Sadakathullah Appa College

(Autonomous)

(Reaccredited by NAAC at an 'A' Grade. An ISO 9001:2015 Certified Institution)

Rahmath Nagar, Tirunelveli - 11.

Tamil Nadu.

DEPARTMENT OF COMPUTER SCIENCE

MY LORD
VOUCHSAFE ME WISDOM

CBCS SYLLABUS

For

B.Sc. Computer Science

(Applicable for students admitted in June 2018 and onwards)

(As per the Resolutions of the Academic Council Meetings held on 03-03-2018 and 17-10-2018)

CONTENTS

B.Sc. Computer Science (2018 – 2019 Onwards)						
DISTRIBUTION OF CREDITS, NO. OF PAPERS & MARKS						
Part	**Course**	**Semester**	**Hours**	**Credits**	**Papers**	**Marks**
I	Tamil / Arabic	I to IV	12	8	2	200
II	English	I to IV	12	8	3	200
III	Discipline Specific Core (DSC) + Project + Practicals	I to VI	90	76	22	2100
	Discipline Specific Elective (DSE + Practical)	III to VI	28	22	8	700
	Allied Theory + Practicals	I to IV	24	16	8	600
IV	Non-major Elective (NME)	III to IV	4	4	2	200
	Skill Enhancement Course (SEC)	V to VI	4	4	2	200
	Skill Based Common (SBC)	VI	2	2	1	100
	Ability Enhancement Compulsory Course (AECC) Environmental Studies (EVS)	I	2	2	1	100
	Value Education (VE)	II	2	2	1	100
V	Extension Activities	I to IV+	--	1+1*	1	100
		TOTAL	**180**	**145+1***	**51**	**4600**

SEMESTER WISE DISTRIBUTION OF HOURS

Part	**I**	**II**	**III**				**IV**				**Total**
SEM	**T/A**	**ENG**	**DSC**	**PRO/ FW**	**DSE**	**AL**	**NME**	**SEC**	**SBC**	**EVS/VE**	
I	6	6	10	-	-	6	-	-	-	2	**30**
II	6	6	10	-	-	6	-	-	-	2	**30**
III			16	-	6	6	2	-	-	-	**30**
IV			16	-	6	6	2	-	-	-	**30**
V	-	-	20	-	8	-	-	2	-	-	**30**
VI	-	-	12	6	8	-	-	2	2	-	**30**
Total	**12**	**12**	**84**	**6**	**28**	**24**	**4**	**4**	**2**	**4**	**180**

+ Activities and evaluation are to be performed during Semesters I to IV and results to be declared at the end of the Semester IV along with those for other courses in the Mark Statement.

* Extra credit for Sadakath Outreach Programme (SOP)

B.Sc. Computer Science - CBCS Syllabus
(Applicable for students admitted in June 2018 onwards)
TITLE OF THE PAPERS, CREDITS & MARKS

P	SUB	Title of the paper	S.CODE	H/W	C	MARKS		
						I	E	T
I SEMESTER								
I	TA 1	,f;fhyj; jkpo;	18ULTA11	6	4	25	75	100
	AR 1	Applied Grammar and Translation - I	18ULAR11					
II	EN 1	Prose, Poetry and Grammar-I	18ULEN11	4	2	25	75	100/2
		English for Communication	18ULEC11	2	2	25	75	100/2
III	DSC1	C Programming	18UCCS11	4	4	25	75	100
	DSC2	Discrete Mathematics	18UCCS12	4	4	25	75	100
	DSCP-I	C-Programming Practical	18UCCS1P1	2	1	40	60	100/2
	AI-1	Office Automation	18UACS11	4	3	25	75	100
	AI-P-1	Office Automation Practical	18UACS1P1	2	1	40	60	100/2
IV	EVS	Environmental Studies	18UENS11	2	2	25	75	100
			TOTAL	**30**	**23**			**700**
II SEMESTER								
I	TA 2	rkaj; jkpo;	18ULTA21	6	4	25	75	100
	AR 2	Applied Grammar and Translation - II	18ULAR21					
II	EN 2	Prose, Poetry and Grammar - II	18ULEN21	6	4	25	75	100
III	DSC3	Object-oriented Programming with C++	18UCCS21	4	4	25	75	100
	DSC4	Digital Principles & Applications	18UCCS22	4	4	25	75	100
	DSCP-II	Object-oriented Programming with C++ -Practical	18UCCS2P1	2	1	40	60	100/2
	AI-2	Flash	18UACS21	4	3	25	75	100
	AI-P-2	Flash Practical	18UACS2P1	2	1	40	60	100/2
IV	VE	Value Education – I	18USVE2A	2	2	25	75	100
		Value Education - II	18USVE2B					
			TOTAL	**30**	**23**			**700**
III SEMESTER								
III	DSC5	Java Programming	18UCCS31	4	4	25	75	100
	DSC6	Computer Graphics	18UCCS32	4	4	25	75	100
	DSC7	Operations Research	18UCCS33	4	4	25	75	100
	DSCP-III	Java Programming Practical	18UCCS3P1	4	2	40	60	100
	DSE-1	Web Design	18UECS3A	4	4	25	75	100
		XML Programming	18UECS3B					
	DSEP-1	Web Design Practical	18UECS3PA	2	1	40	60	100/2
		XML Programming Practical	18UECS3PB					
	AII-1	UNIX and Shell Programming	18UACS31	4	3	25	75	100
	AII-P-1	UNIX and Shell Programming Practical	18UACS3P1	2	1	40	60	100/2
IV	NME-1	Office Automation	18UNCS31	2	2	25	75	100
			TOTAL	**30**	**25**			**800**

B.Sc. Computer Science - CBCS Syllabus
(Applicable for students admitted in June 2018 onwards)
TITLE OF THE PAPERS, CREDITS & MARKS

P	SUB	Title of the paper	S.CODE	H/W	C	MARKS		
						I	E	T
IV SEMESTER								
III	DSC8	Operating System	18UCCS41	4	4	25	75	100
	DSC9	Data Structures in C	18UCCS42	4	4	25	75	100
	DSC10	PHP	18UCCS43	4	4	25	75	100
	DSCP-IV	PHP Practical	18UCCS4P1	4	2	40	60	100
	DSE-2	Active Server Pages	18UECS4A	4	4	25	75	100
		PC Hardware and Trouble Shooting	18UECS4B					
	DSEP-2	Active Server Pages Practical	18UECS4PA	2	1	40	60	100/2
		PC Hardware and Trouble Shooting Practical	18UECS4PB					
	AII-2	Python Programming	18UACS41	4	3	25	75	100
	AII-P-2	Python Programming Practical	18UACS4P1	2	1	40	60	100/2
IV	NME-2	Web Design	18UNCS41	2	2	25	75	100
V	EX	Extension Activities (Choose from the list)	--	--	1		100	100
		SOP	18UEXSOP		1*			
			TOTAL	**30**	**26+1***			**900**
V SEMESTER								
III	DSC11	Software Engineering	18UCCS51	6	4	25	75	100
	DSC12	J2EE	18UCCS52	6	4	25	75	100
	DSC13	Microprocessor	18UCCS53	4	4	25	75	100
	DSCP-V	J2EE Practical	18UCCS5P1	4	2	40	60	100
	DSE-3	VB.Net	18UECS5A	4	4	25	75	100
		ANDROID Programming	18UECS5B					
	DSEP-3	VB.Net Practical	18UECS5PA	4	2	40	60	100
		ANDROID Programming Practical	18UECS5PB					
IV	SEC-I	Mobile Communications	18USCS51	2	2	25	75	100
			TOTAL	**30**	**22**			**700**
VI SEMESTER								
III	DSC14	Data communications and Networking	18UCCS61	4	4	25	75	100
	DSC-15	C# Programming	18UCCS62	4	4	25	75	100
	DSC-16	Project	18UCCS63	6	6	-	-	100
	DSCP-VI	C# Programming Practical	18UCCS6P1	4	2	40	60	100
	DSE-4	RDBMS with Oracle	18UECS6A	4	4	25	75	100
		RDBMS with SQL	18UECS6B					
	DSEP-4	RDBMS with Oracle Practical	18UECS6PA	4	2	40	60	100
		RDBMS with SQL Practical	18UECS6PB					
IV	SEC-II	Internet of Things	18USCS61	2	2	25	75	100
	SBC	Personality Development	18USPD62	2	2	25	75	100
			TOTAL	**30**	**26**			**800**

B.Sc. (Computer Science) CBCSSyllabus

PART I AND II SUBJECTS

(Applicable for students admitted in June 2018 and onwards)

TITLE OF THE PAPERS, CREDITS & MARKS

GROUP I COURSES (ONE YEAR LANGUAGE COURSES) (B.Com., B.Com. (Finance), B.B.A., B.Sc. Computer Science, B.Sc. Information Technology and B.C.A.)							
SEM	**Title of the paper**	**S.CODE**	**H/W**	**C**	**I**	**E**	**T**
PART I – TAMIL							
I	,f;fhyj; jkpo;	**18ULTA11**	6	4	25	75	100
II	rkaj; jkpo;	**18ULTA21**	6	4	25	75	100
		TOTAL	**12**	**8**			**200**
PART I – ARABIC							
I	Applied Grammar and Translation – I	**18ULAR11**	6	4	25	75	100
II	Applied Grammar and Translation – II	**18ULAR21**	6	4	25	75	100
		TOTAL	**12**	**8**			**200**
PART II – ENGLISH							
I	Prose, Poetry and Grammar-I	**18ULEN11**	4	2	25	75	100/2
	English for Communication	**18ULEC11**	2	2	25	75	100/2
II	Prose, Poetry and Grammar-II	**18ULEN21**	6	4	25	75	100
			12	**8**			**200**

PART III

Part III DSC, DSE and Project								
SEM	**P**	**TITLE OF THE PAPER**	**S.CODE**	**H/W**	**C**	**MARKS**		
						I	**E**	**T**
I	DSC1	C Programming	18UCCS11	4	4	25	75	100
	DSC2	Discrete Mathematics	18UCCS12	4	4	25	75	100
	DSCP 1	C-Programming Practical	18UCCS1P1	2	1	20	30	50
II	DSC3	Object-oriented Programming with C++	18UCCS21	4	4	25	75	100
	DSC4	Digital Principles & Applications	18UCCS22	4	4	25	75	100
	DSCP 2	Object-oriented Programming with C++ -Practical	18UCCS2P1	2	1	20	30	50
III	DSC5	Java Programming	18UCCS31	4	4	25	75	100
	DSC6	Computer Graphics	18UCCS32	4	4	25	75	100
	DSC7	Operations Research	18UCCS33	4	4	25	75	100
	DSCP 3	Java Programming Practical	18UCCS3P1	4	2	40	60	100
	DSE-I	Web Design	18UECS3A	4	4	25	75	100
		XML Programming	18UECS3B					
	DSEP-I	Web Design Practical	18UECS3PA	2	1	20	30	50
		XML Programming Practical	18UECS3PB					
IV	DSC8	Operating System	18UCCS41	4	4	25	75	100
	DSC9	Data Structures in C	18UCCS42	4	4	25	75	100
	DSC10	PHP	18UCCS43	4	4	25	75	100
	DSCP 4	PHP Practical	18UCCS4P1	4	2	40	60	100
	DSE-II	Active Server Pages	18UECS4A	4	4	25	75	100
		PC Hardware and Trouble Shooting	18UECS4B					
	DSEP-II	Active Server Pages Practical	18UECS4PA	2	1	20	30	50
		PC Hardware and Trouble Shooting Practical	18UECS4PB					
V	DSC11	Software Engineering	18UCCS51	6	4	25	75	100
	DSC12	J2EE	18UCCS52	6	4	25	75	100
	DSC13	Microprocessor	18UCCS53	4	4	25	75	100
	DSCP 5	J2EE Practical	18UCCS5P1	4	2	40	60	100
	DSE-III	VB.Net	18UECS5A	4	4	25	75	100
		ANDROID Programming	18UECS5B					
	DSEP-III	VB.Net Practical	18UECS5PA	4	2	40	60	100
		ANDROID Programming Practical	18UECS5PB					
VI	DSC14	Data Communications and Networking	18UCCS61	4	4	25	75	100
	DSC15	C# Programming	18UCCS62	4	4	25	75	100
	DSC16	Project	18UCCS63	6	6	25	75	100
	DSCP 6	C# Programming Practical	18UCCS6P1	4	2	40	60	100
	DSE - IV	RDBMS with Oracle	18UECS6A	4	4	25	75	100
		RDBMS with SQL	18UECS6B					
	DSEP-IV	RDBMS with Oracle Practical	18UECS6PA	4	2	40	60	100
		RDBMS with SQL Practical	18UECS6PB					
			TOTAL	**118**	**98**			**2800**

DEPARTMENT OF COMPUTER SCIENCE
CBCS SYLLABUS

PART III – ALLIED I & II – COMPUTER SCIENCE								
SEM	**P**	**TITLE OF THE PAPER**	**S.CODE**	**H/W**	**C**	**MARKS**		
						I	**E**	**T**
I	AI-1	Office Automation	18UACS11	4	3	25	75	100
	AI-P1	Office Automation Practical	18UACS1P1	2	1	20	30	50
II	AI-2	Flash	18UACS21	4	3	25	75	100
	AI-P2	Flash Practical	18UACS2P1	2	1	20	30	50
III	AII-1	UNIX and Shell Programming	18UACS31	4	3	25	75	100
	AII-P1	UNIX and Shell Programming Practical	18UACS3P1	2	1	20	30	50
IV	AII-2	Python Programming	18UACS41	4	3	25	75	100
	AII-P2	Python Programming Practical	18UACS4P1	2	1	20	30	50
		TOTAL		**24**	**16**			**600**

PART IV – NON-MAJOR COURSE (FOR OTHER MAJOR STUDENTS)

SEM	**P**	**TITLE OF THE PAPER**	**S.CODE**	**H/W**	**C**	**MARKS**		
						I	**E**	**T**
III	NME-I	Office Automation	18UNCS31	2	2	25	75	100
IV	NME-II	Web Design	18UNCS41	2	2	25	75	100
		TOTAL		**4**	**4**			**200**
Part IV – SEC/SBC								
V	SEC-I	Mobile Communications	18USCS51	2	2	25	75	100
VI	SEC-II	Internet of Things	18USCS61	2	2	25	75	100
VI	SBC	Personality Development	18USPD62	2	2	25	75	100
		Total		**6**	**6**			**300**
PART IV – EVS & VALUE EDUCATION (FOR ALL MAJOR STUDENTS)								
I	EVS	Environmental Studies	18UENS11	2	2	25	75	100
II	VE	Value Education – I	18USVE2A	2	2	25	75	100
		Value Education - II	18USVE2B					
		TOTAL		**4**	**4**			**200**

PART – V – EXTENSION ACTIVITIES

SEM	**Extension Activities (Choose any one)**	**S.CODE**	**H/W**	**C**	**MARKS**		
					I	**E**	**T**
I to IV	NCC	18UEXNCC		**1**			**100**
	NSS	18UEXNSS					
	Physical Education	18UEXPHE					
	Red Ribbon Club	18UEXRRC					
	Youth Red Cross	18UEXYRC					
	Youth Welfare	18UEXYWL					
	Yoga	18UEXYOG					
III-IV	Sadakath Outreach Programme (SOP)	18UEXSOP		**1***			
	Total		**-**	**1+1***			**100**

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PART - 1 TAMIL			
TA – 1	**Þ,è£ôˆîl›**		**18ULTA11**
Hrs/Week : 6	**Hrs/Sem : 90**	**Hrs/Unit : 18**	**Credits :4**

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1. îl›Šð¬ìŠHô,Aò*ƒ*è÷£ù ¹¶,èM¬îèœ, CÁè¬îèœ ÝAòõŸ¬ø â¿î ¬õˆî™
2. êÍè‹ ðŸPò C‰î¬ùè¬÷Š ð¬ìŠHô,Aò*ƒ*èœ Íô‹ ãŸð´^¶î™.

Üô° - 1 îl›,èM¬îèœ

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3. ªè£,° - ï.H„êÍ˜ˆF
4. ï£¡ - î¼º Cõó£‹ (Hólœ)
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6. «î£ö˜ «ñ£CWóù£˜ - ë£ù,Ãˆî¡
7. ï°ô¡ èM¬îèœ - ï°ô¡
8. âF˜õ¼‹ ò£õ¼‹ - è™ò£‡T
9. ÝJó‹ F¼ï£ñ‹ ð£® - èM,«è£ ÜŠ¶™ ó°ñ£¡
10. ñó*ƒ*è¬÷Š ð£´«õ¡ - ¬õóºˆ¶
11. Þ¬÷ò «î£öÂ,° - º.«ñˆî£
12. ªêŒ»œ - èô£ŠKò£
13. ªðò˜ ªîKò£Šðø¬õ - «î¡ªñ£Nî£v
14. GêŠîˆF™ °O¼‹ õ£˜ˆ¬î - Üù£˜
15. ºî™¶O - ð£¬ôõù ô£‰î˜
16. Þ‰î,è£ô‹ - ñÂwò¹ˆFó¡
17. ÌM¡ ðF™ - ï£Ã˜ Ïl
18. ÜP¾ñF èM¬îèœ - ÜP¾ñF
19. «õ˜ H®ˆî ñó‹ - è.Ü‹êŠKò£
20. ï†êˆFó, AöM - ð.²ì¬ôñE
21. Wî£…êL - ñè£èMÞói‰îóï£ˆ î£Ã˜
22. ªü¡ èM¬îèœ - ð£«û£

Üô° - 2 CÁè¬îÞ¡ð‹

1. M®»ñ£? - °.ð£.ó£ü«è£ð£ô¡
2. è£ôÂ‹ AöM»‹ - ¹¶¬ñŠHˆî¡
3. èî¾ - A.ó£üï£ó£òí¡
4. è£ôˆF¡ Ýõ˜ˆîù‹ - «î£ŠH™ ºý‹ñ¶ eó£¡
5. ªê£˜,è, è¡Q¬è - è¼íð£ ñí£÷¡
6. ªê®èÀ,° - õ‡íî£ê¡
7. èùM™ àF˜‰î Ì - ï£Á‹Ìï£î¡
8. ê*ƒ*è£ˆF - b¡
9. ó£üe¡ - WóÛ˜ ü£W˜ó£ü£

Üô° -3 è†´¬ó, èQèœ

1. îIN™ ¬ý,ÃèM¬îèœ
2. èM,«è£ ÜŠ¶™ ó°ñ£Q¡ èM¬îèœ

3. ï£†´Š¹ø Þô,Aòƒèœ
5. Þ¬íòˆF™ îl›
6. îl›„ CÁè¬îÞô,Aò‹
7. ÞòŸ¬è¬ò, ªè£‡ì£´‹ ªü¡ èM¬îèœ

Üô° - 4 Þô,Aòõóô£Á

1. îl›Š ¹¶,èM¬î «î£Ÿøº‹ õ÷˜„C»‹
2. îl›„ CÁè¬î «î£Ÿøº‹ õ÷˜„C»‹
3. îŸè£ô„ CÁè¬îò£CKò˜èœ æ˜ ÜPºè‹
4. ¹¶,èM¬îèœ â¿îŠðJŸC î‰¶ ñ£íõ˜ èM¬îˆ ªî£°Š¬ð ªõOJì™.

Üô° - 5 â¿ˆ¶ Þô,èí‹ & â¿ˆ¶ õ¬èèœÜPºè‹

1. ºîªô¿ˆ¶èœ, ê£˜ªð¿ˆ¶èœ, ²†ªì¿ˆ¶,èœ,Mù£ªõ¿ˆ¶èœ
2. ªñ£N ºî™ â¿ˆ¶èœ, ªñ£N ÞÁF â¿ˆ¶èœ, õ™Lù‹ l°lìƒèœ, õ™Lù‹ lè£Mìƒèœ.
3. ï£Oî›èO™ Þì‹ªðÁ‹ ªêŒFèO™ H¬öè¬÷, è‡ìP‰¶ â¿îŠðJŸC

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ð£˜¬õ Ë™èœñŸÁ‹ õNè£†´ Þ¬íòî÷ƒèœ

1. õ™L,è‡í¡
   ¹¶,èM¬î «î£Ÿøº‹ õ÷˜„C»‹
2. ï.²Š¹ªó†®ò£˜
   ¹¶,èM¬î «ð£,°‹ «ï£,è‹
3. «ðó£CKò˜ ².ð£ôê‰Fó¡
   ¹¶,èM¬î & å¼ ¹¶Šð£˜¬õ
4. âv. ó£ñA¼wí¡
   èî£Mô£ê‹
   Mèì¡ Hó²ó‹
   757, Ü‡í£ê£¬ô
   ªê¡¬ù & 600 002.

Þ¬íòî÷ƒèœ

1. www.tamilvu.org
2. www.azhiyasudargal.blogspot.in
3. www.neelamegam.blogspot.in
4. www.jeyamohan.in
5. www.sramakrishnan.com

SEMESTER - I			
AR-1	**APPLIED GRAMMAR AND TRANSLATION-I**		**18ULAR11**
Hrs/ Week: 6	**Hrs/ Sem: 90**	**Hrs/ Unit: 18**	**Credits: 4**

Objectives: To enable the students to learn Alphabets, Pronunciation, Basic Grammar, Reading, Writing of Arabic Language

UNIT I:- Lessons 1 to 4 (Text Book – 1)

من الدرس الأول إلى الدرس الرابع

UNIT II:- Lessons 5 to 8 (Text Book – 1)

من الدرس الخامس إلى الدرس الثامن

UNIT III:- Grammar Portions (Text Book – 2)

1) Words and the types of words (**أجزاء الكلام**) 2) Nominal Sentence(**الجملة الاسمية**)
3) Adjective and Noun-qualified(**الصفة والموصوف**) 4) Subject and Predicate
5) Masculine and Feminine(**المذكر والمؤنث**) 6) Interrogatives(**أدوات الاستفهام**)
7) Singular, Dual and Feminie(**المفرد والتثنية والجمع**)
8) Possessivenes(**المضاف والمضاف إليه**)
9) Detached Pronouns (**الضمائر المنفصلة**) 10) Prepositions(**حروف الجر**)
11) Demonstrative pronouns(**أسماء الاشارة**)
12) Relative pronouns(**الأسماء الموصولة**)

UNIT IV:- Lessons 9 to 12 (Text Book – 1)

من الدرس التاسع إلى الدرس الثاني عشر

UNIT V:- Lessons 13 to 16 (Text Book – 1)

من الدرس الثالث عشر إلى الدرس السادس عشر

TEXT BOOKS

1. DuroosulLughatil Arabiya Part – I Lessons 1 to 16 only by Dr.V. Abdur Rahim. Available at: Islamic foundation Trust, 78 Perambur High Road, Perambur, Chennai- 600 012.
2. Arabic for Beginners (selected topics only), Dr. Syed Ali (Former HOD of Arabic, The New College, Royappettach, (Chennai) (International Edition 2001) (UBS Publishers & Distributors Ltd) 5, Ansari Road New Delhi -110 002.

I SEMESTER Part – II English			
EN I A	**Prose, Poetry and Grammar - I**		**18ULEN11**
Hrs/ Week: 4	**Hrs/ Sem: 60**	**Hrs/ Unit: 12**	**Credits:2**

Objectives:

- To answer comprehensive questions on passages of moderate level of difficulty.
- To write a critical appreciation of the prescribed poems.
- To write grammatically.

UNIT I PROSE

1. Education Provides a Solid Foundation - A.P. J. Abdul Kalam
2. Love Story - Maneka Gandhi

UNIT II PROSE

3. Speech on Indian Independence - Jawaharlal Nehru
4. Film-Making - Satyajit Ray

UNIT III POETRY

1. In the Bazaars of Hyderabad - Sarojini Naidu
2. Middle Age - Kamala Das

UNIT IV GRAMMAR

1. Parts of Speech: Verb
2. Tenses

UNIT V COMMUNICATION SKILLS

1. Unseen Passages
2. Letter Writing: Personal and Business Letters
3. Curriculum Vitae (CV)

TEXTBOOK:

Kulat L. Ambadas, Dr. Joshi, Sandeep. et. al. (ed). *Blooming Buds.*Hyderabad: Orient BlackSwan, 2017.

I SEMESTER			
EN I B	**ENGLISH FOR COMMUNICATION**		**18ULEC11**
Hrs/ Week: 2	**Hrs/ Sem: 30**	**Hrs/ Unit: 6**	**Credits:2**

Objectives:

- To teach students basic Grammatical categories.
- To teach students the four skills viz. Listening, Speaking, Reading and Writing and to impart language skills through tasks.
- To inculcate in students the skills necessary for social and academic circumstances.

UNIT I

Parts of Speech (Pages 5 to 17)

UNIT II

Listening and Speaking (Pages 22 to 34) and (56 to 59)

UNIT III

Reading (Pages 35 to 45)

UNIT IV

Writing - I

Punctuation and Kinds of Sentences (Pages46 to 55)

UNIT V

Writing - II

Filling in Forms & Wrap-up (Pages 60 to78)

TEXTBOOK:

Board of Editors. *Content and Language Integrated Learning to Enhance Communication Skills. Semester I Module 1.* Chennai: Tamil Nadu State Council for Higher Education, 2017.

B.Sc. (Computer Science) – CBCS SYLLABUS			
I SEMESTER			
DSC1	**C PROGRAMMING**		**18UCCS11**
Hrs/ Week: 4	**Hrs/ Sem: 4 x 15 = 60**	**Hrs/ Unit: 12**	**Credits: 4**

Objectives:

- To understand the usages of tools and features in the language
- To build ability to develop programs using the tools and features of the language
- To mould the skills to develop software

UNIT I

Character Set – C tokens – Keywords and Identifiers – Constants, Variables, data types-Declaration of variables – declaration of storage classes – Assigning values to the variables – defining symbolic constants – Declaring a variable as constant – Arithmetic operators – Relational operators – Logical operators – Assignment operators – Increment and decrement operators – Conditional operators – bitwise operators – Special operators – Arithmetic expressions – evaluation of expressions – precedence of Arithmetic operators-Type conversions in expressions – Mathematical functions.

UNIT II

Decision Making – If Statement – The If-else statement – Nesting of If statement – The else-if ladder – the switch statement – the?: operator – the goto statement-Decision making and looping – the while statement – the do statement – the for statement – jumps in loops.

UNIT III

Arrays – one dimensional, two dimensional and multi dimensional arrays – Dynamic arrays – Character arrays and strings – Declaring and initializing string variables – Reading string from terminals – string handling functions.

UNIT IV

User defined functions – Category of functions – Nesting of functions – Recursive functions – Passing arrays, strings to functions – the scope, visibility and lifetime of variables.

UNIT V

Structure and Unions – Accessing structure members – Arrays of structures – Arrays within structures – Unions – bit fields – pointers – pointer expressions – pointers and arrays – pointers and character strings – Array of pointers – pointers and structures.

TEXT BOOK:

Computing Fundamentals and C Programming – E Balagurusamy –Tata McGraw – Hill Publishing Company.

I SEMESTER			
DSC2	**DISCRETE MATHEMATICS**		**18UCCS12**
Hrs/Week: 4	**Hrs/Sem: 4*15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To learn and evaluate the set theory and relations.
- To learn the basic operations of logic and propositions using truth table.
- To apply basic concepts for clear understanding of mathematical principles and to solve practical problems of array concept.
- To understand the concept of Graph theory.

UNIT I 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 II Relations:

Product Sets, Relations, Picture Representations of Relations, Composition of Relations, Types of Relations, Closure Properties, Equivalence Relations, Partial Ordering Relations.

UNIT III Logic and Propositional 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 Vectors and Matrices:

Vectors, Matrices, Matrix Addition and Scalar Multiplication, Matrix Multiplication, Transpose, Square Matrices, Invertible(Nonsingular) Matrices, Inverses, Determinants, Elementary Row Operations, Gaussian Elimination, Boolean(Zero-One) Matrices.

UNIT V Graph Theory:

Graphs and Multigraphs, Subgraphs, Paths, Connectivity, Euler graph, Hamiltonian graph, Labeled and Weighted graphs, Complete, Regular and Bipartite graphs, Tree graphs, Planar graphs.

TEXT BOOK:

Discrete Mathematics – Seymour Lipschutz and Marc Lars Lipson - Schaum's Series – Third Edition – Tata McGraw Hill Publications.

REFERENCE BOOKS:

1. Modern Algebra - Arumugam and Isaac, SciTech Publication.
2. Graph Theory - Arumugam and Isaac, SciTech Publication.

I SEMESTER		
DSCP- 1	**C - PROGRAMMING PRACTICAL**	**18UCCS1P1**
Hrs/Week: 2	**Hrs/Sem: 2 x 15 = 30**	**Credit: 1**

1. Program using Library Functions (minimum 5 functions)
2. Program using nested if-else and/or else-if ladder
3. Program using 'switch' and/or conditional operator
4. Program using for-loop
5. Program using while loop
6. Program using do-loop
7. Program using nested loops
8. Program dealing One-dimensional Array
9. Program using Two-dimensional Array
10. Program using user-defined Functions
11. Program using Recursive Function
12. Program that passes array(s) to function(s)
13. Program using pointer to access array elements
14. Program implementing structure and passing it to function
15. Program to deal 'Table of strings'

I SEMESTER			
AI-1	**OFFICE AUTOMATION**		**18UACS11**
Hrs/Week: 4	**Hrs/Sem: 4 X 15 = 60**	**Hrs./ Unit: 12**	**Credit: 3**

Objectives:

- To learn the concept of MS-Word such as auto correct, Auto Text, Mail merge and so on.
- To understand the concept of MS-Excel namely pivot table, pivot chart, goal seek, scenario and so on.
- To understand the concept of MS-Powerpoint.

UNIT I Documentation Using MS-Word:

Introduction to Office Automation, Creating & Editing Document, Formatting Document, AutoText, Autocorrect, Spelling and Grammar Tool, Page Formatting, Bookmark.

UNIT II Advance MS-Word:

Advance Features of MS-Word [Mail Merge, Macros], Tables, File Management, Printing, Styles, Linking and Embedding Object.

UNIT III Electronic Spread Sheet using MS-Excel:

Introduction to MS-Excel, Creating & Editing Worksheet, Formatting and Essential Operations, Formulas and Functions, Charts.

UNIT IV Advance features of MS- Excel:

Creating Pivot table, Pivot Chart, Data Sorting, Filtering data in worksheet, Validation, Goal Seek and Scenario in Excel.

UNIT V Presentation Using MS-PowerPoint:

Presentations, Creating Slides, Manipulating & Enhancing Slides, Word Art, Custom Animation, Inserting Recorded Sound Effect or In-Built Sound Effect.

TEXT BOOK:

Microsoft Office – Complete Reference – BPB Publication

REFERENCE BOOK:

Learn Microsoft Office – Russell A. Stultz – BPB Publication.

I SEMESTER		
AI-P1	**OFFICE AUTOMATION PRACTICAL**	**18UACS1P1**
Hrs/Week: 2	**Hrs/Sem: 30**	**Credit: 1**

MS WORD 2000

1. Typing letters, Editing and Printing.
2. Using Spell Check and Thesaurus.
3. Designing a Cover Page with Word Art.
4. Using Header, Footer, Bookmark, End notes and Foot notes.
5. Mail merge a letter to an address file.
6. Typing Mathematical equations and symbols.
7. Create a table.

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 courses.

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.
5. Create a list of data using Sorting
6. Create a list of data using Validation option
7. Create spreadsheet with the concept of Goal Seek and Scenario.

I SEMESTER			
EVS	**ENVIRONMENTAL STUDIES**		**18UENS11**
Hrs/ Week: 2	**Hrs/ Sem: 30**	**Hrs/ UNIT: 6**	**Credits:2**

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, Aforestation 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, Living conditions on other planets (Brief account).
  Types, structure & Functions of the following:
  a) Aquatic ecosystem
  b) Grassland ecosystem
  c) Forest ecosystem
  d) Desert ecosystem

UNIT - IV: Biodiversity & Its Conservation

Introduction - Definition: ecosystem diversity, species diversity and Genetic diversity. Hot spots of biodiversity - Western Ghats, Eastern Himalayas and Gulf of Mannar. Threats to biodiversity - Habitat Loss, Poaching of wildlife and Man - wildlife 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 water and Marine water.
c) Noise Pollution
d) Soil pollution

Bio degradable and Non Bio degradable wastes; Environmental Acts

- Air (prevention & Control of Pollution) Act.
- Environmental Protection Act
- Water (Prevention & Control of pollution) Act
- Environmental movements - Green peace and Chipco movement.
- Role of Central & State 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, 2008.
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.

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PART - 1 TAMIL			
TA- 2	**êñòˆîl›**		**18ULTA21**
Hrs/Week : 6	**Hrs/Sem : 90**	**Hrs/Unit : 18**	**Credits :4**

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1. www.noolulagam.com
2. www.tamilauthors.com
3. www.tnpsc.gov.in
4. www.tnpscexams.in
5. www.tamilvu.org

SEMESTER - II			
AR-2	**APPLIED GRAMMAR AND TRANSLATION-II**		**18ULAR21**
Hrs/ Week: 6	**Hrs/ Sem: 90**	**Hrs/ Unit: 18**	**Credits: 4**

Objectives:

- To make the students to develop the skill of basic Arabic Grammar and Translation skills from Arabic to English vice-versa.

Unit I:-Lessons 1 to 3 (Text Book – 1)

من الدرس الأول إلى الدرس الثالث

Unit II:-Lessons 4 to 6 (Text Book – 1)

من الدرس الرابع إلى الدرس السادس

Unit III :- Grammar Portions (Text Book – 2)

1) Inna and Its sisters(إن وأخواتها) 2) Elative(اسم التفضيل)
3) Perfect Tense (الفعل الماضي)4) Imperfect Tense(الفعل المضارع)
5) Doer and Object(الفاعل والمفعول) 6) Kaanaand Its sisters(كان وأخواتها)
7) Classification of Verb into Sound and weak verb(تقسيم الفعل إلى صحيح ومعتل)
8) Transitive and Intransitive verb (الفعل اللازم والمتعدي)9) Verbal Noun(المصدر)

Unit IV:-Lessons 7 to 9 (Text Book – 1)

من الدرس السابع إلى الدرس التاسع

Unit V:-Lessons 10 to 12 (Text Book – 1)

من الدرس العاشر إلى الدرس الثاني عشر

TEXT BOOKS

1. DuroosulLughatil Arabiya Part – II Lessons 1 to 12 only by Dr.V.Abdur Rahim. Available at: Islamic foundation Trust, 78 Perambur High Road, Perambur, Chennai- 600 012.
2. Arabic Tutor Part-I,II&III, By: Moulana Ebrahim Muhammad Karachi-DarulIshaat.

II SEMESTER			
EN2	**PART II ENGLISH** **Prose, Poetry and Grammar - II**		**18ULEN21**
Hrs/ Week: 6	**Hrs/ Sem: 90**	**Hrs/ Unit: 18**	**Credits: 4**

Objectives:

- To answer comprehensive questions on a passage of moderate level of difficulty.
- To write a critical appreciation of the prescribed poems and write sentences in English grammatically.

UNIT I PROSE

1. Appro JRD - Sudha Murthy
2. Packing - Jerome K. Jerome

UNIT II PROSE

3. How I Became a Public Speaker - G. B. Shaw
4. Values in Life - Rudyard Kipling

UNIT III POETRY

1. Money-Madness - D. H. Lawrence
2. No Men are Foreign - James Kirkup
3. On Another's Sorrow - William Blake

UNIT IV GRAMMAR

1. Subject-Verb Agreement
2. Verbs: Forms of 'to be', 'have', 'do'; modal auxiliaries

UNIT V COMMUNICATION SKILLS

1. Story Building
2. e-Communication: Fax; e-mail
3. Notices, Agendas and Minutes

TEXTBOOK:

Kulat L Ambadas, Dr. Joshi, Sandeep. et. al. (ed). *Blooming Buds.* Hyderabad: Orient BlackSwan, 2017.

II SEMESTER			
DSC3	**OBJECT ORIENTED PROGRAMMING WITH C++**		**18UCCS21**
Hrs/Week: 4	**Hrs/Sem:15*4= 60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To understand the basic concepts of Object – Oriented Paradigm in programming
- To build ability to develop Object – Oriented programs
- To mould the skills to develop software

UNIT I Classes and objects

Introduction- C structures revisited - specifying a class- defining member functions - a C++ program with class - Making an outside function inline - Nesting of member functions - Private member functions - Array within a class - Memory allocation for objects - Static data members -Static member functions - Array of objects - Object as function arguments - Friendly functions - returning objects.

UNIT II Constructors and Destructors

Introduction – constructors - parameterized constructors - multiple constructor in a class - constructor with default arguments - dynamic initialization of objects - copy constructor - dynamic constructors - constructing two - dimensional arrays - const objects - Destructors.

UNIT III Operator overloading

Introduction - defining operator overloading - overloading unary operators - overloading binary operators - overloading binary operators using friends - manipulation of strings using operators - rules for overloading operators – Type Conversions.

UNIT IV Inheritance: Extending classes

Introduction - defining derived classes- single inheritance - making a private member inheritable - multilevel inheritance- multiple inheritance - hierarchical inheritance - hybrid inheritance - virtual base classes - abstract classes - constructors in derived classes- member classes: Nesting of classes.

UNIT V Working with Files

Introduction -classes for file stream operations - opening and closing a file - detecting End-of-file - more about open(): file modes - file pointers and their manipulations- sequential input and output operations- updating a file: Random Access - error-handling during file operations.

TEXT BOOKS:

Object –Oriented Programming with C++ By E.Balagurusamy, The McGraw-Hill, 4th Edition. Chapters: 5 (except 5.17, 5.18, 5.19), 6, 7, 8, 15.

REFERENCE BOOKS:

Object – Oriented programming in Turbo C++ By Robert Lafore

II SEMESTER		
DSC4	**DIGITAL PRINCIPLES AND APPLICATIONS**	**18UCCS22**
Hrs/Week:4	**Hrs/Sem: 15*4=60 Hrs./Unit : 12**	**Credit: 4**

Objectives:

- To learn fundamentals of number system.
- To understand the concept of logic gates and Boolean algebra.
- To know the concept of logic circuit, registers and Counters.

UNIT I

Number systems: Binary Addition and Subtraction – Binary Multiplication and Division. Converting Decimal numbers to Binary-Negative numbers – Use of Complements to represent Negative numbers – Binary number complements – Binary-Coded-Decimal(BCD) Number – Octal and Hexadeciaml 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 - Sum of Products(SOPs) and Product of Sums(POSs) – Map Simplification using Karnaugh Maps – Don't care conditions.

UNIT III

Logic Circuits – Combinational Circuits - Half Adder – Full Adder. Flip–Flop – SR flip-flops – D flip-flop - JK flip flop – T flip_ flop – Edge_Triggered flip-flops.

UNIT IV

Registers – Registers with parallel load. Shift Registers – Bidirectional Shift Registers with parallel load

UNIT V

Counters: Binary counter – Ripple counter - BCD counters – Synchronous and Asynchronous counters – Shift Counter – Ring Counter

TEXT BOOKS:

1. Digital computer Fundamentals – Thomas C. Bartee, Sixth Edition, McGraw – Hill Publications
2. Computer System Architecture – M.Morris Mano, third Edition, PHI Publication

REFERENCE BOOKS:

Digital principles and Applications – Malvino and leach, TMH publications, fifth Editions.

II SEMESTER		
DSCP- II	**OBJECT ORIENTED PROGRAMMING WITH C++ - PRACTICAL**	**18UCCS2P1**
Hrs/Week: 2	**Hrs/Sem: 30**	**Credit: 1**

OBJECT ORIENTED PROGRAMMING WITH C++ - PRACTICAL

1. Program using arrays within a class.
2. Program using nesting of member functions
3. Program using static class members.
4. Program using array of objects.
5. Program that passes object(s) to function as arguments and the function returns object
6. Program implementing overloaded constructors.
7. Program that initializes objects dynamically
8. Program implementing Two-dimensional arrays.
9. Program to overload unary operators.
10. Program to overload binary operators.
11. Program to overload operators using friend functions.
12. Program implementing multiple and multilevel inheritances
13. Program implementing constructors in derived classes.
14. Program to work with multiple files.
15. Program to update a file by Random access.

II SEMESTER			
AI-2	**FLASH**		**18UACS21**
Hrs/Week: 4	**Hrs/Sem: 60**	**Hrs./ Unit: 12**	**Credits: 3**

Objectives:

- To learn the concept of tools and frames.
- To build the various objects using graphics and color.
- To mould the skills of Animation and Tweening.

UNIT I

Introduction to Flash: Flash files and player – Introducing the Flash Workspace – Tools –Panels – Component Inspector Panel – Timeline – Frames – Concept of frames – Scenes in Flash – Layers in Flash –Testing a flash movie – Publishing a flash movie

UNIT II

Working with Graphics and Color : Understanding Vector and Bitmap – Selecting objects –Creating objects in flash - Fills and Outlines- Colors- The Color Palette –Color swatches panel-Color mixer panel-Applying a locked gradient as a Fill.

UNIT III

Transformation and Aligning Graphics: Grouping Objects – Stacking order of objects – Breaking apart groups and objects – Transforming the objects – Aligning objects.

Working with text: Understanding Font Display – Modifying text attributes – Check spelling feature – Transforming Text.

UNIT IV

Symbols and Library: Creating Symbols and instances – Creating a button – Editing symbols – Modifying the instance of a symbol – Library – Using the library – Using the Common Library – Creating Custom library.

UNIT V

Animation: Working with Time line effects – Using the Explode Timeline Effect - Frame by Frame Animation Technique.

Tweening: Motion Tweening to create animations – Shape Tweening to create animations– Creating masking effects.

TEXT BOOK

1. Flash 8 in Simple steps, Salini Gupta and Aditya gupta.

II SEMESTER		
AI-P2	**FLASH PRACTICAL**	**18UACS2P1**
Hrs/Week: 2	**Hrs/Sem: 30**	**Credit: 1**

1. Create and change the color of an object by inserting key frames.
2. Skewing, rotating and flipping objects.
3. Create a Draggable Movie Clip
4. Testing a movie in a Web Browser.
5. Creating a Button.
6. Editing Symbols in 3 different methods.
7. Working with Timeline Effects.
8. Creating Animations on Text.
9. Moving an object using Motion Tweening.
10. Moving an object along the path using Motion Tweening
11. Creating Animations using Shape Tweening.
12. Creating Masking Effects using Motion and Shape Tweening.

II SEMESTER			
VE1	**VALUE EDUCATION – I**		**18USVE21A**
Hrs/ Week: 2	**Hrs/ Sem: 30**	**Hrs/ Unit: 6**	**Credit: 2**

Objectives:

- To inculcate moral values in the minds of students.
- To teach ethical practices to be adopted by students in their life.
- 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.

II SEMESTER			
VE2	**VALUE EDUCATION – II**		**18USVE21B**
Hrs/ Week: 2	**Hrs/ Sem: 30**	**Hrs/ Unit: 6**	**Credit: 2**

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.

III SEMESTER			
DSC-5	**JAVA PROGRAMMING**		**18UCCS31**
Hrs/Week:4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To understand the basic concepts & tools of Object – Oriented Paradigm in programming
- To understand the fundamentals of applet, event – driven programming
- To build ability to develop Applet programs with tools of Java
- To mould the skills to develop software

UNIT I Class, Objects, Inheritances, Arrays, Strings, Vectors:

Classes, Objects and methods: Defining A Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing Class Members – Constructors – Methods Overloading – Static Members – Nesting Of Methods. Extending a Class – Overriding Methods – Final – Variables, Methods And Classes – Finalizer Methods.

One-Dimensional Arrays – Creating An Array – Two-Dimensional Arrays – Strings – Vectors

UNIT II Interfaces and Packages:

Interfaces: Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables.

Java API Packages – Using System Packages – Naming Conventions – Creating Packages - Accessing A Package – Using A Package – Adding Classes To A Package – Hiding Classes – Static Import.

UNIT III Multithreading and Exceptions:

Creating Threads – Extending Thread Class – Stopping And Blocking A Thread – Life Cycle Of A Thread – Using Thread Methods – Thread Exceptions – Thread Priority – Synchronization – Implementing Runnable Interface

Managing Errors and Exceptions: Types Of Errors – Exceptions – Syntax Of Exception Handling Code – Multiple Catch Statements – Finally Statement – Throwing Our Own Exceptions – Using Exceptions For Debugging.

UNIT IV Applet Programming

Applet Programming: How Applets Differ From Applications? – Preparing Applets – Building Applet Code – Applet Life Cycle – Creating An Executable Applet – Designing A Web Page – Applet Tag – Adding Applet To HTML File – Running Applet - More About Applet Tag - Passing Parameters To Applets – Aligning The Display – Displaying Numerical Values.

UNIT V Event Handling and Graphics Programming

Getting Input from User – Event Handling

The Graphics Class – Drawing Lines, Rectangles, Circles, Ellipses, Arcs, Polygons – Line Graphs – Using Control Loops in Applets – Drawing Bar Charts – Introducing to AWT Package And Swings.

TEXT BOOK:

Programming with Java A Primer – E.Balagurusamy, McGraw Hill- Fourth Edition
Chapter:8 - 8.1 To 8.15
Chapter: 9 - 9.2 To 9.6
Chapter: 10- 10.1 To 10.5
Chapter:11 – 11.1 To 11.10
Chapter:12 – 12.1 To 12.10
Chapter:13 – 13.1 To 13.8
Chapter:14 – 14.1 To 14.17
Chapter:15 – 15.1 To 15.9

REFERENCE BOOKS:

Java2 – Complete Reference – Herbert Schildt, Tata McGraw Hill Publications

III SEMESTER			
DSC-6	**COMPUTER GRAPHICS**		**18UCCS32**
Hrs/Week: 4	**Hrs/Sem: 15*4=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To understand the concept of basic principles of Graphics.
- To build the various algorithms for drawing circle and line.
- To learn and understand about 2D and 3D transformation and clipping.

UNIT I

Application of Computer Graphics - Video display devices - Refresh Cathode Ray Tube - Color CRT Monitor - Direct View Storage Tubes - Flat Panel Displays

UNIT II

Raster Scan Systems - Random Scan Systems - Interactive Input devices - Hard copy devices - Graphics software

UNIT III

Output primitives - Line drawing algorithms: DDA Line Drawing Algorithm - Bresenhnam's Line Drawing Algorithm - Circle Generating Algorithm: Midpoint Circle Drawing Algorithm

UNIT IV

Two-dimensional Geometric Transformation: Basic transformations - Translation –Rotation - Scaling - Matrix Representations and Homogeneous coordinates - Composite Transformation

UNIT V

Window- to view port co-ordinate transformation - Two dimensional Viewing functions - Clipping operation - Point Clipping – Line Clipping - Polygon Clipping - Curve Clipping – Text Clipping.

TEXT BOOK:

D.Hearn and M.P.Baker - Computer Graphics (C version) - Pearson Education.

REFERENCE BOOK:

W.M. Newman and RF.Sproull - Principles of Interactive Computer Graphics - McGraw Hill International Edition - 1979.

III SEMESTER			
DSC-7	**OPERATIONS RESEARCH**		**18UCCS33**
Hrs/Week: 4	**Hrs/Sem: 15*4=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives

- Establish theories and algorithms to model.
- Solve mathematical optimization problems that translate to real life decision making problems.
- To get a knowledge for making an industrial decision.

UNIT I Simplex Method:

Different forms of Linear Programming Problem – Basic solution, Degenerate solution, Non–Degenerate solution, Basic feasible solution, Improved BFS, Optimum BFS – Slack, Surplus - Bounded and Unbounded solution – The Simplex Algorithm for solving a LPP – The simplex method of solving a LPP.

UNIT II Theory of Games:

Introduction – payoff matrix, fair game, strictly determinable game – Two person zero sum games – The Maximin Minimax principle of game theory – Games without saddle points – Mixed strategies – Graphical solution of 2 X N and M X 2 games.

UNIT III Replacement Problem:

Introduction – Replacement of items that Deteriorate with time – Replacement of Items whose Maintenance costs increase with time and the value of money also changes with time – Replacement of items that fail completely – Individual Replacement policy – Group Replacement policy – Mortality and Staffing problem.

UNIT IV Network Scheduling by PERT / CPM:

Introduction – Basic concepts: Activities, Nodes, Network, Critical path – Constraints in Networks – Construction of the Network – Various Time calculations in Networks, Critical path calculations – Procedure of determining the Critical Path – Slack and Floats determinations — PERT – PERT calculations.

UNIT V Queuing Theory:

Introduction – Characteristics of queuing systems – Basic queuing process – Customer's behaviors in the queue – Postulate for the Poisson process – Distribution of arrival time – Distribution of service time – Symbols and Notations – Definition of Transient and Steady states – Classification of Queues – Basic characteristic of model one – Problems in infinite queue, infinite source and single server model.

TEXT BOOK:

Operations Research – P.K.Gupta, Kanti Swarup and Man Mohan, Sultan Chand & Sons Publications.

REFERENCE BOOKS:

1. Operations Research – J.A. Mangaladoss, Presi – Persi Publications
2. Operations Research – R.Paneer Selvam, Prentice Hall of India .

III SEMESTER		
DSCP- III	**JAVA PROGRAMMING PRACTICAL**	**18UCCS3P1**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Credit: 2**

1. Program using Multiple Constructors
2. Program using different types of inheritance
3. Program using one-dimensional arrays
4. Program using Two-dimensional arrays
5. Program handling methods of Vector class
6. Program using Wrapper classes
7. Program implementing interface(s)
8. Program to create and import package
9. Program to create and deal multiple threads
10. Program throwing your own exception
11. Program handling mouse events
12. Program handling keyboard events
13. Program to draw various shapes

III SEMESTER			
DSE-1A	**WEB DESIGN**		**18UECS3A**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To learn the concept of Internet technologies.
- To improve the skills of designing Web Page.
- To understand the concept of list, table, frames and form elements.
- To learn the concept of DHTML such as style sheet.

UNIT I Introduction to Internet:

Introduction to the Internet- History of Internet - World Wide Web - Usenet-Telnet-Bulletin Board Service – Internet Technologies – Modem - Internet Addressing - Physical Connections- Telephone lines – Internet Browsers : Internet Explorer -Netscape Navigator.

UNIT II Introduction to HTML:

History of HTML – HTML documents – Anchor tag, Hyperlinks-HEAD and BODY sections – Title, Prologue, Links – Colorful Webpage-Comment Line – Designing the Body section – Aligning the headings – HR tag – Paragraphs – Images and Pictures – Embedding PNG format images.

UNIT III Lists and Tables:

Ordered and Unordered lists – Nested Lists – Headings in a list – Table Handling – Table creation in HTML – width of the table and Cells – Cell spanning – Coloring cells – Column specification

UNIT-IV DHTML:

DHTML and styles sheets-Defining styles-Elements of styles-Linking a style sheet to a HTML document-In-line Styles-External styles sheets-Internal Style sheets-Multiple Styles.

UNIT-V Frames and Forms:

Frames - Frameset definitions - Frame definitions - Nested framesets – Forms - Action attributes-Method attribute - Enctype attribute - Check Boxes-Radio Buttons - Text Fields - Text Areas - Password-Submit and Reset Buttons - Drop down list - Sample forms.

TEXT BOOKS:

1. World Wide Web Design with HTML, Dr.C.Xavier., Tata McGraw – Hill Publishing Company.
2. Web design. A complete reference, Pouuell, Tata McGraw Hill Publishing Company.

REFERENCE BOOKS

1. Jon Duckett, Beginning HTML, XTML, CSS and Java Script, Wiley Publishing
2. Chris Bates, “Web Programming”, Wiley Publishing 3rd Edition

III SEMESTER			
DSE-1B	**XML PROGRAMMING**		**18UECS3B**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To learn the basics of XML – DTD and XML Schema.
- To understand the concept of XSLT Style sheet and database connection.

UNIT I

Introduction to XML: XML Overview- XML Benefits-XML in Real World- XML Documents- XML Tags-XML Elements- XML Comments

UNIT II

XML - CDATA Sections-XML Processing- Encoding – Validation - Document Type Definition (DTD) in XML- Purpose of DTD- Creating DTD-Validating an XML Document with DTD- XML schema- XML Schema Vs DTD- DOM

UNIT III

XML Tree Structure- Simple Type Elements- User Derived Simple types- Nonatomic Types – Default Values –Fixed Values- Nil values. Complex Type Elements- Declaring global Complex type elements-Complex Model Group- Occurrence Constraints.

UNIT IV

XSLT basics- Extensible Stylesheet Language – Transformation Process- An XSLT Stylesheet- Loop in XSLT- Sorting with XSLT- Conditions in XSLT-Attributes – Empty Elements- Adding Attributes to Elements with Complex Content and Simple Content – Default and Fixed Values- Requiring Attributes

Parser – Web Services Overview – ArchitectureXML – Database- XML – Viewers- Xpath in XSLT- XPath Expression- Location Paths- Node Path-path Functions – Xpath Handlers- XML Editors.

UNIT V

XML used in the future.

TEXT BOOK:

1. Getting Started with XML: A Manual and Workshop by Eric Lease Morgan.
2. Understanding XML A Software Development Approach by Hossein Hassani

REFERENCE BOOK:

1. "XML Complete" – Steven Holzner, Mc-Graw Hill

III SEMESTER		
DSEP-1A	**WEB DESIGN PRACTICAL**	**18UECS3PA**
Hrs/Week: 2	**Hrs/Sem: 2*15=30**	**Credit: 1**

1. Create a simple webpage using formatting tags.
2. Write a HTML Program using Hyperlink
3. Write a HTML program using images with a link.
4. Write a HTML Program to demonstrate Ordered list.
5. Write a HTML Program to demonstrate Unordered list.
6. Write a HTML Program to design a table.
7. Write a HTML Program using Inline Styles.
8. Write a HTML Program using Frames.
9. Write a HTML Program using Nested Frames.
10. Write a HTML Program to create a Registration form.

III SEMESTER		
DSEP-1B	**XML PROGRAMMING PRACTICAL**	**18UECS3PB**
Hrs/Week: 2	**Hrs/Sem: 2*15=30**	**Credit: 1**

1. Write a program to create xml document using XML language.
2. Write a program to import and export xml document using Microsoft access and Microsoft excel
3. Write a Program for XSL TRANSFORMATION
4. Write a Program for XML SCHEMA CREATION
5. Write a Program for Internal and External DTD creation
6. Write a Program for XML Schema creation
7. Web Service creation using .NET
8. Write a Program for Parsing XML document using DOM/SAX parser.
9. Write an XML file which will display the Book information which includes the following:
   1) Title of the book
   2) Author Name
   3) ISBN number
   4) Publisher name
   5) Edition 6) Price

III SEMESTER			
AII -1	**UNIX AND SHELL PROGRAMMING**		**18UACS31**
Hrs/Week: 4	**Hrs/Sem: 4*15=60**	**Hrs./ Unit: 12**	**Credit: 3**

Objectives:

- To provide a comprehensive introduction to Shell Programming.
- To learn about shell commands and scripting.

UNIT I

History of Unix – Features of Unix – Architecture of Unix – File system –Metacharacters - Commands –cat,ls,ls-l,cal,who,mkdir,rmdir - Creating files – Redirecting input and output – Pipelines – Appending output to your files.

UNIT II

Personalized Unix – Changing Password – Login Profiles – Own login profile – Permissions – Changing owner, groups and others permission – Processes – background & foreground process – Killing process – Process status command – Multi line commands – Sleep.

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 – awk.

UNIT V

Shell Programming – Shell Scripting Steps Simple Shell Program – Shell and sub shell variables – Setting and unsetting variables – Positional parameters– Loops – test – read.

TEXT BOOK:

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

REFERENC BOOK:

UNIX Concepts and Applications by Sumitabha Das –Tata McGraw Pub. Company Ltd 3rd Edition.

III SEMESTER		
AII-P-1	**UNIX AND SHELL PROGRAMMING PRACTICAL**	**18UACS3P1**
Hrs/Week: 2	**Hrs/Sem: 2*15=30**	**Credit: 1**

1. Program for finding factorial.
2. Program for generating Multiplication Table.
3. Finding Simple Interest.
4. Leap year checking.
5. Fibonacci Series.
6. Over time pay calculation.
7. Check whether a given number is an Armstrong number or not.
8. Check whether a given number is Prime or not.
9. i. Checking file access permission.

   ii Creating, moving, copying, and removing files using Command.

10. i. Creating, changing and removing directory using Command.

    ii. Granting and revoking permissions for user, groups and others.

11. Program using Loops.

III SEMESTER			
NME-1	**OFFICE AUTOMATION**		**18UNCS31**
Hrs/Week: 2	**Hrs/Sem: 2 X 15 = 30**	**Hrs./ Unit: 6**	**Credit: 2**

Objectives:

- To learn the concept of MS-Word such as auto correct, Auto Text, Mail merge and so on.
- To understand the concept of MS-Excel namely pivot table, pivot chart, goal seek, scenario and so on.
- To understand the concept of MS-Powerpoint.

UNIT I Documentation Using MS-Word:

Introduction to Office Automation, Creating & Editing Document, Formatting Document, Page Formatting, Bookmark.

UNIT II Advance MS-Word:

Advance Features of MS-Word [Mail Merge], Tables, File Management, Printing, Styles.

UNIT III Electronic Spread Sheet using MS-Excel:

Introduction to MS-Excel, Creating & Editing Worksheet, Formulas and Functions, Charts.

UNIT IV Advance features of MS- Excel:

Formatting and Essential Operations, Data Sorting, Filtering data in worksheet, Validation, Goal Seek.

UNIT V Presentation Using MS-PowerPoint:

Presentations, Creating Slides, Manipulating & Enhancing Slides, Custom Animation.

TEXT BOOK:

Microsoft Office – Complete Reference – BPB Publication

REFERENCE BOOK:

Learn Microsoft Office – Russell A. Stultz – BPB Publication.

IV SEMESTER			
DSC8	**OPERATING SYSTEMS**		**18UCCS41**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives

- To learn the basics of different operating systems.
- To understand different views of operating system, Threads, Mutual exclusion, deadlock.
- To learn about CPU scheduling algorithms.
- To understand Basics of memory management, Static,Dynamic portioning, paged, segmented, contiguous, noncontiguous and virtual memory management.
- To get a knowledge about File management, Directories Disk management I/O.

UNIT I

Introduction of Operating Systems(OSs). Evolution of OSs – Serial processing – Batch processing – Multiprogramming . Types of OSs – Batch OSs - Multiprogramming OSs – Time-sharing OSs – Real-time OSs – Combination OSs – Distributed OSs . Design and Implementation of OSs – Functional Requirements – Implementation .

UNIT II

What is process. Implicit and Explicit Tasking – Process relationship. System programmer's view of processes – Interprocess synchronization. OS's view of processes – Process Control Block(PCB) . Deadlocks - Introduction to deadlocks – Deadlock Prevention – Deadlock Avoidance –Deadlock Detection and Recovery deadlocks

UNIT III

CPU Scheduling: Types of Schedulers – Long-term Scheduler – Medium-term Scheduler – Short-term Scheduler. Scheduling and Performance Criteria. Schedulimg Algorithms – First-Come, First-Served (FCFS) Scheduling – Shortest Remaining Time Next (SRTN) Scheduling – Round-Robin (RR) Scheduling – Priority-Based Preemptive Scheduling – Multiple-Level Queue(MLQ) Scheduling .

UNIT IV

Memory management: Basics of memory management – Single-process Monitor. Segmentation - Partitioned Memory Management – Static. Partitioned Memory Management – Dynamic . Paging – Paging Allocation . Virtual memory – Page replacement policies – FIFO – LRU

UNIT V

Files Management - Introduction – Directories – Disk Space Management – Contiguous Allocation Noncontiguous Allocation – Asynchronous Input/OutputDisk Address Translation. Input/Output .

TEXT BOOK

Operating Systems Concepts and Design, Second Edition, Milan Milenkovic, Tata McFraw Hill Publishing Company Limited, New Delhi, 24th Reprint 2008.

REFERENCE BOOK

Operating Systems By Stuart E Madnic and John J Donovan, McGraw Hill Publications

IV SEMESTER			
DSC9	**DATA STRUCTURES IN C**		**18UCCS42**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives

- To understand concepts of data structures
- To create ability for defining and implementing data structures in C
- To embark skill to write codes for data structure operations

UNIT I Arrays and Structures:

Arrays – Dynamically Allocated Arrays- Structures and Unions – Polynomials – adding polynomials – Sparse Matrices: The abstract data types, 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.

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 trees: abstract data type – properties of binary trees – Binary tree representations – binary tree traversals – in order, preorder and post order traversal – additional binary tree operations: copying and testing equality.

UNIT V Graphs:

Abstract data type – Definitions – Graph Representations – Adjacency Matrix, Adjacency Lists, Adjacency Multilists – Spanning trees – Minimum cost spanning trees – Kruskal's Algorithm, Prim's Algorithm – Transitive closure

TEXT BOOK:

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

REFERENCE BOOKS:

Ellis Horowitz and Sartaj Sahni, Fundamentals of Data Structures, Galgotia Publications.

IV SEMESTER			
DSC10	**PHP**		**18UCCS43**
Hrs/Week: 4	**Hrs/Sem: 4*15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To gain an understanding of issues underlying the use of the Internet for communication, resource discovery, research, and dissemination of information in multimedia formats.
- To understand social, legal, and ethical issues related to using the Internet.
- To gain skills in using current Web technologies

UNIT I

Introduction to PHP: Writing and running the PHP script - Assigning Values to Variable-Destroying and inspecting Variable Content - PHP Data Types - Control Structures: if, if else,if else if..else, for,foreach, do-while, while, break, continue, switch.

UNIT II

ARRAY: Indexed and Associative Array, Creating Arrays, Accessing Array Elements, Multidimensional Array. Functions: User-Defined Function, Recursive Function. String & Date-Time: Creating & Accessing String, String Manipulation using string functions, Date-Time: Understanding Timestamp, Getting current date & time

UNIT III

Classes and Objects: Introduction to OOPS Concepts, Visibility Controls, Creating Class and Object, Overloading, Constructor, Destructor, Object Inheritance.

UNIT IV

Web-Form Handling FORM with PHP: Capturing form Data with PHP, Dealing with Multi-value Fields, Generating Web Forms, Storing Variable in Forms, Upload Forms, Redirecting form submission - PHP Session to store data.

UNIT V

Database Connectivity & SQL: Creating Database - Adding Tables - Adding Records - Modifying and removing Records - Retrieving Data

TEXT BOOK:

1.PHP A beginner's Guide-Vikram Vaswani-Tata Mc Graw Hill

REFERENCE BOOK:

1." Beginning PHP and MySQL" W. Jason Gilmore, Kindle Edition

IV SEMESTER		
DSCP-IV	**PHP PRACTICAL**	**18UCCS4P1**
Hrs/Week: 4	**Hrs/Sem: 60**	**Credit: 2**

1. Write a PHP program to display “Hello World “ on the screen
2. Write a PHP program to display the Fibonacci series
3. Write a PHP program to display the sum of the given number using function.
4. Write a PHP program for demonstration of string functions.
5. Write a PHP program that will use the concept form.
6. Write a PHP program for demonstrating an Array.
7. Write a PHP program to prepare student Mark sheet using switch statement.
8. Write a PHP program for create and write the contents into the file.
9. Write a PHP program to connect to database.
10. Write a PHP program to insert and retrieve data using database.

IV SEMESTER			
DSE-2A	**ACTIVE SERVER PAGES**		**18UECS4A**
Hrs/Week: 4	**Hrs/Sem. 4*15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objective:

- Designed for web development to produce dynamic web pages.
- Set up a programming environment for ASP programs.
- Configure an asp application. - Develop a data driven web application.
- Connecting to data sources and managing them.
- Maintain session and controls related information for user used in multi-user web applications.

UNIT I

Introduction: What is ASP? – ASP Model – The Process of Serving an Active Sever Page – Using Scripting Languages – The Input Box Function – The Msgbox Function - Understanding Objects – Request Object – Response Object.

UNIT II

Objects and Components: Application Object - Server Object – Session Object. Components: The Advertisement Rotator Component – The Browser Capabilities Component – The TextStream Component.

Unit III

Working with Html: Retrieving Form Data – Using Text Boxes and Text Areas – Using Radio Buttons and Check boxes – Using Select Lists – Validating Form Data.

UNIT IV

Cookies: Working with Cookies – Application of Cookies – Drawbacks of using Cookies – Using Cookies in ASP Applications – Working with Files and the File System – Working with Drives and Folders.

UNIT V

Connections and Data Sources: Connecting to Microsoft SQL Server – connecting to a Microsoft Access Database – Connection Object – Executing a SQL Statement with the Connection Object – Working with Record Sets – Recordset Cursor and Locking Types.

TEXT BOOK

Ivan Bayross, 'Practical ASP',BBP Publications

REFERENCE BOOK:

"Special Edition Using Active Server Pages" – Scot Johnson, Keith Balliger, Davis Howard Chapman

IV SEMESTER			
DSE-2B	**PC HARDWARE AND TROUBLE SHOOTING**		**18UECS4B**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- The knowledge and skills contained in these Computer Maintenance.
- Repair standards cover the necessary competencies for an entry-level IT professional including installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing.
- Performing preventive maintenance of basic personal computer hardware and operating systems.

UNIT I

Introduction - Computer Organization – Number Systems and Codes – Memory – ALU– CU – Instruction prefetch – Interrupts – I/O Techniques – Device Controllers – Error Detection Techniques – Microprocessor – Personal Computer Concepts – Advanced System Concepts – Microcomputer Concepts – OS – Multitasking and Multiprogramming – Virtual Memory – Cache Memory – Modern PC and User.

Unit II Peripheral Devices:

Introduction – Keyboard – CRT Display Monitor – Printer – Magnetic Storage Devices – FDD – HDD – Special Types of Disk Drives – Mouse and Trackball – Modem – Fax Modem – CD ROM Drive – Scanner – Digital Camera – DVD – Special Peripherals.

Unit III PC Hardware Overview

Introduction – Hardware BIOS DOS Interaction – The PC family – PC hardware – Inside the System Box – Motherboard Logic – Memory Space – Peripheral Interfaces and Controllers – Keyboard Interface – CRT Display interface – FDC – HDC.

Unit IV Installation and Preventive Maintenance

Introduction – system configuration – pre installation planning – Installation practice –routine checks – PC Assembling and integration – BIOS setup – Engineering versions and compatibility – preventive maintenance – DOS – Virus – Data Recovery.

Unit V Troubleshooting

Introduction – computer faults – Nature of faults – Types of faults – Diagnostic programs and tools – Microprocessor and Firmware – Programmable LSI's – Bus Faults – Faults Elimination process – Systematic Troubleshooting – Symptoms observation and analysis – fault diagnosis – fault rectification – Troubleshooting levels – FDD, HDD, CDROM Problems.

TEXT BOOK:

B. Govindarajalu,IBM PC Clones Hardware, Troubleshooting and Maintenance", 2/E, TMH, 2002.

REFERENCES:

1. Peter Abel, Niyaz Nizamuddin,IMB PC Assembly Language and Programming", Pearson Education, 2007
2. Scott Mueller,Repairing PC's", PHI, 1992

IV SEMESTER		
DSEP-2A	**ACTIVE SERVER PAGES PRACTICAL**	**18UECS4PA**
Hrs/Week: 2	**Hrs/Sem: 2*15=30**	**Credit: 1**

1. Demonstration of Cookies.
2. Write a ASP program to store username and password into session.
3. Demonstration of Query String.
4. Write a ASP program to count the number of visitors for the particular web page.
5. Write a ASP program, finding Browser's Information using Browser Capability Component.
6. Write a ASP program to copy the contents of file into another file.
7. Write a ASP program to write and read the contents of a file.
8. Demonstration of Drives.
9. Demonstration of Folder.
10. Write a ASP program to create a table and insert a record into the table.

IV SEMESTER		
DSEP-2B	**PC HARDWARE AND TROUBLE SHOOTING PRACTICAL**	**18UECS4PB**
Hrs/Week: 2	**Hrs/Sem: 2x15=30**	**Credit: 1**

1. Partitioning and Formatting Hard Disk
2. Configure your personal computer
3. Testing Monitor and Keyboard
4. Testing Serial Port and Parallel Port
5. Testing of Computer SMPS
6. FDD fault finding
7. HDD, CD ROM fault finding
8. Identifying PC problem
9. Installing Antivirus software
10. Install the printer driver and self test
11. Connect more than one hard disk
12. Install MS OFFICE 2007
13. Clearing CMOS password

IV SEMESTER			
AII-2	**PYTHON PROGRAMMING**		**18UACS41**
Hrs/Week: 4	**Hrs/Sem: 4*15=60**	**Hrs./ Unit: 12**	**Credit: 3**

Objectives:

- To understand about the basic structure of python.
- To learn about functions and strings in python.
- To learn the basic concepts of module and packages.
- To learn how to use exception handling in Python applications for error handling.

UNIT I:

About Phython – Features of Phython – Phython Setup – Fundamentals of Phython – Values and Datatype – Variables – Identifiers – Comments – Input /Output and Import Functions – Expressions – Statements – Operators – Mathematical Functions – Random Number Functions – Trignometric Functions – Advantages of Phython – Disadvantages of Phython – Conditional Statements – Looping Statements

UNIT II:

FUNCTIONS: Defining a Function – Function Call – Types of Functions – Phython Function Arguments – Composition – Phython Recursion – Phython Anonymous and Lambda Function – Function with more than one return value – STRINGS: Initializing the String variable – Accessing String variable – Slicing Strings – String Concatenation – Repeating a String – Escape Seqeunces – Format method – String Functions and Methods.

UNIT III:

COMPOUND DATA: List – Tuples – Mappings – Dictionary: Creating a Dictionary – Accessing elements on a dictionary – Adding and Modifying Entries to a dictionary – Removing or Deleting Elements from a Dictionary – Phython Dictionary Methods – Using Built – In Functions with Dictionary – Mutable and Immutable Objects – Data Type Conversion – List Comprehension

UNIT IV:

MODULES AND PACKAGES : Creating Modules – Importing Modules – Built –In Modules: Math Module – Random Functions – Date and Time - Locating Modules – Namespaces and Scope – Dir() Function – Reload() Function – Packages in Phython

UNIT V:

EXCEPTION HANDLING: Built – In Exception – Handling Exception: Try…Except – Except Clause with No Exceptions – Except Clause with Multiple Exceptions – Try… Finally Clause – Exception with Arguments- Raising an Exception – User Defined Exception

TEXT BOOK:

Problem Solving and Phython Programming – Dr. A. Kannan, Dr. L. Sai Ramesh, United Global Publishers Pvt. Ltd.

REFERENCE BOOK:

Core Python Programming, Wesley J. Chun, Publisher: Prentice Hall PTR

IV SEMESTER		
AII-P-2	**PYTHON PROGRAMMING PRACTICAL**	**18UACS4P1**
Hrs/Week: 2	**Hrs/Sem: 30**	**Credit : 1**

1. Program to demonstrate numbers and operators.
2. Program using Mathematical Functions.
3. Program using Conditional statements.
4. Program using Looping Statements.
5. Program using Continue, Pass and Break Statement.
6. Program using Recursive Function
7. Program to demonstrate String Manipulation.
8. Program using lists.
9. Program using tuples.
10. Program using dictionary.
11. Program using Modules.
12. Program using Packages.
13. Program to demonstrate Exception handling.

IV SEMESTER			
NME- 2	**WEB DESIGN**		**18UNCS41**
Hrs/Week: 2	**Hrs/Sem: 2 x 15 = 30**	**Hrs./ Unit : 6**	**Credit : 2**

Objectives:

- To learn the history of HTML.
- To mould the skills of designing Web Page.
- To understand about design a web page using list, table, frames.
- To understand about the HTML form elements.

UNIT I Introduction to HTML :

History of HTML – HTML documents – Head Section - Title, Prologue, Links - Colorful Webpage-Comment Lines

UNIT II Designing the Body Section:

Heading Printing – Aligning the headings – HR tag – Anchor tag – Paragraphs – Images and Pictures – Embedding PNG format images.

UNIT III Lists and Tables :

Ordered and Unordered lists – Nested Lists – Headings in a list – Table Handling – Table creation in HTML – width of the table and Cells – Cell spanning – Coloring cells – Column specification

UNIT-IV Frames:

Frames – Frameset definitions – Frame definitions – Nested framesets

UNIT-V Forms :

Forms – Action attributes – Method attribute – Enctype attribute – Check Boxes –Radio Buttons – Text Fields – Text Areas – Password – Submit and Reset Buttons – Drop down list – Sample forms.

TEXT BOOKS:

1. World Wide Web Design with HTML, Dr.C.Xavier., Tata McGraw – Hill Publishing Company.
2. Web design. A complete reference, Pouuell, Tata McGraw Hill Publishing Company

V SEMESTER			
DSC11	**SOFTWARE ENGINEERING**		**18UCCS51**
Hrs / Week: 6	**Hrs / Sem: 90**	**Hrs / Unit: 18**	**Credit : 4**

Objectives

- It aims to develop a broad understanding of the discipline of software engineering.
- It seeks to complement this with a detailed knowledge of techniques for the analysis and design of complex software intensive systems.
- It aims to set these techniques in an appropriate engineering and management context.

UNIT I

Introduction - What is Software - What is Software Engineering – Software Process –software Process model – software engineering methods. Emergent system properties - systems engineering – system requirements – system design – system modelling – sub-system development – system integration –system evolution – system decommissioning – system procurement. Software processes: Software Process models: the waterfall model – Evolutionary development – Spiral development – CASE

UNIT II

Project Management - Management activities – Project Planning – Milestones and Deliverables - Project Scheduling – Bar charts and activity networks. Software requirement : Functional and non-functional requirements – Domain requirements - User requirements – System requirements – Structured language specification - Software Requirements Document (SRS) .

UNIT III

System Models – Context models – Behavioural models – Data-flow models – State machine models. Architectural Design - System Organisation - Repository model – Client-server model – Layered model

UNIT IV

Real time software - System design – Real-time operating systems – Monitoring and control systems – Data Acquisition systems. User Interface design: User Interface design issues – User Interface design process - User Interface prototyping - interface evaluation .

UNIT V

Verification and Validation – Software inspections. Clean – room software development. Software testing: System testing – Integration testing – Release testing - Performance testing –Component testing – Interface Testing. Software cost estimation: Algorithmic cost modeling – The COCOMO model. Quality management: Process and product quality – Software measurement and metric.

TEXT BOOK :

1. Software Engineering, IAN SOMMERVILLE, 8th Edition,Pearson Education Asia.
   UNIT I - Chapters 1.1,2.1,2.2,4.1,4.2,4.3,4.5
   UNIT II - Chapters 5,6.1,6.2,6.3,6.5
   UNIT III – Chapters 8.1,8.2,11
   UNIT IV – Chapters 15,16
   UNIT V - 22, 23.1, 23.2, 26.1, 26.2, 26.3, 27.1,27.3,27.4,27.5

REFERENCE BOOKS:

Software Engineering Theory and Practices, SHARI LAWRENCE PFLEEGER, 8thEdition, Pearson Education Asia.

V SEMESTER			
DSC12	**J2EE**		**18UCCS52**
Hrs/Week: 6	**Hrs/Sem:90**	**Hrs./ Unit: 18**	**Credit : 4**

Objectives:

- To know the major Software Design Patterns available in J2EE framework to meet demanding Software Engineering problems encountered in various Industries.
- To get hands on experience working with the various J2EE patterns and Anti Patterns.

UNIT I Introduction

The Java2 Enterprise Architecture - J2EE Multitier Architecture - J2EE Implementation Architecture - Client Tier Implementation - Web Tier Implementation - EJB Tier Implemetation – J2EE Application – Structured Query Language.

UNIT II Java Database Connectivity (JDBC)

Introduction - JDBC Driver Types - Loading JDBC Driver – Connect to the DBMS – Database Connection – Statement Object – Prepared Statement – Callable Statement – Result Set – Retrieving Results - Reading the Result Set – Scrollable Result Set – Updatable Result Set.

UNIT III Java Server Pages (JSP)

JSP Basics – Advantages of JSP – The Architecture of Java Server Pages (JSP) – JSP Tags – Variables and Objects – Methods – Control Statements – Loops - JSP Objects: Request Object – Out Object – Session Object – Cookies.

UNIT IV Java Servlets

Introduction – Java Servlet – Advantages of Servlets – Servlet Life Cycle – A Simple Java Servlet Generating Plain Text – A Servlet that Generates HTML – Handling Forms with Servlets.

UNIT V Remote Method Invocation (RMI)

Introduction to RMI – RMI Interface – Passing Objects – The RMI Process – Server Side – Client Side – Creating RMI Application – Steps involved in running the RMI Application.

TEXT BOOK:

J2EE – Complete Reference, Jim Keogh", Tata McGraw Hill Publication

REFERENCE BOOK:

Advanced Java Programming with Database Application – N. Krishnan, CIT, MSU

V SEMESTER			
DSC13	**MICROPROCESSOR**		**18UCCS53**
Hrs / Week: 4	**Hrs / Sem: 60**	**Hrs / Unit: 12**	**Credit : 4**

Objectives:

- To understand basic architecture of 16 bit and 32 bit microprocessors.
- To understand interfacing of 16 bit microprocessor with memory and peripheral chips involving system design.
- To understand techniques for faster execution of instructions and improve speed of operation and performance of microprocessors.
- To understand RISC and CISC based microprocessors.
- To understand concept of multi core processors.

UNIT I

Microprocessor, Microcomputers and Assembly Language: Microprocessors- Microprocessor Instruction set and Computer Languages.

Introduction to 8085 and Assembly Language Programming: 8085 Programming Model- Instruction Classification-Instruction, data format and storage - Overview of the 8085 instruction set.

UNIT II

8085 Microprocessor Architecture: Microprocessor Architecture and its operations - The 8085 Micro processing unit[MPU] – Example of an 8085 based Microcomputers- Memory Interfacing – memory mapped I/O.

Introduction to 8085 Instructions: Data transfer operations-Arithmetic operations- Logic operations- Branch operations.

UNIT III

Programming Techniques with additional Instructions: Programming Techniques – Looping, Counting and Indexing-Additional Data transfer 16-Bit Arithmetic Instructions-Arithmetic operations related to Memory-Logic operations-Rotate, Compare.

Counters and Time Delays: Counters and Time Delays-Hexadecimal counter-Modulo Ten Counter

UNIT IV

Stack and Subroutines: Stack –Subroutine-Restart, Conditional call and Return instructions-Advanced Subroutine Concepts- Microprocessor Controlled Traffic signal system.

Interrupts: 8085 Interrupts-Vectored Interrupts- Restart as Software Instructions

UNIT V

16-bit Microprocessors – Intel 8086/8088 - Intel 80186/80286 – High-end-Performance Processors - Intel 80386/80486 – Intel Pentium – RISC.

TEXT BOOK:

Microprocessor Architecture Programming and Applications with the 8085- Ramesh S. Gaonkar- 5th Edition. Chapters:

Unit I: 1.1,1.2,2.1,2.2,2.3,2.5
Unit II: 3.1,4.1,4.2,4,2.3,2.5,5.4, 6.1 to 6.4
Unit III: 7, 8.1 to 8.4
Unit IV: 9, 12.1,12.2,12.3
Unit V: 18.1 to 18.4

REFERENCE BOOK:

Advanced Microprocessors and Interfacing by Badri Ram, McGraw Publication.

V SEMESTER		
DSCP-V	**J2EE PRACTICAL**	**18UCCS5P1**
Hrs/Week: 4	**Hrs/Sem: 60**	**Credit : 2**

1. Write a java code creates a connection to the access database on a hard disk using DSN named Bsc and display it message “Connected Success” if the connection is created.
2. Create a table with the following information Name, Subject, Qualification, Percentage in an Access database using the class Java.Sql.Package
3. Write a java code to insert the following data into the table “Success” which is created in Access.

Code	Names	Subject
1	One	100
2	Two	99
3	Three	99

4. Simply fetch the table information using JDBC.
5. Write a program to display record using prepared statement
6. Create a Servlet an simply display the message “Best Wishes to complete B.Sc(CS) Course Sucessfully” using Hyperlink.
7. Write a simple JSP code and display the output to next form.
8. Write a JSP Program for Quiz
9. Write a program using Request and Out Objects in JSP.
10. Write a servlet code to change the explorer background color.
11. Write a HTML code to capture the user input Name, E-mail Id and other details about the student and display the information in the next form.
12. Write a Servlet code using Get and Post Method.
13. Write a RMI Program to add a two numbers.

V SEMESTER			
DSE-3A	**VB.NET**		**18UECS5A**
Hrs/Week: 4	**Hrs/Sem: 60**	**Hrs./ Unit: 12**	**Credit : 4**

Objectives:

- To effectively use VB.NET, a developer must understand and apply object-oriented concepts.
- To get the skills of designing a web application in VB.NET.
- To learn about making the database connections.

UNIT I

Introduction to VB.Net environment: The Visual Basic Integrated Development Environment, Console application and Windows application, Data types, Declaring Variables, Arrays - Declaration and Manipulation, Decision Making Statements, Looping Statements, MsgBox and InputBox Function, Forms - Adding Controls to Forms.

UNIT II

Working with Multiple Forms, Setting the Startup Form, VB.NET controls - Common controls (Text Boxes, Rich Text Boxes, Labels, Buttons, Checkboxes, Radio Buttons, Check Boxes, List Boxes, Checked List Boxes, Combo Boxes, Picture Boxes, Timers) Properties – Methods, Handling Menus.

UNIT III

Object Oriented Programming in VB.NET - Class and Objects, Properties, Methods and Events, Constructor and Destructor, Inheritance, Access modifiers: Public, Private, Protected, Friend, Shadowing, Interfaces, Polymorphism, Structured and Unstructured Exception Handling

UNIT IV

Web Application in VB.NET - Introduction to Web form, Page Directives, Validation Controls, Page Redirection Concept of Web Services, Create a small Web Services

UNIT V

ADO.Net - 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 BOOK:

“Programming VB.Net: A Guide for Experienced Programmers” – Gary Cornell And Jonathan Morrison

V SEMESTER			
DSE-3B	**ANDROID PROGRAMMING**		**18UECS5B**
Hrs/Week: 4	**Hrs/Sem: 60**	**Hrs./ Unit: 12**	**Credit : 4**

Objectives:

- Understanding the Anatomy of an Android Application
- Learning the Android Software Development Process
- Designing and Developing Bulletproof Android

UNIT-I

An Overview of the Android Platform: Introducing Android - The Open Handset Alliance - Android Platform Differences - Setting Up Your Android Development Environment :Exploring the Android SDK - Writing Your First Android Application : Building Your First Android Application

UNIT-II

Android Application Basics: Understanding the Anatomy of an Android Application - Defining Your Application Using the Android Manifest File - Managing Application Resources.

UNIT-III

Android User Interface Design Essentials: Exploring User Interface Building Blocks - Designing with Layouts - Displaying Dialogs.

UNIT-IV

Android Application Design Essentials: Working with Files and Directories - Leveraging Content Providers - Designing Compatible Applications

UNIT-V

Publishing and Distributing Android Applications: Learning the Android Software Development Process - Designing and Developing Bulletproof Android - Planning the Android Application Experience – Applications - Testing Android Applications - Publishing Your Android Application.

TEXT BOOK :

Introduction to Android Application Development, Fourth Edition, Joseph Annuzzi, Jr. Lauren Darcey, Shane Conder, Addison – Wesley Publications 2014.

REFERENCE BOOKS :

1. Professional Android 4 Application Development, Reto Meier, John Wiley & Sons, Inc. 2012
2. Android Apps for Absolute Beginners 2nd Edition by Wallace Jackson, A press
3. Professional Android Open Accessory Programming with Arduino by Andreas Goransson, David Cuartielles Ruiz
4. Enterprise Android Programming Android Database Application for the Enterprise by ZigurdMednieks, G.BlakeMeike, Laird Dornin, Zane Pan

V SEMESTER		
DSEP-3A	**VISUAL BASIC.NET PROGRAMMING PRACTICAL**	**18UECS5PA**
Hrs/Week: 4	**Hrs/Sem: 60**	**Credit : 2**

1. Create a form having three radio buttons for age in year, age in days and age in months. Enter date of birth in a textbox and display appropriate result in another textbox.
2. Create an application that ask you "how many nos you would like to enter = ". Enter all the nos by Input box / text box (dynamic generate) when you click on 'result' button following things should be display. List box 1:original nos. List box 2: nos in ascending. List box 3: nos in descending. Label: the sum of all entered nos Label: the average of all entered nos.
3. Create a multi line textbox that can accept any type of character.
   - On pressing a button 'COUNT' display total alphabets, numbers, and Special symbols In text.
4. Write a program for Picture animation using Image Lists
5. Write a program using Menus and Build In Dialogs
6. Write a program using Exception Handling
7. Write a program that makes use of Functions in VB.NET
8. Write a program deploying Polymorphism using VB.NET
9. Write a program developing Inheritance using VB.NET
10. Create a web application having.
    - Login form: create login form with login, cancel, change password form.
    - Change password: use name, password, confirm password.
11. Create a web application using Validation Controls
12. Write a program using Page Redirection Concept
13. Create Student Information System.
    - Table: Student (reg_no, stu_name, dob, age, father_name, address, city, phone) Make a form to add, delete and update a record. Also give facility for navigation of record.
14. Create a program using Data Grid control

V SEMESTER		
DSEP-3B	**ANDROID PROGRAMMING PRACTICAL**	**18UECS5PB**
Hrs/Week: 4	**Hrs/Sem: 60**	**Credit : 2**

1. Basic Android Aplication to display a message
2. Android application to display toast message on button click
3. Android applications using basic user interface controls
4. Android applications to use android specific user inteface controls
5. Android application for login operation
6. Android application to make use of database
7. Android applications to make use of different layouts
8. Android application to implement various Event listeners
9. Android application to display dialog box and alert messages
10. Android application to create animation

V SEMESTER		
SEC-1	**MOBILE COMMUNICATIONS**	**18USCS51**
Hrs/Week: 2	**Hrs/Sem: 30**	**Credit : 2**

Objectives:

- Learning about Mobile Computing functions
- Understanding Global System for Mobile Communications and Wire Application Protocol

UNIT I

Introduction: Mobile Computing - Mobile Computing functions - Mobile Computing Devices - Networks Standards

UNIT II

Architecture for Mobile Computing-Three Tier Architecture: Tier-1, Tier-2, Tier-3 –GPS

UNIT III

Emerging Technologies: Bluetooth - Bluetooth protocol - Bluetooth protocol stack - Radio Frequency Identification (RFID

UNIT IV

Global System for Mobile Communications (GSM) - GSM Architecture - GSM entities.

UNIT V

Wire Application Protocol(WAP) - WAP Application Environment (WAE) - Wireless LAN – Applications

TEXT BOOK:

Mobile Computing Technology,Application and Service Creation By Asoke K.Talukder and Roopa R.Yavaga-Tata Mcgraw Hill Publications.

REFERENCE BOOKS:

1. Mobile Computing by Biplob.k Sikdar and Sipra Dasbit - Pretice Hall Of India
2. Mobile Communications by J.Schilter - Addison-Wesley Publications

VI SEMESTER			
DSC14	**DATA COMMUNICATIONS AND NETWORKING**		**18UCCS61**
Hrs/Week: 4	**Hrs/Sem: 60**	**Hrs./ Unit: 12**	**Credit: 4**

Objectives:

- To learn the fundamental concepts of data communication and networking technologies
- To understand about the topologies of LAN, MAN, and WAN in OSI model.
- To understand about the transmission media and its process.
- To understand the implementation of LAN.
- To learn the concept and the process of layers of OSI model.

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

Data Link 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 – Token Bus – Token Ring – FDDI MAN :IEEE 802.6(DQDB).

UNIT V

Transport Layer: Duties of the transport Layer . - 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 2nd Edition, 2006.

REFERENCE BOOKS:

"Computer Networks" – Andrew S. Tanenbaum,4th Edition, PHI.

VI SEMESTER			
DSC-15	**C# PROGRAMMING**		**18UCCS62**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit : 4**

Objective:

- Understanding about implementation of OOPs concept
- Easy to develop the program using error handling

UNIT I

Overview of C#: Introduction – simple C# program - Namespaces – comments – command line arguments – mathematical functions – Program structure – Literals – variables – data types – value types –reference types - scope of variables - boxing and unboxing - Operators and Expressions – conditional operators – bitwise operators – special operators – precedence of operators – type conversions

UNIT II

Decision making and branching – simple if – if..else – else if ladder – switch statement – conditional operator - decision making and looping – for, while, do, for each statements – Jumps in loops . Handling arrays – one dimensional arrays – creating an array – two dimensional arrays – variable size arrays – System. Array Class – Array List Class – Manipulating Strings.

UNIT III

Methods in C# - declaring methods – Main method – invoking methods – nesting of methods – method parameters – pass by value – pass by reference – output parameters – variable argument lists – Structures and enumerations.

UNIT IV

Classes and Objects – member access modifiers – constructors – overloading constructors – destructors – This reference – Constant and Read only members – properties - Indexers – Inheritance and polymorphism – Containment inheritance – visibility Control – overloading methods - overriding methods – hiding methods - abstract classes – sealed classes – polymorphism.

UNIT V

Interfaces – multiple inheritance - Operator overloading – Delegate Declaration and Instantiation - Events – Managing Errors and Exceptions – Throwing our own exceptions – nested try blocks – Checked and Unchecked Operators.

TEXT BOOK:

Programming in C# - E. Balagurusamy – Third Edition - Tata McGraw Hill Education Ltd.

REFERENCE BOOK:

C# Complete Reference – Herbert Schildt – Tata McGraw Hill Education Ltd.

VI SEMESTER		
DSC-16	**PROJECT**	**18UCCS63**
Hrs/Week: 6	**Hrs/Sem: 90**	**Credit : 6**

Objectives :

- Identify the potential areas of research in his/her field;
- Collect data from various sources including the internet, analyse them, make new connections and link them to life;
- 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 **80% for the presentation of project and 20% for viva-voce.**

VI SEMESTER		
DSCP-VI	**C # PROGRAMMING PRACTICAL**	**18UCCS6P1**
Hrs/Week: 4	**Hrs/Sem: 4*15=60**	**Credit : 2**

1. Write a program to prepare electricity bill using switch statement.
2. Write a program to display all prime numbers between two given numbers.
3. Write a program to display a given number in words – use for each statement.
4. Write a program to find n factorial using recursion.
5. Write a program to implement constructor overloading.
6. Write a program to sort n numbers using method.
7. Write a program to perform matrix operations using object.
8. Write a program to implement user defined Exception.
9. Write a program to implement inheritance.
10. Write a program to implement operator overloading.
11. Write a program to implement polymorphism.
12. Write a program to implement interfaces.
13. Write a program to implement overriding methods and hiding methods.
14. Write a program to copy contents of a file to two different destinations.

VI SEMESTER			
DSE-4A	**RDBMS with ORACLE**		**18UECS6A**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit : 4**

Objectives

- To learn about the structural model and relational algebra operations.
- To learn the manipulations of data using aggregate function and Integrity constraints.
- To understand about the SQL*PLUS commands and Oracle * data manipulation functions.
- To know about the concept of PL/SQL .

UNIT I

Introduction: Database-System Applications – Purpose of Database Systems – View of Data - Database Languages - Relational Databases – Data base design - Relational Model: Structure of Relational Databases – Fundamental Relational - Algebra Operations: The Select, Project, Union, Set-Difference, Cartesian-Product, Rename Operations – Formal Definition of the Relational Algebra.

UNIT II

Additional Relational-Algebra Operations - Extended Relational-Algebra Operations – Null Values - Modification of the Database - SQL: Background – Data Definition: Basic Domain Types – Basic Schema Definition in SQL - Basic Structure of SQL Queries - Set Operations: Union, Intersect, Except operation.

UNIT III

Aggregate Functions – Null Values – Nested Sub queries – Complex Queries – Views – Modification of the Database: Deletion, Insertion, Updates, Update of a view, Transactions - Advanced SQL: SQL Data Types and Schemas – Integrity Constraints: Not null, Unique, Check, Referential Integrity, Assertions – Authorization.

UNIT IV

SQL * PLUS: Menus – Commands – Editing the command line – The Describe, Column, Save, Get, Start, Edit commands. BASIC SQL: Oracle and SQL – SQL Language Basics – Select command – Oracle 8 Data types – Expressions and Operators – Functions, Insert, Update, Delete command, Transactions.

UNIT V

Creating and Maintaining Tables: Deleting a Table – Index Organized – Modifying Tables: The Alter Table command, Deleting a Table, Index-organized Tables - Indexes: Create, Change, Recreate, Eliminate an Index – Sequence: Create, Delete – Change Sequences – Views: Create, Select, Delete, Views – PL/SQL blocks control structure, programs, stored procedures and functions: Create, Execute, Delete a stored procedure – Functions: Create, Execute a function.

TEXT BOOK:

1. Database System Concepts 5th Edition - Abraham Silberschatz, Henry F.Korth, S.Sudarshan - McGraw-Hill Publication.Chapter 1.1 to 1.6, 2.1 to 2.6,3.1 to 3.10,4.1 to 4.3.
2. Learn Oracle 8i - Jose. A. Ramalho – B.P.B Publications. Chapter 6, 7, 9 to 12, 15 and 17.

REFERENCE BOOK:

Database system using oracle – Nilesh Shah – Prentice-Hall of India Private Limited.

VI SEMESTER			
DSE-4B	**RDBMS with SQL SERVER**		**18UECS6B**
Hrs/Week: 4	**Hrs/Sem: 4x15=60**	**Hrs./ Unit: 12**	**Credit : 4**

Objectives

- To learn the evaluation of database systems.
- To understand about the implementation of Relational database
- To learn the concept of normalization
- To mould the skills of database language such as SQL

UNIT I

The Evolution of Database systems – Architecture of a DBMS – the Future of Database Systems.

UNIT II

Database Models – The Relational Data Model – Basics of the Relational model – E-R- Diagrams to Relational designs Functional Dependencies – Definition of Functional Dependency – Keys of Relations – Relations – Super Keys – Discovering keys for Relations – Rules about Functional Dependencies. 9

UNIT III

Design of Relational Database – anomalies – Decomposing Relations – Boyce-Codd Normal Form – Decomposition into BCNF – projecting Functional Dependencies – Third Normal Form – Multi valued Dependencies – Definition of Multi valued Dependencies – Fourth Normal Form – Decomposition into Fourth Normal Form – Relationship Among Normal Forms.

UNIT IV

Operations in the Relational Model – Set Operations of Relations – Projection – Selection – Cartesian Product – Natural joins – Intersection – Union – Differences – Product – Joins. Constraints on Relational – Referential Integrity Constraints – Other Extension to the Relations Model

UNIT V

Database Language SQL – Simple Queries in SQL – Queries involving more than one Relation – Sub Queries – Duplicates – aggregation – Database modification – Defining a Relation Scheme in SQL – View Definition – Constraints in SQL – Keys in SQL – Referential Integrity and Foreign Keys. Systems Aspects of SQL – SQL in Programming Environment – Security and User Authorization in SQL2.

TEXT BOOK:

A First course in Database Systems – Jeffrey D. Ullman and Jennifer Widom Addison Wesley Longman Pte. Ltd., Delhi – 2001.

REFERENCE BOOKS:

1. Fundamentals of Database Systems – Thrid Edition – Ramez Elmasri – Shamkant B. Navathe – Addison Wesley Longman Pte. Ltc – Delhi 2001.
2. Database Management Systems – Alexis leon and Mathews Leon – Vikas Publishing House Pvt. Ltd – New Delhi – 2002.

VI SEMESTER		
DSEP –4A	**RDBMS WITH ORACLE PRACTICAL**	**18UECS6PA**
Hrs/Week:4	**Hrs/Sem: 4x15=60**	**Credit : 2**

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 program with control structures.
12. PL/SQL program with procedures.
13. PL/SQL program with functions using IN & OUT parameters.

VI SEMESTER		
DSEP-4B	**RDBMS with SQL SERVER PRACTICAL**	**18UECS6PB**
Hrs/Week:4	**Hrs/Sem: 4x15=60**	**Credit : 2**

A) An Enterprise wishes to maintain the details about his suppliers and other corresponding details. For that he uses the following details.
Suppliers (sid: Integer, sname: string, address: string)
Parts (pid: Integer, pname: string, color: string)
Catalog (sid: integer, pid: integer, cost: real)
The catalog relation lists the prices charged for parts by suppliers.
Write the following queries in SQL:

1. Find the pnames of parts for which there is some supplier.
2. Find the snames of suppliers who supply every part.
3. Find the snames of supplier who supply every red part.
4. Find the pnames of parts supplied by London Supplier abd by no one else.
5. Find the sid's of suppliers who charge more for some part than the average cost of that part.
6. For each part, find the sname of the supplier who charges the most for that part.
7. Find the sid's of suppliers who supply only red parts.
8. Find the sid's of suppliers who supply a red and a green part.
9. Find the sid's of suppliers who supply a red or green part.
10. Find the total amount has to pay for that suppler by part located from London.

An organisation wishes to maintain the status about the working hours made by his employees. For that he uses the following tables.
Emp (eid: integer, ename: string, age: integer, salary: real)
Works (eid: integer, did: integer, pct_time: integer)
Dept (did: integer, budget: real, managerid: integer)
B) An employee can work in more than one department; the pct_time field of the works relation shows the percentage of time that a given employee works in a given department. Resolve the following queries.

1. Print the names and ages of each employee who works in both Hardware and Software departments.90 hrs (3 hrs/ week)
2. For each department with more than 20 full time equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did's together with the number of employees that work in that department.
3. Print the name of each employee whose salary exceeds the budget of all of the departments that he or she work in.
4. Find the managerid's of managers who manage only departments with budgets greater than 1,000,000.
5. Find the enames of managers who manage the departments with largest budget.
6. If a manager manages more than one department, he or she controls the sum of all the budgets for those departments. Find the managerid's of managers who control more than 5,000,000.
7. Find the managerid's of managers who control the highest amount.
8. Find the average manager salary.

VI SEMESTER		
SEC-2	**INTERNET OF THINGS**	**18USCS61**
Hrs/Week: 2	**Hrs/Sem: 30**	**Credit : 2**

Objectives:

- Provides an Overview of an Internet of Things & enabling technologies.
- Describes the characteristics and application of domain specific IOTs
- Describes the generic Methodology for Internet of Things

UNIT - I: INTRODUCTION TO IOT

Internet of Things - Physical Design - Logical Design - IoT Enabling - Technologies - IoT Levels & Deployment Templates

UNIT – II: DOMAIN SPECIFIC IOTs

Introduction – Homes – Cities – Environment - Agriculture - Industry

UNIT – III: IoT and M2M

Introduction - M2M - Difference between IoT and M2M

UNIT – IV: DEVELOPING INTERNET OF THINGS

Introduction - IOT Design Methodology

UNIT - V: IOT PHYSICAL DEVICES AND END POINTS

What is an IoT Device - Basic building blocks of an IoT Device - Exemplary Device: Raspberry Pi

TEXT BOOKS:

Arshdeep Bahga, Vijay Madisetti, —Internet of Things – A hands-on approach Universities Press, 2015

REFERENCE BOOK:

“Getting Started with Internet of Things” – Cuno Pfister

VI SEMESTER			
SBC	**PERSONALITY DEVELOPMENT**		**18USPD62**
Hrs / Week: 2	**Hrs / Sem: 30**	**Hrs / Unit: 6**	**Credits: 2**

UNIT -I

PERSONALITY - Definition – Determinants – Personality Traits –Theories of Personality – Importance of Personality Development. **SELF AWARENESS** – Meaning – Benefits of Self – Awareness – Developing Self – Awareness. **SWOT** – Meaning – Importance- Application – Components.

UNIT – II

SELF MONITORING – Meaning –Advantages and Disadvantages self monitor - Self – monitoring and job performance. **PERCEPTION**- Definition- Factor influencing perception- Perception process. **ATTITUDE** – Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes. **ASSERTIVENESS** - Meaning – Assertiveness in Communication – Assertiveness Techniques.

UNIT – III

TEAM BUILDING – Meaning – Types of teams – Importance of Team building- Creating Effective Team. **LEADERSHIP** – Definition – Leadership style – Qualities of an Effective leader. **NEGOTIATION SKILLS** – Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation Process. **CONFLICT MANAGEMENT** – Definition- Types of Conflict- Levels of Conflict.

UNIT –IV

COMMUNICATION – Definition – Importance of communication – Process of communication –Barriers in communication – Overcoming Communication Barriers. **EMOTIONAL INTELLIGENCE**: Meaning – Components of Emotional Intelligence- Significance of managing Emotional intelligence. **STRESS MANAGEMENT** – Meaning – Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing Stress.

UNIT – V

SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. **TABLE MANNERS** – Meaning – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes. **DRESS CODE** – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. **GROUP DISCUSSION** – Meaning – Personality traits required for Group Discussion- Process of Group Discussion**. INTERVIEW** – Definition- Types of skills – Employer Expectations –Planning for the Interview – Interview Questions- Critical Interview Questions.

References:

2) Dr.S. Narayana Rajan, Dr. B. Rajasekaran, G. Venkadasalapthi, V. Vijuresh Nayaham and Herald M.Dhas, **Personality Development**, Publication Division, Manonmaniam Sundaranar University, Tirunelveli
3) Stephan P.Robbins, **Organisational Behaviour**, Tenth Edition, Prentice Hall of India Private Limited, New Delhi,2008
4) Jit S. Chandan, **Oragnisational Behaviour**, Third Edition, Vikas Publishing House Private Limited, 2008
5) Dr.K.K. Ramachandran and Dr.K.K. Karthick, **From Campus to Corporate**, Macmillan Publishers India Limited, New Delhi, 2010.

SCHEME OF EXAMINATIONS UNDER CBCS (2018 - 2021)

The medium of instruction in all UG and PG courses is English, and students must write the CIA Tests and Semester Examinations in English.

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
Theory	100	25	75	Nil	30	40
Practical (4 hrs)	100	40	60	Nil	24	40
Practical (2 hrs)	50	20	30	Nil	12	20
Project	100	Nil	Report - 60 marks Viva Voce - 40 marks	Nil	Nil	40

DIVISION OF MARKS FOR CIA TEST

SUBJECT	MARKS	ASSIGNMENT FOR UG / ASSIGNMENT OR SEMINAR FOR PG	RECORD NOTE	TOTAL MARKS
Theory	20	5	--	**25**
Practical (4 hrs)	30	--	10	**40**
Practical (2 hrs)	15	--	5	**20**

1. The duration of each CIA Test is ONE hour and the Semester Examination is THREE hours.
2. 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.
3. 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.
4. Two assignments for Undergraduate, Certificate, Diploma and Advanced Diploma Courses and two assignments OR two seminars for Postgraduate Courses has to be submitted.
5. 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.
6. Two internal practical tests of 30/15 marks each will be conducted for science students in the respective semester and the average will be taken. The record marks allotted for the above practical are 10 and 5 respectively.

QUESTION PAPER PATTERN FOR CIA TEST (THEORY)

Duration: 1 Hr Maximum Marks: 20

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

QUESTION PAPER PATTERN FOR SEMESTER EXAMINATION (THEORY)

Duration: 3 Hrs **Maximum Marks: 75**

Section	Question Type	No. of Questions & Marks	Marks
A	No Choice Answer should not exceed 75 words	10 Questions - 2 marks each (2 Questions from each unit)	10 x 2 = 20
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
C	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
		TOTAL	**75 MARKS**