-insert an element in a list-delete an element from a list-display the elements in a list-add and delete an element using linked stack and queue- polynomial representation using linked list-adding polynomials-doubly linked list-add and delete an element using doubly linked list

### UNIT-IV TREES

Terminology-Representation of trees-binary tree : abstract data type-properties of binary trees-Binary tree representations-binary tree traversals-inorder,preorder and postorder traversal-additional binary tree operations:copying and testing equality.

### UNIT-V GRAPHS

Abstract data type -Definitions -Graph Representations -Adjacency Matrix,Adjacency Lists,Adjacency Multilists-Elementary Graph operations-Depth First Search,Breadth First Search,Connected Components,Spanning Trees-Minimum Cost spanning trees-Kruskal"sAlgorithm,Prim"s Algorithm-Shortest path and transitive closure-single source all destinations,All pair shortest paths,transitive closure

#### TEXT BOOK:

"Fundamentals of Data Structures in C"-Horowitz,Sahni and Anderson-Freed,Second edition,University Press(India) private limited

#### REFERENCE BOOKS :

"Fundamental of Data Structures" Ellis Horowitz and Sartaj Sahni ,Galgotia Publications

<b>V SEMESTER</b>			
<b>C12</b>	<b>ASP.NET</b>	<b>15UCAC52</b>	
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 5</b>

#### **UNIT I**

The .NET framework – The .NET programming framework – VB.NET , C#, and the NET language – the common language runtime – the .NET class library – ASP .NET – visual studio .NET

Learning the .NET language – Data types – declaring variables – scope and accessibility – variable operations – object based manipulation – conditional structures – loop structures – functions and subroutines

#### **UNIT II**

ASP .NET Applications – ASP .NET Applications – code behind the global ASP application file – understanding ASP .NET classes – ASP .NET configuration

Web form fundamentals – a simple page Applet – improving the currency converter – a deeper look at HTML control classes – the page class – assessing HTML server controls.

#### **UNIT III**

Web controls – stepping up to web controls – web control classes – auto post back and web control events – a simple web page applet – assessing web controls-Validation and Rich Controls-validation-A simple validation controls-Understanding Regular Expressions

Using visual studio .NET – the promise of Visual Studio .NET – starting a visual studio .NET project – the web form designer – writing code – visual studio .NET debugging – working without Visual Studio .NET

#### **UNIT IV**

State management – the problem of state – view state – transferring Information – custom cookies – session state – session state configuration – application state

Tracing and logging – logging exceptions – error pages – page tracing ADO.NET-Data Access-Accessing Data The Easy Way-Creating a Connection-Defining a Select command- Updating Data Accessing- Modifying-Updating Disconnected Data

#### **UNIT V**

Component based programming – why use components – creating a simple component – properties and state – database components – a simple database component- using COM components

#### **TEXT BOOK :**

The complete reference ASP .NET , Mathew Macdonald, TMH 2002

#### **REFERENCE BOOK :**

Microsoft ASP. NET Step by step , G. Andrew Duthie, PHI

V SEMESTER			
<b>C13</b>	<b>SOFTWARE ENGINEERING</b>		<b>15UCAC53</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 5</b>

#### UNIT I

**Introduction** : What is Software Engineering – Software Process – software Process model – software engineering methods. CASE Computer Based System Engineering System properties – system environment – system modeling – system engineering process – system requirements – system design – system evolution – system decommissioning – system procurement. Software processes: Software Process models: Process iteratin - Software Specification – design and implementation – Software validation – Software Evolution – automated process support.

#### UNIT II

**Project Management** : Project Management :Management activities – Project Planning – Project Scheduling - Risk management. Software requirement : Functional and non-functional requirements – user Requirements – system requirements – Software requirements document. System Models – Context models – Behavioural models – data models – Object models – CASE workbenches.

#### UNIT III

**Software Prototyping** : Prototyping in the software process – Rapid prototyping techniques – user interface prototyping .Architectural Design - System structuring – Control models – Modular decomposition – domain specified architecture.

#### UNIT IV

Object oriented design: Object and object classes – An object oriented design process – design evolution. Real time software - System design – real-time executives – monitoring and control systems – data acquisition systems. User Interface design: User Interface design – User interaction – information presentation – user support – interface evaluation. Verification and Validation: Verification and Validation planning – Software inspections.

#### UNIT V

Automated static analysis – clean – room software development . Software testing: Defect testing – Integration testing – Object oriented testing – Testing workbenches. Software cost estimation: Productivity – Estimation techniques – Algorithmic cost modeling – Project duration and staffing. Quality management: Quality assurance and standards – Quality planning – Quality control – Software measurement and metric.

#### TEXT BOOKS:

Software Engineering , IAN SOMMERVILLE , 6<sup>th</sup> Edition ,Pearson Education Asia .

Chapters 1 to 5,7,8,10,11,12,13,14,15,19,20,23,24.

**REFERENCE BOOK:** Software Engineering Theory and Practices, Shari Lawrence Pfleeger, 2<sup>nd</sup> Edition, Pearson Education Asia.

<b>V SEMESTER</b>			
<b>CE 1A</b>	<b>ORACLE</b>	<b>15UCAE5A</b>	
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 6</b>

### **UNIT I**

Introduction to oracle server - Data types –constraints-creating and maintaining tables –DDL –DML – arithmetic operators-logical operators-relational operators-other comparison operators.

### **UNIT II**

Working with tables: function and grouping-built-in functions-character functions – numeric functions – data functions – other functions – conversion functions – nested function – group function-grouping data-having clause- Multiple tables: joins-set operations.

### **UNIT III**

Index – sequence – view – users – privileges and roles – synonyms.

### **UNIT IV**

PL/SQL: PL / SQL – triggers – stored procedures and functions – packages – cursors – transactions - Distributed processing: distributed processing – replication.

### **UNIT V**

Introduction to Database Security - Authentication Methods- Authorization- Access Restrictions on Tables, Views, Synonyms, or Rows- Security policies-database auditing

### **TEXT BOOK:**

1. Jose. A. Ramalho – Learn Oracle, B.P.B Publications.(Unit 1 to 4)\
2. [http://docs.oracle.com/cd/B19306\\_01/server.102/b14220/security.htm](http://docs.oracle.com/cd/B19306_01/server.102/b14220/security.htm) (Unit 5)

### **REFERENCE BOOK :**

1. Database system using oracle – Nileshshah

<b>V SEMESTER</b>			
<b>CE 1B</b>	<b>VB .NET</b>	<b>15UCAE5B</b>	
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 6</b>

### **UNIT I**

Essential Visual Basic .NET Operators-Conditional statements-loops-Procedure-Scope-Exception Handling.

### **UNIT II**

**VB.NET controls** - Text Box, Buttons, Labels, Check Boxes, Radio Buttons, List Boxes, Combo Boxes, Picture Boxes.

Scrollbars, Timer, Menus, Built-in Dialogs, Image List, Toolbars, Status Bar and Progress bars, Exception – type of errors, Structured and Unstructured exception.

### **UNIT III**

**Object Oriented Programming in VB.NET** - Class and Objects, Properties, Methods and Events, Constructor and Destructor, Method overloading, Inheritance, Access modifiers: Public, Private, Protected, Friend, Overriding and shadowing, Interfaces, Polymorphism.

### **UNIT IV**

**ASP.NET using VB.NET** - Introduction to web form, Page directive, all validation controls, Page redirection Concept of web services, Create a small web services.

### **UNIT V**

**ADO.NET** - Database : Connections, Data adapters, Datasets, Data Reader, Multiple Table Connection, Data binding with controls like Text Boxes, List Boxes, Data grid etc. Navigating data source, Data Grid View.

### **TEXT BOOK:**

Visual Basic .NET Programming Black Book - Steven Holzner.

### **Reference Books:**

Developing Windows-Based Applications With Microsoft Visual Basic .Net and Visual C# .Net By Mattjew Stoecker

VI SEMESTER			
<b>C14</b>	<b>DATA MINING</b>		<b>15UCAC61</b>
<b>Hrs / Week : 6</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 5</b>

### Unit I

**Introduction:** Data mining application – data mining techniques – data mining case studies – the future of data mining – data mining software - Association rules mining: Introduction basics – task and a naïve algorithm – apriori algorithm – improve the efficiency of the apriori algorithm – mining frequent pattern without candidate generation (FP-growth) – performance evaluation of algorithms.

### UNIT-II

**Classification :** Introduction – decision tree – over fitting and pruning - DT rules -- naïve bayes method - estimation predictive accuracy of classification methods - other evaluation criteria for classification method - classification software

### UNIT-III

**Cluster analysis:** cluster analysis – types of data – computing distances – types of cluster analysis methods – partitioned methods – hierarchical methods – density based methods – dealing with large databases – quality and validity of cluster analysis methods - cluster analysis software.

### UNIT -IV

**Web data mining:** Introduction - web terminology and characteristics – locality and hierarchy in the web – web content mining – web usage mining – web structure mining – web mining software - Search engines: Search engines functionality – search engines architecture – ranking of web pages

### UNIT-V

**Data Warehousing:** Introduction – Operational data sources – data warehousing - Data warehousing design – Guidelines for data warehousing implementation - Data warehousing metadata - Online analytical processing (OLAP): Introduction – OLAP characteristics of OLAP system – Multidimensional view and data cube - Data cube implementation - Data cube operations OLAP implementation guidelines

### TEXT BOOK:

Introduction to Data mining with case studies, G.K. Gupta, PHI Private limited, New Delhi, 2008. 2nd Edition, PHI, 2011

### REFERENCE:

Data Mining Techniques, Arun K Pujari, University Press.

<b>VI Semester</b>			
<b>C 15</b>	<b>COMPUTER GRAPHICS AND MULTIMEDIA</b>		<b>15UCAC62</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 5</b>

### **UNIT I**

**Introduction to graphics** : Application of computer graphics – Raster and vector Graphics – Display devices – Graphical Input devices .

### **UNIT II**

**Graphics Programming** : Graphics in c++ – Coordinate system – Plotting pixels – Line drawing – Circle drawing – Other shapes – Setting drawing colors – Setting background colors – Line styles – Fill styles – Displaying texts – Animations.

### **UNIT III**

**Raster Graphics Algorithms** : Line drawing – Polynomial – DDA – Bresenham's algorithm – Circle drawing – polynomial – trigonometric – Bresenham's algorithm – Midpoint algorithm.

### **UNIT IV**

Geometrical transformations – 2D and 3D graphics – matrix representation – Homogeneous coordinates – window to view port transformations – Line clipping – Polygon clipping.

### **UNIT V**

**Multimedia** : Overview – Multimedia operating systems – system requirements and configurations for multimedia – compression technology for multimedia – Multimedia tools – Developing and delivering a multimedia project – Applications of multimedia.

### **TEXT BOOKS :**

1. Computer Graphics and Multimedia – Donald Hearn & paurlin Baker – computer Graphics, Prentice Hall of India pvt Ltd.
2. Interactive computer Graphics –Neumann and Sproull McGrew Hill publications.
3. Multimedia by Tay Vaughan



<b>VI SEMESTER</b>		
<b>C16</b>	<b>PROJECT</b>	<b>15UCAP61</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 6 x 15= 90</b>	<b>Credits : 5</b>

**OBJECTIVES :**

At the end of the semester the students should be able to:

1. Identify the potential areas of research in his/her field;
2. Collect data from various sources including the internet, analyse them, make new connections and link them to life;
3. Read and write originally and usefully.

**GUIDELINES :**

1. The project may be done individually or in groups **not exceeding five per group.**
2. The minimum length of the project should be 30 pages in A4 size.
3. The project may not be experimental oriented .
4. Project should be cheap within the expense of students limit.
5. It can be of survey method.
6. Marks for the project report will be 100 divided as **60% for the presentation of project and 40% for viva-voce.**

**7. Evaluation scheme:**

8. The project will be evaluated by both Internal and External Examiners. Each Examiner will evaluate for 100 marks. The allocation of marks for project is as follows:

<b>Project</b>	<b>Internal</b>	<b>External</b>
Word of title	5	5
Objectives / Formulation including Hypothesis	5	5
Review of literature	10	10
Relevance of project to social needs	5	5
Methodology / Technique / Procedure adopted	20	20
Summary / Findings / Summation	5	5
Works cited / Annexure / Footnotes	10	10
<b>Total</b>	<b>60</b>	<b>60</b>

<b>V &amp; VI SEMESTERS</b>		
<b>CP III</b>	<b>CORE PRACTICAL - III ( Exam end of VI Sem )15UCAC6P1</b>	
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credits : 3</b>

### **GRAPHICS AND MULTIMEDIA PRACTICAL**

1. Program to draw line using Bresenham"s Algorithm
2. Program to draw circle using Bresenham"s Algorithm
3. Program to draw an object and fill it using various styles
4. Program using any filling algorithm
5. Program to use transformations
6. Program to draw a natural scenery
7. Program to animate an object
8. Program to draw text in various styles
9. Program to scroll a text
10. Program to clip a line.

<b>V &amp; VI SEMESTERS</b>		
<b>CP IV</b>	<b>CORE PRACTICAL - IV ( Exam end of VI Sem )</b>	<b>15UCAC6P2</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credits : 3</b>

### **ASP.NET PRACTICAL**

1. Create a web form with dropdown list box. In dropdown list box enter few colors. When user change the selection in the dropdown list box change the color of the page.
2. Create one web form with code behind model.
3. Create a web form. Add a button. Put caption of the button Add Control. Add a textbox when user clicks on the button.
4. Create a web form to handle list box"s selection change event.
5. Create a page that takes name and message from the user and choose a color by radio button, select a style for ex.-bold, italic, underline from the checkbox and display in label control, when you clicked on display button. And clear he information when you clicked on clear button
6. Create a web form and demonstrate the use of hyperlink control.
7. Create a page that takes number of rows and columns from the user and make a table.
8. Demonstrate use of login controls with web forms for login, create user, password recovery.
9. Create a page using HTML Server controls that convert given currency into another selected currency.
10. Create a page which generates a greeting card.

<b>VI SEMESTER</b>			
<b>CE 2A</b>	<b>C# PROGRAMMING</b>		<b>15UCAE6A</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 6</b>

### **UNIT I**

Introduction to .NET Framework – Comparing C# to C++ - Comparing C# to Java – How to write a Program in C#

### **UNIT II**

Variable Types: Value Types – Reference Types –Escape sequences and verbatim Strings – Boxing Pointers: Pointer Notation – unsafe code – Pointers, Methods and Arrays .Arrays : Single Dimension Arrays- Rectangular Arrays – Jagged Arrays

### **UNIT III**

Enumerations – Operators – Overloading Operators – Loop Statements : while, do while, for, fore ach statements – Jump Statements – Selection Statements

### **UNIT IV**

Classes and Types – Inheritance – abstract Classes and Interface – Nested Classes – Structs – Namespaces – Class Atributes – Class Modifiers – Method Attributes and Modifiers – Formal parameters – Passing parameters – Meathod Overloading –Polymorphism : Method overloading, Method overriding – Constants , fields, Indexes and properties

### **UNIT V**

Delgate Declaration and Instantiation- Events – Exceptions – Preprocessor Directivies – C# Documentation Comments – Generationg c# Documentation

### **TEXT BOOK :**

Programming in c# - Balagurusamy E 2007 Mcgraw Hill Education ltd.

<b>VI SEMESTER</b>			
<b>CE 2B</b>	<b>PHP</b>		<b>15UCAE6B</b>
<b>Hrs / Week : 5</b>	<b>Hrs / Sem : 75</b>	<b>Hrs / Unit : 15</b>	<b>Credits : 6</b>

### **UNIT - I**

Introduction: PHP History – Unique Feature – Writing and running the script – Mixing PHP with HTML – Variables and operators: Assigning values to variable – Destroying and inspecting variable content – PHP Data Types - Manipulating variable with operators.

### **UNIT - II**

Controlling program flow: writing simple conditional statements – if – if else – if else if -Switch case Repeating action with loops: while – do while – for loops – String functions – Numeric function.

### **UNIT - III**

Working with Array: Storing data in Array – Assigning Array values – Nesting Arrays – for each loop – Array functions –Generating Date and Time – Format Date and Time – Date and Time functions.

### **UNIT - IV**

Functions: Creating and invoking function – using arguments and return values - Cookies: Basics – Attributes – Headers – setting , reading and removing cookies – Session: Basics – Creating and removing sessions – Handling scripting Errors.

### **UNIT - V**

Working with database and SQL: Database, records, primary and foreign key - SQL statements – Creating database – Adding Tables – Adding Records – Executing Queries – modifying and removing records – Retrieving Data – Returning data as array and object.

### **TEXT BOOK:**

PHP A Beginner's Guide – Vikram Vaswani – Tata Mc Graw Hill.

<b>V &amp; VI SEMESTERS</b>		
<b>CEP A</b>	<b>CORE ELECTIVE PRACTICAL</b>	<b>15UCAE6PA</b>
<b>( Exam end of VI Sem )</b>		
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credits : 3</b>

**CORE ELECTIVE : 1A - ORACLE PRACTICAL**

1. Creating, modifying and dropping tables.
2. Creating tables with referential and check constraints.
3. Inserting, modifying, deleting rows.
4. Dropping, disabling / enabling constraints.
5. Retrieving rows with operators in where clause.
6. Retrieving rows with Character functions.
7. Retrieving rows with Number and Data functions.
8. Retrieving row with Group functions and HAVING.
9. Joining Tables (Inner and Outer)
10. Simple PL/SQL Programs.
11. PL/SQL programs with control structures.
12. PL/SQL programs with Cursors.
13. PL/SQL programs with Exception Handling.
14. Working with Triggers

**CORE ELECTIVE : 2A - C # PROGRAMMING PRACTICAL**

1. Find Maximum of an Array.
2. Find Factorial of a number using recursion.
3. Write a program to generate Fibonacci series for a given number.
4. Create a class with your own attributes and with suitable constructor and method to display the details of a Television Set.
5. Write a C# Program to evaluate the following function values

$$\begin{aligned}
 f(x) &= x^2 + \sin 2x && \text{if } x < 3 \\
 &= 10.3 && \text{if } x = 3 \\
 &= x^3 \cos 3x && \text{if } x > 3
 \end{aligned}$$

6. Write a program to check whether a given integer is a prime number.
7. Write a program to calculate the value of Sin(x), Cos(x) and e<sup>x</sup>
8. Write a program to add, subtract and multiply two matrices.
9. Define a class with certain attributes. Write a C# program to throw user defined Exception.
10. Write a program to copy contents of a file to two different destinations using command line input.

V & VI SEMESTERS				
CEP B	CORE ELECTIVE	PRACTICAL	( Exam end of VI Sem )	15UCAE6PB
Hrs / Week : 3		Hrs / Sem : 45		Credits : 3

### **CORE ELECTIVE : 1B - VB.NET PROGRAMMING**

1. Create User Defined Procedure with Own data.
2. Write VB.Net code to show a different types of Msg Box.
3. Write a VB.Net code to show different Pictures when clicking different Buttons.
4. Writa a code for Creating Pull down and Pop- Up menu.
5. Write a code for Validate values using Validation control.
6. Design HTML form using HTML control and write a code for displaying the Employee"s Information.
7. Write a VB.Net code for Adding, Deleting and Modifying records.
8. Write a VB.Net code for displaying 4,5,6 Multiplication tables.

### **CORE ELECTIVE : 2B - PHP PRACTICAL**

1. Write a PHP code using if else statement.
2. Write a PHP code using while loop.
3. Write a PHP code to print the multiplication table.
4. Write a PHP code using string and numeric functions.
5. Write a PHP code using array functions.
6. Design a HTML form using HTML Control and write a PHP code for displaying the employee"s information.
7. Write a PHP code for Adding, Deleting, and Modifying records.
8. Write a PHP code using function.

<b>I SEMESTER</b>			
<b>AI 1</b>	<b>OFFICE AUTOMATION</b>		<b>15UITA11</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 4</b>

## **UNIT I**

**Introduction of Office 2000** : Exploring common features in Office. Working with files. Editing in Office 2000, Selecting, moving and Copying – Fonts and font styles. Mastering the basics of Word Creating Word documents – Editing document Texts – applying Text enhancements. Aligning and Formatting, adding Lists, Numbers, Symbols, Date and time, Replacing and checking text, getting into print.

## **UNIT II**

**Word** : Applying advanced formatting techniques : Formatting pages. Working with Columns, Constructing high quality tables, Creating outlines in Word. Working with complex Documents .

## **UNIT III**

Managing data with Word, creating customized Merge Documents, Publishing online forms, adding reference to documents, working together on documents.

## **UNIT IV**

**Excel** : Creating Excel Worksheet : Entering and editing Cell entries, Working with numbers, changing worksheet layout, other formatting options, Printing in Excel, using functions and references, naming ranges, creating easy to understand charts, using custom and special effects, using financial and statistical functions. Tracking and analyzing data with Excel, auditing Worksheet.

## **UNIT V**

**Power Point** : Creating Power Point presentation : Creating a Basic Presentation, building presentations, modifying visual elements, formatting and checking text, adding objects, applying transitions, animations effects and linking, preparing handouts, taking the show on the road.

### **TEXT BOOK :**

Gini Courter & Anette Marquis – MICROSOFT OFFICE 2000 No Experience required, BPB Publications.

### **REFERENCE BOOK :**

Stephen L. Nelson – Office 2000 The Complete Reference, Tata McGraw Hill publishing Company Limited.



<b>II SEMESTER</b>			
<b>AI 2</b>	<b>MULTIMEDIA TOOLS</b>		<b>15UITA21</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 4</b>

### **UNIT I**

How flash works – Uses of flash – What Flash can do – Animation – Interacting – Basic functions – Timeline – Stage – Toolbars – Menu bar – The inspectors – Viewing options – preferences.

### **UNIT II**

Creating objects – Drawing toolbar – Various tools like line tool, oval tool etc – Editing objects – Grouping objects – Moving – Resizing Rotating – Skewing – Reshaping – Copy – Paste – Aligning colour and text – colour palette – Adding colours – Adding text – Formatting and Manipulating text.

### **UNIT III**

Symbols and instances – Creating and Editing symbols – Bitmaps and sounds – Frames land layers – Animation – Elements of Animation – Scenes – Frame by Frame Animation.

### **UNIT IV**

Motion Tweening – Motion guides – Motion guide Orientation – Shape tweening – Animating text – Movie clips - Interacting – Types – Frame Actions – Adding stop and play actions.

### **UNIT V**

Adding go to actions Button symbols – Adding actions to buttons – Adding movie clips and sounds.

### **TEXT BOOK :**

1. Macromedia Flash MX: Training from the source by Chrissy Rey.
2. Flash 8 – Shalini Gupta and Adity Gupta.

<b>I &amp; II SEMESTERS</b>		
<b>AI P</b>	<b>ALLIED PRACTICAL - I ( Exam end of II Sem )</b>	<b>15UITA2P</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credit : 2</b>

### **OFFICE AUTOMATION PRACTICAL**

#### **MS WORD 2000**

1. Typing letters and editing and printing.
2. Using Spell Check and Thesaurus.
3. Designing a cover page with word art.
4. Using Header, Footer Bookmark, Foot notes.
5. Mail merge a letter to an address file.
6. Typing 5 pages of Mathematical equations and symbols.

#### **POWER POINT 2000**

1. Creation of presentation with different styles on a given topic of current interest.
2. Preparing Presentation for a topic in the study of all course.

#### **EXCEL 2000**

1. Entering spread sheets with formula.
2. Entering spreadsheet and doing statistical calculations.
3. Printing of Graphs and charts for the given data.
4. Creating and using macros.

**(AND)**

#### **MULTIMEDIA TOOLS PRACTICAL**

1. Make an object move across the screen.
2. Draw a path an object should follow.
3. Change the color of an object.
4. Using Shape Tweening you can change one object into another.
5. Create your own button and add a URL to it so it becomes a link.
6. Create a draggable movie clip in Flash.
7. Animate an object.
8. Adding sound in a video file.

<b>III Semester</b>			
<b>AII 1</b>	<b>WEB DESIGNING</b>	<b>15UITA31</b>	
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 4</b>

### **UNIT I**

Introduction to HTML – History Of HTML –HTML Documents - HTML Editors – HTML Basics – HTML Elements and Attributes – Anchor Tag – Hyper Links. Head and Body Sections – Header Section – Title, prologue, Links, Colorful Web Page, Comment Lines.

### **UNIT II**

Designing Body Sections – Heading printing, Aligning the Headings, Horizontal rule, Paragraph, Tab Settings.

### **UNIT III**

Lists, Unordered Lists, Ordered Lists, Table Handling, Layouts, Frames: Frameset Definition – Frame Definition – Nested Framesets.

### **UNIT IV**

Forms – Action Attribute – Drop Down List – Check Boxes – Radio Buttons – Text Field – Text Area – Password – Hidden – Submit and Reset Buttons.

### **UNIT V**

CSS Introduction – CSS Selectors - Text & fonts – CSS Box Model – CSS Border – Margin & Padding – Pseudo Classes - Javascript Overview – Syntax – Javascript Events – Javascript Functions – Cookies.

### **TEXT BOOK :**

Web Designing and CSS : The Complete Reference, Fifth Edition by Thomas Powell.

### **REFERENCE BOOK:**

World Wide Web design: C. Xavier

<b>IV SEMESTER</b>			
<b>AII 2</b>	<b>UNIX &amp; SHELL PROGRAMMING</b>		<b>15UITA41</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 4</b>

### **UNIT I**

History of Unix – Architecture of Unix – File system – Simple commands – Creating files – Redirecting input – Indirection with input output and pipelines – Appending output to your files.

### **UNIT II**

Personalized Unix – Changing Password – Login Profiles – Own login profile – Permissions – Changing owner, groups and permission – Multitasking – UNIX images & processes – background process – Killing process – Process status command – Multi line commands – Sleep – Scheduling Process.

### **UNIT III**

Vi editor – Creating Text – Editing text – EX command mode – Shell within Vi – Printing and spooling – Simple formatting with pr.

### **UNIT IV**

Sort – Head – Tail – Split – Cut – Paste – Find – tr – dd – grep family – fgrep – egrep – Sed – awk.

### **UNIT V**

Shell Programming – Shell Scripting Steps Simple Shell Program – Shell and sub shell variables – Setting and unsetting variables – Positional parameters – meta characters – Loops – test – read – error handling – system administration.

### **TEXT BOOK :**

1 UNIX Complete by Peter Dyson, Stan Kelly – Bootle and John Heilbern.

<b>III &amp; IV SEMESTERS</b>		
<b>A II P</b>	<b>ALLIED PRACTICAL - II ( Exam end of IV Sem )</b>	<b>15UITA4P</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Credit : 4</b>

### **WEB PROGRAMMING PRACTICAL**

1. Write a HTML code to display information about your college. Use  
1) Bold Tag 2) Centre Tag 3) Heading tags and font tags, Add background color and picture.
2. Design a web page with attractive background color and text color the academic and personal facets of an international leader. Give suitable headings and horizontal rules.
3. Write a HTML program using all formatting elements
4. Write a HTML program to prepare a bio-data in a form.
5. Write an HTML program to print a nested list.
6. Create a table to display your I semester marks obtained in the exam.
7. Write an HTML program to display your current semester time table.
8. Write an HTML code to display a list of cars in a frame Line, each one to a brief description in second frame. Both the frames should be side by side.
9. Write an HTML program to display any three Flower details in separate frames. Each frame should be side by side.
10. Write a HTML program to develop a web page using css.

**(AND)**

### **SHELL PROGRAMMING PRACTICAL**

1. Program for finding factorial.
2. Program for generating Multiplication Table.
3. Finding Simple Interest.
4. Leap year checking.
5. Counting No, words, lines, characters.
6. Fibonacci Series.
7. Over time pay calculation.
8. Checking file access permission.
  - a. File Comparison.
  - b. Listing contents of directory
  - c. Checking Validity of user.
  - d. Implementing copy, move commends.
  - e. Counting number of lines before and after updating the file.
  - f. Removing directory.
  - g. Granting and revoking permissions for user, and others.
9. Sorting using GREP.
10. Students mark List.

**PART IV- SKILL BASED ELECTIVE**

**III SEMESTER**

<b>SBE 1</b>	<b>DESK TOP PUBLISHING</b>	<b>15UCAS31</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>
		<b>Credits : 2</b>

**UNIT I - Introduction**

Introduction to PageMaker - Layout window – Document setup –Basic page Maker function: Open, new, close, print, save and save as – Working with text : text tool, Text block – Editing Text – Formatting a Text: Character formatting, paragraph formatting and style creation & color creation

**UNIT II - Working With Graphics**

Graphics Tool, Masking, Rotation, Flipping, Cropping, positioning and scaling, Fill option. Arrange the object, Grouping, locking, Frame concept polygon setting and Text wrap properties Master Pages: Header and Footer and Template files - Story Editor: Find & Replace. Spell checker – Book Creation – TOC creation – Index creation both page reference and cross reference – Table Editor: Create Tables using Adobe Table, Import tables into PageMaker.

**UNIT III - Corel Draw 8.0**

Introduction to CorelDraw – features and advantages – Layout window – Basic CorelDraw functions: open, new, close, print, save and save as. Basic Tools: Rectangle, Ellipse, Text, Freehand drawing, Outline, fill and shape – Creating and manipulating text: Artistic text and paragraph text – Text based Roll –ups: Enveloping. Extruding, Text and Fit text to path.

**UNIT IV - Object manipulation**

Fill, outline, Group, ungroup weld, combine, breaking apart, Separate, Intersection. Trim, Align and ordering – Effects: transforming object, Shaping object –Graphic based roll – ups: Pen, Blend, Contour, symble, Preset, Layer and Power clip option –Template creation Creating New: Arrow,pattern, symbol and style.

**UNIT V - Photoshop 5.5**

Introduction to photo Shop - Layout -basic functions: New, Open, close, save, save as and setup –painting tools: Air brush, paint brush, line pen, eraser, eye dropper, and gradient and paint bucket tools. Text Tools – Zoom tool, Hand tool, selection tools: Move and sponge tools- vignettes and edge effects.

**TEXT BOOKS :**

1. Mastering Page Maker6 for windows 95 – by Rebecca Bridges Altman & Rick Altman Chapters: 1 - 7,8(Text Blocks)10 - 11, 13 - 15.
2. Corel Draw 8: The Official Guide by foster Coburn & Peter McCormick 3 - 8,11,13,15 -16, 18 - 22, 33, 37.
3. Photoshop 4 Studio skills by steven Moniz Chapters 1 - 6,10,12,13.

IV Semester			
<b>SBE 2</b>	<b>RDBMS</b>		<b>15UCAS41</b>
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 2</b>

### UNIT I

Introduction : Purpose of Data base Systems – view of data – data models – data base models – data base languages – transaction management – storage management – data base administrator – data base users.

Entity – relationship model; Basic concepts – design issues – mapping cardinalities – keys – ER Diagrams – Weak entity sets.

### UNIT II - Relational Model

Structure of relational databases – relational Algebra – the tuple relational calculus – the domain relational calculus – extended relational Algebra operations –Modification of the database – views .

### UNIT III - Storage and File Structure

Overview of physical storage media – magnetic disks – RAID – storage access – file organization – organization of records in files – data directory storage – storage structures for object – oriented data base .

Indexing and Hashing : Basic concepts – oriented indices – static hashing – dynamic hashing – comparison of ordered indexing and hashing .

### UNIT IV - Relational data base Design

Pitfalls in Relational data base design – decomposition – normalization using functional dependencies – normalization using multi – valued dependencies .

### UNIT V - SQL within PL/SQL

SQL structures – DML in PL/SQL – GRANT, REVOKE, and privileges – Transaction control.

### TEXT BOOKS:

1. Database system concepts –Abraham Silberschatz hentry F.Korth, L.Su.Dershan. IIIEdition, McGraw Hill companies, INC New York - Chapters: 1, 2, 3,5,6,7.

### REFERENCE BOOKS:

1. Database Management systems – Alexis Leon.  
2. Commercial Application Development using Oracle Developer 2000 Invan Bayross.

**PART IV - NON MAJOR ELECTIVE**

**III SEMESTER**

<b>NME 1</b>	<b>INTERNET &amp; HTML</b>	<b>15UCAN31</b>	
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 2</b>

**UNIT I**

Introduction to internet-computers in business networks-internet-electronic mail-resource sharing-gopher-www-usenet-telnet-bulletin services-wide area information service.

Internet explorer-Netscape navigator

**UNIT II**

Designing a home page-history of html-html generations-html document-anchor tag-hyper links-sample html documents-header and body section-designing the body-tab setting-image and picture-embedding PNG format images.

**UNIT III**

List unordered list-ordered list-nested list-table creation-Cell spacing and spanning-coloring cells - rows and columns specification.

**UNIT IV**

Frameset-definition-frame definition-nested frame sets.

**UNIT V**

Forms action attributes-method attributes-encype attributes-dropdown list.

**TEXT BOOK:**

1. World wide web design with html-c.Xavier



<b>IV SEMESTER</b>			
<b>NME 2</b>	<b>DESK TOP PUBLISHING</b>	<b>15UCAN41/ 15UCSN41</b>	
<b>Hrs / Week : 3</b>	<b>Hrs / Sem : 45</b>	<b>Hrs / Unit : 9</b>	<b>Credits : 2</b>

**\* Common to Department of Computer Science and Department of  
Computer Application**

**Objectives:**

To provide the basic methodologies and techniques in Desktop Publishing.

**UNIT I**

Hardware Requirements for DTP – Beginning a Design – Design Considerations – Text Organization – Designing Common Media Publications.

**UNIT II**

PageMaker : Getting Started with PageMaker – Editing Text. PageMaker : Formatting Text – Master Pages – Creating Master Pages – Applying, Removing and Editing a Master Page.

**UNIT III**

Creating a New Publication – Working with columns. Working with Graphics and Objects – Managing and Printing a Publication.

**UNIT IV**

Photoshop: Getting Started with Photoshop: Opening and Existing File – Creating a New File – Saving, Reverting and Closing Files – Working with Images and Colors – Selection Tools – Painting Tolls – Drawing Tolls – Editing Tools – Eraser Tools.

**UNIT V**

Understanding Layers : Working with Layers – Applying Layer Styles – Fill and Adjustment Layers – Exploring Layer components – What are Masks? Using Layer Masks – Merging and Flattening Layers.

**TEXT BOOKS:**

Vikas Gupa, Desktop Publishing Course Kit, Dreamtech Press, 2005.

**REFERENCE BOOKS**

1. Mastering Page Maker6 for windows 95 –by Rebecca Bridges Altman & Rick Altman
2. Photoshop 4 Studio skills by Steven Moniz.

<b>PART IV - NON-MAJOR ELECTIVE (UNAIDED COURSES) (2015 - 2018)</b>							
<b>SEM</b>	<b>TITLE OF THE PAPER</b>	<b>S.CODE</b>	<b>H/W</b>	<b>C</b>	<b>MARKS</b>		
					<b>I</b>	<b>E</b>	<b>T</b>
<b>DEPT. OF ENGLISH</b>							
<b>III</b>	<i>Computer Assisted Language Learning: Reading &amp; Writing</i>	15UENN31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Computer Assisted Language Learning: Listening &amp; Speaking</i>	15UENN41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF ISLAMIC STUDIES</b>							
<b>III</b>	<i>Arabic for Beginners</i>	15UISN31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Fundamentals of Arabic Grammar</i>	15UISN41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF COMMERCE</b>							
<b>III</b>	<i>Principles of Commerce</i>	15UCON31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Basics in Accounting*</i>	15UCON41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF COMMERCE (CA)</b>							
<b>III</b>	<i>Development of Small Business</i>	15UCCN31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Basics in Accounting*</i>	15UCCN41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF COMMERCE (FINANCE)</b>							
<b>III</b>	<i>Investment Management</i>	15UCFN31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Advertising</i>	15UCFN41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF BUSINESS ADMINISTRATION</b>							
<b>III</b>	<i>Basic in Management</i>	15UBAN31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Retail Management</i>	15UBAN41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF COMPUTER SCIENCE</b>							
<b>III</b>	<i>Office Automation</i>	15UCSN31	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Desktop Publishing</i>	15UCSN41	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>

<b>DEPT. OF COMPUTER APPLICATION</b>							
<b>III</b>	<i>Internet &amp; HTML</i>	<i>15UCAN31</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Desktop Publishing</i>	<i>15UCAN41</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF INFORMATION TECHNOLOGY</b>							
<b>III</b>	<i>Introduction to Computers</i>	<i>15UITN31</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>MS Office</i>	<i>15UITN41</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF MATHEMATICS</b>							
<b>III</b>	<i>Mathematics for Competitive Examinations - I</i>	<i>15UMAN31</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Mathematics for Competitive Examinations - II</i>	<i>15UMAN41</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF MICROBIOLOGY</b>							
<b>III</b>	<i>General Microbiology</i>	<i>15UMBN31</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Biotechnology</i>	<i>15UMBN41</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>DEPT. OF NUTRITION AND DIETETICS</b>							
<b>III</b>	<i>Introduction to Bakery</i>	<i>15UNDN31</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>IV</b>	<i>Biotechnology</i>	<i>15UMDN41</i>	<b>3</b>	<b>2</b>	<b>25</b>	<b>75</b>	<b>100</b>

\* Common to Department of Commerce and Department of Commerce (CA)

\*\* Common to Department of Computer Science and Department of Computer Application.

<b>I SEMESTER</b>			
<b>EVS</b>	<b>ENVIRONMENTAL STUDIES</b>		<b>15UEVS11</b>
<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Hrs/ UNIT: 6</b>	<b>Credits: 1</b>

### **UNIT - I: Nature of Environmental Studies**

Goals, Objectives and guiding principles of environmental studies. Towards sustainable development - Environmental segments- Atmosphere, Hydrosphere, Lithosphere, Biosphere – definition. Pollution episodes -- Hiroshima – Nagasaki, - Bhopal gas Tragedy, Fukushima – Stone leprosy in Taj Mahal

### **UNIT - II: Natural Resources**

Renewable and Non Renewable resources - classification.

- Forest resources: Use and over - exploitation, Aforrestation and deforestation.
- Water resources: Use and over - utilization and conservation of surface and ground water - Rain harvesting.
- Marine Resources: Fisheries and Coral reefs.
- Mineral resources: Use and exploitation - environmental impacts of extracting and using mineral resources.
- Food resources: Effects of modern agriculture fertilizers - pesticide problem.
- Energy resources: Growing energy needs - use of alternate energy source - Solar cells & wind mills.
- Land resources: Land degradation

### **UNIT - III: Ecosystem**

- Concept of Eco-systems - Tropic level, food chains, food web and Ecological pyramids. Types, structure & Functions of the following:
  - a) Aquatic ecosystem
  - b) Grassland ecosystem
  - c) Forest ecosystem
  - d) Desert ecosystem
  - e) Living conditions on other planets (Briefly)

## **UNIT - IV: Biodiversity & Its Conservation**

Introduction - Definition: eco system diversity, species and Genetic Hot spots of biodiversity - Western Ghats, Eastern Himalayas and Gulf of Mannar. Threats to biodiversity - Habitual Loss, Poaching of wild life and Man - wild life conflicts.

Conservation of biodiversity: In situ and ex-situ.

## **UNIT - V: Environmental Pollution**

Sources, effects, prevention and control measures of the following.

- a) Air pollution: Composition of clean air, Global warming, Ozone layer depletion.
- b) Water Pollution: Fresh and Marine water pollution
- c) Noise Pollution
- d) Soil pollution
- e) Bio degradable and Non Bio degradable wastes
  - Air (prevention & Control of Pollution) Act.
  - Environmental Protection Act
  - Water (Prevention & Control of pollution) Act
  - Environmental movements - Green peace and Chipco,
  - Role of State & Central pollution Control Boards.

### **REFERENCE BOOKS:**

1. Basic of Environmental Science. Vijayalakhmi, Murugesan and Sukumaran - Manonmaniam Sundaranar University publications.
2. Environmental Studies. John de Brito, Victor, Narayanan and Patric Raja - published by St. Xavier's College, Palayamkottai.
3. Environmental Science and Biotechnology. A.G. Murugesan and C. Raja Kumar - MJP Publishers.
4. Fundamental of Environmental pollution - Krishnan Kannan - Chand & Company Ltd., New Delhi 1997.
5. Environmental Studies. S. Muthiah, Ramalakshmi publications, Tirunelveli.
6. Environmental Studies. V.M. Selvaraj, Bavani Publications, Tirunelveli.

<b>II SEMESTER</b>			
<b>VE1</b>	<b>VALUE EDUCATION – I</b>		<b>15USVE2A</b>
<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Hrs/ Unit: 6</b>	<b>Credits: 1</b>

**Objectives:**

1. To inculcate moral values in the minds of students.
2. To teach ethical practices to be adopted by students in their life.
3. To make students honest and upright in their life.

**UNIT I**

Islam – Meaning – Importance – A complete Religion – The religion accepted by God – Five Pillars of Islam – Kalima – Prayers – Fasting – Zakat – Haj.

Iman – Monotheism – Angels – Books – Prophets – Dooms Day – Life after death – Heaven and Hell.

**UNIT II**

Quran – The Book of Allah – Wahi – Revelation to Prophet Muhammad(sal) – Compilation – Preservance – Structure – Content – Purpose – Source of Islamic Law – Sura Fathiha , Kafirun, Iqlas, Falakh and Nas.

**UNIT III**

Hadith – Siha Sitha – Buhari – Muslim – Tirmithi – Abu Dawood – Nasai – Ibn Maja – Collection of Hadith – Meaning of 40 Hadith.

**UNIT IV**

Life History of Prophet Muhammad (sal) – Aiamul Jahiliya – Prophet’s Childhood and Marriage – Prophethood – Life at Mecca – Life at Medinah – Farewell Address – Seal of Prophethood.

**UNIT V**

Good character – Etiquettes – Halal and Haram – Duties towards Allah – Duties towards fellow beings – Masnoon Duas.

**REFERENCE BOOKS:**

1. V.A. Moahmed Ashrof – Islamic Dimensions – Reflection and Review on Quranic Themes.
2. The Presidency of Islamic Researchers – Revised & Edited – The Holy Quran.
3. M. Manzoor Nomani – Islamic Faith & Practice.
4. Abdul Hasan Ali Nadvi – Muhammad Rasulullah.
5. K. Ali – A Study of Islamic History.
6. Abdul Rahuman Abdullah – Islamic Dress code for Women.
7. Dr. Munir Ahamed Mughal – Code For Believers.
8. Abdul Malik Mujahid – Gems and Jewels.

<b>II SEMESTER</b>			
<b>VE2</b>	<b>VALUE EDUCATION – II</b>		<b>15USVE2B</b>
<b>Hrs/ Week: 2</b>	<b>Hrs/ Sem: 30</b>	<b>Hrs/ Unit: 6</b>	<b>Credits: 1</b>

### **UNIT I**

Individual Morality – Objective of Moral life – Living in accordance with the code of Morality – the goodness of Morality – Morality and *Thirukural*- The need for faith.

### **UNIT II**

Adherence to higher code of Morality – Fear of God – Good Moral Values – Duty to Parents – Teacher, respecting elders – Moral Etiquettes – Right-minded Principle – High Principles for Proper conduct.

### **UNIT III**

Inculcating good attitudes – Open mindedness – Morale – analysing the pros and cons of good and bad – Service to others – Mind Power, tolerance, respecting others, showing love to others, patience – tranquility – Modesty, kindness and forgiveness.

### **UNIT IV**

Quotations and moral Stories expressing Good characters of Great personalities – Life History of Great people: Mahatma Gandhi, Abraham Lincoln, Dr. A.P.J. Abdul Kalam.

### **UNIT V**

Truth, the importance of uprightness, integrity, friendship – Health awareness on Alcohol and drug abuse – inculcating reading habit – reading good books – Hygiene – Dowry – Corruption.

### **TEXTBOOK:**

Publication of Sadakathullah Appa College.

**SCHEME OF EXAMINATIONS UNDER CBCS (2015 - 2018)**

The medium of instruction in all UG and PG courses is English and students shall write the CIA Tests and Semester Examinations in English. However, if the examinations were written in Tamil, the answer papers will be valued.

**DISTRIBUTION OF MARKS FOR CIA AND SEMESTER EXAMINATIONS  
UNDERGRADUATE, CERTIFICATE & DIPLOMA COURSES**

SUBJECT	TOTAL MARKS	CIA TEST	SEMESTER EXAMINATION	PASSING MINIMUM		
				CIA TEST	SEM. EXAM.	OVER ALL
<b>Theory</b>	100	25	75	Nil	30	40
<b>Practical</b>	100	40	60	Nil	24	40
<b>Project</b>	100	Nil	Report - 60 marks Viva Voce - 40 marks	Nil	40	40

**POSTGRADUATE COURSES**

SUBJECT	TOTAL MARKS	CIA TEST	SEMESTER EXAMINATION	PASSING MINIMUM		
				CIA EXAM.	SEM. EXAM.	OVER ALL
<b>Theory</b>	100	25	75	nil	38	50
<b>Practical</b>	100	40	60	nil	30	50
<b>Project</b>	100	nil	Report - 60 marks Viva Voce - 40 marks	nil	50	50



### DIVISION OF MARKS FOR CIA TEST

SUBJECT	MARKS	ASSIGNMENT FOR UG / ASSIGNMENT OR SEMINAR FOR PG	REGULARITY	RECORD NOTE	TOTAL MARKS
<b>Theory</b>	20	5	--	--	<b>25</b>
<b>Practical</b>	30	--	5	5	<b>40</b>

- The duration of each CIA Test is ONE hour and the Semester Examination is THREE hours.
- Three CIA tests of 20 marks each will be conducted and the average marks of the best two tests out of the three tests will be taken.
- The I test will be based on the first 1.5 units of the syllabus, the II test will be based on the next 1.5 units of the syllabus and the III test will be based on the next 1.5 units of the syllabus.
- Two assignments for Undergraduate, Certificate, Diploma and Advanced Diploma Courses and two assignments OR two seminars for Postgraduate Courses.
- The duration and the pattern of question paper for practical examination may be decided by the respective Boards of Studies. However, out of 60 marks in the semester practical examination, 10 marks may be allotted for record and 50 marks for practical.
- Three internal practical tests of 25 marks each will be conducted for science students in the even semester and the best two out of the three will be taken. The total 50 marks of the best two tests will be converted to 30 by using the following formula:  

$$\left( \frac{\text{Marks secured in the first best Practical Test(Out of 25)} + \text{Marks secured in the next best Practical Test(out of 25)}}{2} \right) \times 0.6$$
- The Heads of Science Departments are requested to keep a record of attendance of practicals for students to assign marks for regularity.

**QUESTION PAPER PATTERN FOR CIA TEST (THEORY)**

**Duration: 1 Hr**

**Maximum Marks: 20**

<b>Section</b>	<b>Question Type</b>	<b>No. of Questions &amp; Marks</b>	<b>Marks</b>
<b>A</b>	No Choice Answer should not exceed 75 words	2 Questions 2 marks each	2 x 2 = 4
<b>B</b>	Internal choice (Either or type) Answer should not exceed 200 words	2 Questions 4 marks each	2 x 4 = 8
<b>C</b>	Open Choice (Answer ANY ONE out of Two) Answer should not exceed 400 words	1 Question 8 marks	1 x 8 = 8
<b>TOTAL</b>			<b>20 MARKS</b>

**QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION (THEORY)**

**Duration: 3 Hrs**

**Maximum Marks: 75**

<b>Section</b>	<b>Question Type</b>	<b>No. of Questions &amp; Marks</b>	<b>Marks</b>
<b>A</b>	No Choice Answer should not exceed 75 words	10 Questions - 2 marks each (2 Questions from each unit)	10 x 2 = 20
<b>B</b>	Internal choice (Either or type) Answer should not exceed 200 words	5 Questions with internal choice. Each carries 5 marks (Two questions from each unit)	5 x 5 = 25
<b>C</b>	Open Choice (Answer ANY THREE out of FIVE) Answer should not exceed 400 words	3 Questions out of 5 - 10 marks each (1 Question from each unit)	3 x 10 = 30
<b>TOTAL</b>			<b>75 MARKS</b>