SACRED HEART COLLEGE (AUTONOMOUS)

Department of Computer Science

BACHELOR OF COMPUTER APPLICATIONS

[MOBILE APPLICATIONS AND CLOUD TECHNOLOGY]

Course plan

Academic Year 2018-19

Semester 1

PROGRAMME OUTCOMES

PO 1	**Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
PO 2	**Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the word by connecting people, ideas, books, media and technology.
PO 3	**Effective Citizenship:** Demonstrate empathetic social concern and equity centered national development, and the ability to act an informed awareness of issues and participate in civic life through volunteering.
PO 4	**Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.
PO5	**Ethics**: Recognise different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
PO 6	**Global Perspective:** Understand the economic, social and ecological connections that link the world's nations and people.

PROGRAM SPECIFIC OUTCOMES

PSO 1	Apply the theoretical foundations of computer science in modelling and developing solutions to the complex and real world problems.
PSO 2	Comprehend, explore and build up computer programs, applications in the allied areas like Algorithms, Multimedia, Web Design and android applications for efficient design of computer-based systems that meet the needs of industry and society.
PSO 3	Develop skills in android and cloud technology development so as to enable the graduates to take up employment/self-employment in global technical market.
PSO 4	Apply knowledge of layered network models, protocols, technologies, topologies and security policies for building network and internet based applications.

COURSE STRUCTURE

Course Code	Title Of The Course	No. Hrs./Week	Credits	Total Hrs./Sem
U1CCENG1	Communication Skills	5	4	75
U1CPCMT1	Foundation of mathematics	4	4	60
U1CRBCA1	Computer fundamentals & organization	4	4	60
U1CRBCA2	Programming in ‘C’	4	3	60
U1CRBCA3	Introduction to Linux	4	3	60
U1PRBCA1	Programming in ‘C’ – Lab	2	1	30
U1PRBCA2	Introduction to Linux -Lab	2	1	30

COURSE PLAN - COMMUNICATION SKILLS IN ENGLISH

PROGRAMME	BACHELOR OF COMPUTER APPLICATIONS	SEMESTER	1
COURSE CODE AND TITLE	15U1CCENG1: COMMUNICATION SKILLS IN ENGLISH	CREDIT	4
HOURS/WEEK	5	HOURS/SEM	90
FACULTY NAME			

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Understand the mechanics of English language and comprehend the plain meaning of simple narrations, announcements and instructions.		
CO 2	Make inferences about the implications of statements from stress and tone recognise the various registers of speech.		
CO 3	Listen to formal presentations and prepare lecture notes using the appropriate format.		
CO 4	Use English language for a variety of speaking contexts including conversations, presentations, speeches, discussions and negotiations.		
CO 5	Critically evaluate presentations, narrations, speeches and analyse and evaluate their content and respond to them appropriately.		
CO 6	Creatively respond to one's surroundings in the form of dramatic works, poetry, narrations, and songs, and perform them before an audience.		
CO 7	Understand the mechanics of English language and comprehend the plain meaning of simple narrations, announcements and instructions.		

Sessions	Topic	Method	Value Additions	COs
1	Introduction to Communication Skills	Lecture		CO1,
2	Phonetics: Introduction	PPT presentation		CO5,CO6,
3	Unit 1 – Write as you speak	Audio presentation & Exercises		CO3, CO4,

4	Unit 2 – Dip in Deep Sea	Audio presentation & Exercises		CO1, CO3,
5	Unit 3 – Many Mad Men	Audio presentation & Exercises		CO3, CO4,
6	Unit 4 – A Cot Caught in a Cart	Audio presentation & Exercises		CO1,CO3,
7	Unit 5 – Look for Good Food	Audio presentation & Exercises		CO3, CO2,
8	Unit 6 – Bad Luck, Early Worm and Unit	Audio presentation & Exercises		CO5, CO7
9	Unit 7 - Again and Again	Audio presentation & Exercises		CO2, CO4
10	Unit 8 – A China Clay Toy	Audio presentation & Exercises		CO1, CO3
11	Unit 9 – Holy Cow	Audio presentation & Exercises		CO6,CO7
12	Unit 10 – Here, There, Everywhere	Audio presentation & Exercises		CO6,CO7
13	IAT – 1			
14	Discussion on the test paper	Discussion		CO4, CO6
15	Unit 11 – Bzzing Bees & Hissing Snakes Unit 12 – Pleasure Ships on the sea	Audio presentation & Exercises		CO6, CO7
16	Unit 13 – A Fine Vine Unit 14 – Thanks Brother!	Audio presentation & Exercises		CO1, CO3
17	Unit 15 – Jane's Chain Unit 16 – A Smiling King	Audio presentation & Exercises		CO2, CO3

18	Unit 17 – Betty's Bitter Butter Unit 18 – Have Your Way	Audio presentation & Exercises		CO1, CO3
19	Unit 19 – Right Road, Light Road Revision	Audio presentation & Exercises Drill Exercises		CO1, CO3
20	Revision Exercises	Drill Exercises		CO5,CO7
21	Unit 20 - Pronunciation: Syllables	Lecture Session		CO2, CO6
22	Unit 21 - Word stress 1	Audio presentation & Exercises		CO2, CO6
23	Unit 22 - Word stress 2	Audio presentation & Exercises		CO6, CO7
24	Unit 22 - Stress and Parts of Speech	Audio presentation & Exercises		CO4, CO5
25	Unit 23 - Sentence Stress	Audio presentation & Exercises		CO5, CO7
26	Holiday – SreeNarayana guru samadhi			
27	Holiday – Bakrid			
28	IAT – 2			
29	Performance Analysis _ IAT 2	Discussion		, CO5, CO7
30	Unit 24 – Weak forms & Strong Forms Unit 25 – Contracted forms	Audio presentation & Exercises		CO2, CO3,
31	Unit 26 – Intonation	Audio presentation & Exercises		CO1, CO7
32	Unit 27 – Different accents	Lecture and Drill		CO2, CO3,
33	Influence of Mother tongue	Lecture and Drill		CO2, CO4

ASSIGNMENTS

	Topic of Assignment & Nature of assignment (Individual/ Group – Written/ Presentation – Graded or Non-graded etc)	**Course Outcome**
1	Write a note on your bus trip the college & present it before the class.	CO6
2	Write a descriptive note on the sights and sounds of the college canteen + presentation before the class	CO5, CO6
3	Write an interesting conversation you listened to recently and present it before the class with your partner.	CO4, CO5
4	Identify a passage from any textbook or magazine, underline a pair of consonant sounds and read the same in the class giving special emphasis to the pair of sounds chosen	CO2
5	Write a description of the Lakeview ground	CO6
6	Describe the college auditorium	CO6
7	Describe the sights and sounds in the portico of the college on any given day	CO6, CO5
8	Describe the aquarium in the portico	CO7
9	Narrate your experiences of any day on the campus	CO5

REFERENCE

V.Sasikumar, P Kiranmai Dutt and Geetha Rajeevan, . Communication Skills in English. Cambridge University Press and Mahatma Gandhi University.

Further Reading

Sl.No	Title	Author	Publisher & Year
1	A Course in Listening and Speaking I & II	Sasikumar V.,Kiranmai Dutt and Geetha Rajeevan	New Delhi: CUP, 2007
2	Study Listening: A Course in Listening to Lectures and Note-taking	Tony Lynch	New Delhi: CUP, 2008
3	Study Speaking: A Course in Spoken English for Academic Purposes	Anderson, Kenneth, Joan Maclean and Tony Lynch	New Delhi: CUP, 2008
4	Study Reading: A Course in Reading Skills for Academic Purposes	Glendinning, Eric H. and Beverly Holmstrom	New Delhi: CUP, 2008

5	Communication Studies	Sky Massan	Palgrave Macmillan
6	Effective Communication for Arts and Humanities Students	Joan Van Emden and Lucinda Becker	Palgrave Macmillan

COURSE PLAN - FOUNDATIONS OF MATHEMATICS

PROGRAMME	**BACHELOR OF COMPUTER APPLICATIONS**	**SEMESTER**	**1**
COURSE CODE AND TITLE	**U1CPCMT1: FOUNDATIONS OF MATHEMATICS**	**CREDIT**	**4**
HOURS/WEEK	**4**	**HOURS/SEM**	**72**
FACULTY NAME	**NEETHU A S**		

	COURSE OUTCOMES	**PO/ PSO**	**CL**
CO 1	Understand the concepts and prove statements about sets and functions	PO1,PO2, PO6, PSO2, PSO3	U
CO 2	Understand relations, its properties, representation, equivalence relations and partial ordering	PO1, PSO2, PSO3	A
CO 3	Understand and apply concepts of Prepositional logic, Predicates and Quantifiers	PO1, PO2, PSO1	U
CO 4	Familiarize mathematical Symbols and standard methods of proofs.	PO1, PO2, PSO1, PSO2,PSO4	An
CO 5	Understand the basic concepts of Number theory	PO1, PO2, PO3, PO4, PO5, PSO2, PSO3	U

CL* Cognitive Level

SESSION	**TOPIC**	**LEARNING RESOURCES**	**VALUE ADDITIONS**	**COURSE OUTCOME**
MODULE I				
1	Set Theory Introduction	Lecture		CO 1
2	Basic Operations on Sets	Lecture		CO 1
3	Set Identities	Lecture		CO 1
4	Computer Representation of sets	Lecture		CO 1
5	Functions	Lecture		CO 1
6	Algebraic operations on real Functions	Lecture		CO 1
7	Composition of Functions	Lecture		CO 1
8	Bijective Functions	Lecture		CO 1
9	Inverse Functions	Lecture		CO 1
10	Graphs of functions	Lecture		CO 1

11	Increasing and Decreasing functions	Lecture		CO 1
12	Sequences	Lecture		CO 1
13	Summations	Lecture		CO 1
14	Cardinality	Lecture		
MODULE II				
15	Relations Introduction	Lecture		CO 2
16	Types of Relations on a Set	Lecture		CO 2
17	Combinations of Relations	Lecture		CO 2
18	Representation of relations on Finite Sets	Lecture		CO 2
19	Representation relations using Digraphs	Lecture		CO 2
20	n-ary relations and their applications	Lecture		CO 2
21	operations on n-ary relations	Lecture		CO 2
22	Equivalence Relations	Lecture		CO 2
23	Partitions	Lecture		CO 2
24	Partial Oderings	Lecture		CO 2
25	Hasse Diagrams	Lecture		CO 2
26	CIA-1			
27	Covering Relation	Lecture		CO 2
28	Maximal and Minimal elements	Lecture		CO 2
29	Lattices	PPT/Lecture		CO 2
30	Toplogical Sorting	PPT/Lecture		CO2
31	Revision			
32				
MODULE III				
33	Mathematical Logic Introduction	Lecture		CO 3
34	Propositions -simple and compound	Lecture		CO 3
35	Logical operators	Lecture		CO 3
36	Conditional, Biconditional Statements	Lecture		CO 3
37	Precedence of Logical Operators	Lecture		CO 4
38	Logic and Bit operations	Lecture		CO 4
39	Tautologies and contradictions	Lecture		CO 4
40	Logical Equivalences - Laws of logic	Lecture		CO 4
41	Predicates, Quantifiers	Lecture		CO 4
42	Universal Quantifiers, Existential Quantifiers, Binding Variables	Lecture		CO 4
43	Logical Equivalence involving quantifiers	Lecture		CO 4
44	Negation of quantified expressions	Lecture		CO 4
45	Nested Quantifiers	Lecture		CO 4
46	Arguments	Lecture		CO 4
47	Rules of Inference for propositions	Lecture		CO 4
48	Rules of Inference for quantified statements	Lecture		CO 4
49	Methods of proving theorems	Lecture		CO 4
MODULE IV				
51	Theory of Numbers – Divisibility	Lecture		CO 5

52	Prime and Composite Numbers	Lecture		CO 5
53	GCD, Theorems on division	Lecture		CO 5
54	Divisors of a given number	Lecture		CO 5
55	Euler's Function	Lecture		CO 5
	Congruences -Theorems	Lecture		CO 5
56	Fermat's theorem	Lecture	Debate	CO 5
57	Wilson's theorem	Lecture		CO 5
58	Lagrange's theorem	Lecture		CO 5
59	Revision	PPT/Lecture		CO 5
60	Revision	PPT/Lecture		CO 5
61	Revision	PPT/Lecture		CO 5
62	Revision	PPT/Lecture		CO 5
CIA – II				
63	Revision			
64	Revision			
65	Revision			
66	Revision			
67	Revision			
68	Previous Question Paper Discussion		Discussion	
69	Previous Question Paper Discussion		Discussion	
70	Previous Question Paper Discussion			
71	Evaluation about the course			
72	Doubt clearing			

INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Couse Outcome
1	4/1/2019	Problems on set identities, bijective functions, inverse functions	CO 1
2	28/1/2019	Problems on Equivalence relations, partial orderings, Hasse diagram, Lattice	CO 2
	28/2/2019	Problems on propositions, predicates, quantifiers, rule of inference, methods of proving theorems	CO3
	02/3/2019	Problems on congruences, fermat theorem, wilson theorem, Lagrange's theorem	CO5

GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Couse Outcome
1	2/2/2019	Hasse diagram (Group Discussion)	CO 2

REFERENCES

- K.H. Rosen: Discrete Mathematics and its Applications (Sixth edition), Tata McGraw Hill Publishing Company, New Delhi.
- S. Bernard and J.M Child: Higher Algebra, AITBS Publishers, India,2009.

COURSE PLAN - COMPUTER FUNDAMENTALS & ORGANIZATION

PROGRAMME	**BACHELOR OF COMPUTER APPLICATIONS**	**SEMESTER**	**1**
COURSE CODE AND TITLE	**U1CRBCA1: COMPUTER FUNDAMENTALS & ORGANIZATION**	**CREDIT**	**4**
HOURS/WEEK	**4**	**HOURS/SEM**	**72**
FACULTY NAME	**NEETHU THOMAS**		

	COURSE OUTCOMES	**PO/ PSO**	**CL**
CO 1	Describe the fundamental organization of a computer system	PO1, PO2, PSO1	U
CO 2	Distinguish the organizations of various parts of a system memory	PO1, PSO2, PSO1	U
CO 3	Identify the principal software and hardware components.	PO1, PO2, PSO1	U
CO4	Understand number system ,Boolean algebra and basic gates	PO1, PO2, PSO1	U
CO 5	Solve the common business problems using appropriate information technology applications	PO1, PO2,PO6 PSO1,PSO2	A
CO 6	Describe the various network standards and communication software	PO1, PO2, PSO4	U

CL* Cognitive Level

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE I				
1	General features of a computer	PPT	video	CO 1
2	Generation of computers	PPT/Lecture		CO 1
3	Personal computer	PPT/Lecture		CO 1
4	workstation, mainframe computer and super computers	PPT/Lecture	e-resource	CO 1
5	Computer applications	PPT/Lecture		CO 1
6	data processing	PPT/Lecture		CO 1
7	information processing, commercial, office automation	Lecture		CO 1
8	industry and engineering, healthcare	Lecture		CO 1
9	education, graphics and multimedia	Lecture		CO 1
MODULE II				
10	**Computer Organization,** central processing unit	Lecture		CO 2
11	computer memory – primary memory and secondary memory.	PPT/Lecture		CO 2
12	Secondary storage devices – Magnetic and optical media	PPT/Lecture		CO 2
13	Input and output units. OMR, OCR, MICR	PPT/Lecture		CO 2
14	scanner, mouse, modem.			
MODULE III				
15	Computer hardware and software	PPT/Lecture		CO 3
16	Machine language and high level language	Lecture		CO 3
17	Application software	Lecture		CO 3
CIA I				
18	computer program, operating system	Lecture		CO 3
19	Computer virus, antivirus and computer security	Lecture		CO 3
20	Elements of MS DOS and Windows OS	PPT/Lecture		CO 3
21	Computer arithmetic, Binary, octal and hexadecimal number systems	PPT/Lecture		CO 4
22	Algorithm and flowcharts	PPT/Lecture		CO 4
23	elements of a database and its applications	PPT/Lecture		CO 4
24	Basic Gates- NOR,NAND,XOR,XNOR gates)	Lecture		CO 4
25	(Demorgans theorems, duality theorem,	Lecture		CO 4

26	Boolean expressions and logic diagrams, Types of Boolean expressions	Lecture		CO 4
	MODULE IV			
27	Word processing	Lecture		CO5
28	electronic spread sheet	Lecture		CO5
29	An overview of MS WORD	PPT/Lecture		CO5
30	MS EXCEL	PPT/Lecture		CO5
31	MS POWERPOINT	PPT/Lecture		CO5
32	Application			
	MODULE V			
33	**Introduction to Networking**	PPT/Lecture		CO 6
34	Network of computers.	PPT/Lecture		CO 6
35	Types of networks	PPT/Lecture		CO 6
36	LAN, Intranet and Internet	Lecture	Quiz	CO 6
37	Internet Applications	PPT/Lecture		CO 6
	CIA II			
38	World wide web, E-mail,	PPT/Lecture		CO 6
39	browsing and searching, search engines	PPT/Lecture		CO 6
40	multimedia applications.	PPT/Lecture		CO 6
41	Revision			
42	Revision			
43	Revision			

INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	**Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)**	**Couse Outcome**
1	8/1/2019	database and its applications	CO4
2	28/1/2019	Types of networks	CO6

GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

	Date of completion	**Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)**	**Couse Outcome**
1	25/2/2019	Create MS WORD, MS EXCEL, MS POWERPOINT pages	CO 5

REFERENCES

- Alexis Leon and Mathews Leon (1999) : Fundamentals of information Technology, Leon Techworld Pub.
- Jain, S K (1999): Information Technology "O" level made simple, BPB Pub
- Jain V K (2000) "O" Level Personal Computer software, BPB Pub.
- Rajaraman, V (1999): Fundamentals of Computers, Prentice Hall India
- Hamacher, Computer Organization McGrawhill
- Alexis Leon: Computers for everyone. Vikas, UBS
- Anil Madaan : Illustrated Computer Encyclopedia. Dreamland Pub
- Sinha. Computer Fundamentals BPB Pub.

Web resource references:

https://www.tutorialspoint.com/computer_fundamentals/index.htm

COURSE PLAN - PROGRAMMING IN C

PROGRAMME	**BACHELOR OF COMPUTER APPLICATIONS**	**SEMESTER**	**1**
COURSE CODE AND TITLE	**U1CRBCA2: PROGRAMMING IN C**	**CREDITS**	**3**
HOURS/WEEK	**4**	**HOURS/SEM**	**72**
FACULTY NAME	**ACHAMMA CHERIAN**		

	COURSE OUTCOMES	**PO/ PSO**	**CL**
CO 1	Solve problems and Produce algorithms, pseudocodes and flowcharts for it.	PO1/PSO1	
CO 2	Understand the basic concepts of c program and different types of data.	PO1/PSO3	
CO 3	Apply different Decision Making statements and loops	PO1.PSO1	
CO 4	Implement functions	PO1/PSO3, PSO4	
CO 5	Understand and summarize different File handling operations	PSO1/PSO3, PSO4	

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE 1				
1.	Introduction			
2.	Syllabus Discussion			
3.	Problem Definition, Problem Solving			CO1
4.	Logic developments tools - Algorithm	Lecture		CO1
5.	Flowcharts	Lecture		CO1
6.	pseudo code	Lecture		CO1
7.	Modular programming	Lecture		CO1
8.	Structured and object oriented	Lecture		CO1
9.	Top down and bottom up approaches	Lecture		CO1
10.	features of a good computer program	Lecture		CO1
MODULE 2				
11.	**C language basics:** C character set,	Lecture		CO2
12.	Identifiers and keywords	Lecture		CO2
13.	Enumeration type, constants	Lecture		CO2
14.	variables, declarations	Lecture		CO2
15.	qualifiers – long, short and unsigned declarations, expressions, symbolic constants	Library		CO2
16.	input/output functions	Lecture		CO2
17.	compound statements	Lecture		CO2
18.	arithmetic operators, unary operators, relational and logical operators,	Lecture		CO2
19.	assignment operators, increment and decrement operators	Lecture		CO2

20.	Precedence and order of evaluation, conditional operators	Lecture		CO2
21.	bit operators, type casting	Lecture		CO2
22.	using library functions in math.h			CO2
MODULE 3				
23.	**Control flow:** If statements	Lecture		CO3
24.	Different forms of if and its syntax	PPT/Lecture		CO3
25.	Uses of if statement	Programs		CO3
26.	REVISION	Seminar		
27.	Doubt clearens	Discussion		
CIA – I				
28.	Answer Discussion	Discussion		
29.	switch statements	PPT/Lecture		CO3
30.	looping – for loop statement	PPT/Lecture		CO3
31.	while loop statement	PPT/Lecture		CO3
32.	do … while statements	PPT/Lecture		CO3
33.	nested loop structure	PPT/Lecture		CO3
34.	Break statement	PPT/Lecture		CO3
35.	continue statement	PPT/Lecture		CO3
36.	go to statement			CO3

37.	**Arrays & Strings:** Single dimensional arrays	Lecture		CO3
38.	multidimensional arrays	Lecture		CO3
39.	initializing array using static declaration	Lecture		CO3
40.	Searching & Sorting of Arrays	Lecture	Demo video	CO3
41.	Array of Characters, Character arrays and strings	Lecture		CO3
42.	String manipulation programs	Lecture		CO3
43.	String handling Functions.	Lecture		CO3
MODULE 4				
44.	**User Defined Functions:** Function declaration, definition & scope	Lecture		CO4
45.	Recursion	Lecture		CO4
46.	Arrays and functions	Lecture		CO4
47.	call by value, call by reference	Lecture		CO4
48.	Revision	Seminar		
49.	Revision	Seminar		
50.	Storage Classes: automatic, external (global), static & registers	Lecture		CO4
51.	Storage Classes: Examples	Lecture		CO2
52.	**Structures:** Definition of Structures, declaration	Lecture		CO2
53.	structure passing to functions, array of structures	Lecture		CO4
54.	arrays with in structures	Lecture		CO4
55.	Revision	Seminar		
56.	Revision	Seminar		
57.	Doubt Clearens	Discussion		
58.	CIA – II			

59.	Answer Discussion	Discussion		
60.	Unions	Lecture		CO2
61.	typedef statements.	Lecture		
MODULE 5				
62.	**Pointers:** Pointer Definition, pointer arithmetic	Lecture		CO2
63.	array & pointer relationship	Lecture		CO2
64.	pointer to array, pointer to structure	Lecture		CO2
65.	**Files:**Types of C preprocessor directives	Lecture		CO5
66.	Introduction to files, fopen(), fscanf(), fprintf(),getc(), putc(), fclose(),	Lecture		CO5
67.	Simple file handling programs	Lecture		CO5
68.	Previous Question Paper Discussion	Discussion		
69.	Previous Question Paper Discussion	Discussion		
70.	Doubt clearing	Discussion		
71.	Evaluation about the course	Discussion		

INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

	Date of completion	**Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)**	Couse Outcome
1	6/7/18	Program Techniques & Looping Concepts	CO3
2	10/8/18	Functions & its Categories	CO4
3	10/9/19	Programs using file	CO 5

BOOKS OF STUDY:

- Programming in ANSI C 4E , E. BalaGuruswamy, TMH
- Programming in C, Byron S Gottfried, Shaum's Outline series. TMH

REFERENCES:

- Computer Fundamentals By P K Sinha&PritiSinha Fourth Edition.
- B. Kernighan and D. Ritchie, “The ANSI C Programming Language”, PHI

COURSE PLAN - INTRODUCTION TO LINUX

PROGRAMME	BACHELOR OF COMPUTER APPLICATIONS	SEMESTER	1
COURSE CODE AND TITLE	U2CRBCA3: INTRODUCTION TO LINUX	CREDIT	3
HOURS/WEEK	4	HOURS/SEM	72
FACULTY NAME	CHRISTY JACQUELINE		

	COURSE OUTCOMES	PO/ PSO	CL
CO 1	Understand the fundamental concepts of Linux OS	PO1,PO2, PO6, PSO2, PSO3	U
CO 2	Understand the basic set of commands	PO1, PSO2, PSO3	U
CO 3	Discuss shell programming in Linux OS	PO1, PO2, PSO1	U
CO 4	Distinguish text processing and filter commands	PO1, PO2, PSO1, PSO2,PSO4	U
CO 5	Demonstrate the role and responsibilities of Linux system administrator	PO1, PO2, PO3, PO4, PO5, PSO2, PSO3	Ap

CL* Cognitive Level

SESSION	TOPIC	LEARNING RESOURCES	VALUE ADDITIONS	COURSE OUTCOME
MODULE I				
1	Introduction to Multiuser System	PPT		CO 1
2	History of UNIX	PPT/Lecture		CO 1
3	Features and Benefits	PPT/Lecture		CO 1
4	Versions of UNIX	PPT/Lecture		CO 1
5	Features of UNIX file System	PPT/Lecture		CO 1
6	Basic Commands in Linux	PPT/Lecture		CO 1
7	Getting started	Lecture		CO 1
8	Creating and Viewing files	Lecture		CO 1
9	Disk related commands	Lecture		CO 1
10	Checking disk free spaces	Lecture		CO 1
11	Introduction to various Linux flavors	PPT/Lecture		CO 1

12	Debian and rpm packages	PPT/Lecture		CO 1
13	Vendors providing Debian and RPM distribution	PPT/Lecture	E-resource	CO 1
14	Ubuntu and Fedora	PPT/Lecture		CO 1
MODULE II				
15	Inodes	PPT/Lecture		CO 2
16	Structure of a regular file	Lecture		CO 2
17	Conversion of a path name to an inode	Lecture		CO 2
18	Super block	Lecture		CO 2
19	Inode assignment to a new file	Lecture		CO 2
20	Allocation of disk blocks	PPT/Lecture		CO 2
21	System calls for the file system	PPT/Lecture		CO 2
22	File creation system calls	PPT/Lecture		CO 2
23	Creation of special files	PPT/Lecture		CO 2
24	Changing directory and root	Lecture		CO 2
25	Changing owner and mode	Lecture		CO 2
26	CIA-1			
27	Stat and fstat	Lecture		CO 2
28	Dup- pipes	Lecture		CO 2
29	Mounting File systems	PPT/Lecture		CO 2
30	Unmounting File Systems	PPT/Lecture		CO2
31	Creating links	PPT/Lecture		CO 2
32	Link and unlink	Lecture		CO 2
MODULE III				
33	Structure of processes	PPT/Lecture		CO 3
34	Process states and Transitions	PPT/Lecture		CO 3
35	Process transitions	PPT/Lecture		CO 3
36	Creating new process	Lecture	Quiz	CO 3
37	System calls for process	Lecture		CO 3
38	Terminating process	PPT/Lecture		CO 3
39	Layout of system memory	PPT/Lecture		CO 3
40	Context of a process	PPT/Lecture		CO 3
41	Process control	PPT/Lecture		CO 3
42	Process creation	Lecture		CO 3
43	Signals	PPT/Lecture		CO 3
44	Process Termination	PPT/Lecture		CO 3
45	Invoking other programs	PPT/Lecture		CO 3
46	PID	PPT/Lecture	E-resource	CO 3
47	PPID	PPT/Lecture		CO 3
48	Shell on a shell	PPT/Lecture		CO 3
MODULE IV				
49	Vi Editor	PPT/Lecture		CO 4
50	Introduction to text processing	Lecture		CO 4
51	Command and edit Mode	PPT/Lecture		CO 4

52	Invoking vi	PPT/Lecture	Video	CO 4
53	Deleting and inserting Line	PPT/Lecture		CO 4
54	Deleting and replacing character	PPT/Lecture		CO 4
55	Searching for strings	Lecture		CO 4
56	Yanking	Lecture	Quiz	CO 4
57	Running shell command macros	PPT/Lecture		CO 4
58	Set Window	PPT/Lecture		CO 4
59	Set Auto indent	PPT/Lecture		CO 4
60	Set Number	PPT/Lecture		CO 4
61	Communicating with other users	PPT/Lecture		CO 4
62	Commands for communicating with users	PPT/Lecture		CO 4
CIA – II MODULE V				
63	Common administrative tasks	Lecture	Demo video	CO 5
64	Identifying administrative files	Lecture		CO 5
65	Role of system administrator	Lecture	Quiz	CO 5
66	Managing user accounts	Lecture		CO 5
67	Creating and mounting file system	PPT/Lecture		CO 5
68	Checking and monitoring system performance	PPT/Lecture		CO 5
69	Getting system information commands	PPT/Lecture		CO 5
70	Installing and Removing packages	Lecture		CO 5
71	Revision			
72	Revision			

INDIVIDUAL ASSIGNMENTS/SEMINAR – Details & Guidelines

Sl.No	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Course Outcome
1	27/ 7/2018	Flavors of Linux	CO 2
2	7/8/2018	Different types of Shell	CO 3

GROUP ASSIGNMENTS/ACTIVITES – Details & Guidelines

Sl.No	Date of completion	Topic of Assignment & Nature of assignment (Individual/Group – Written/Presentation – Graded or Non-graded etc)	Couse Outcome
1	25/8/2018	System Administration	CO 5
2			

REFERENCES

- The Design of Unix Operating System, Maurice J. Bach, Pearson Education, 2010
- Advance UNIX, a Programmer's Guide, S. Prata, BPB Publications, and New Delhi, 2011
- Unix Concepts and Applications, Sumitabh Das, 2010
- The UNIX Programming Environment, B.W. Kernighan & R. Pike, Prentice Hall of India. 2009
- Guide to UNIX Using LINUX, Jack Dent Tony Gaddis, Vikas/ Thomson Pub. House Pvt. Ltd. 2010

WEB RESOURCE REFERENCES:

- https://www.redhat.com/en/topics/linux