


CMR Institute of Technology, Bangalore		
Department(s): IS,CIV		
Semester: 03		
Engineering Mathematics III	15MAT31	Lectures/week: 06
Course Instructor(s): Uma Raju		
Course duration: 25 th July to 19 th November 2016		

Class	Chapter Title / Reference Literature	Topic	Percentage of portion covered	
			Reference	Cumulative
01-13	Module 1 Fourier Series	Periodic functions, Dirichlet's conditions, Fourier series of periodic functions of period 2π and arbitrary period, half range Fourier series. practical harmonic analysis	12.5	12.5
14-27	Module 4 Finite differences	Forward and backward differences, Newton's forward and backward interpolation formulae, divided differences-Newton's divided difference formula, Lagrange's interpolation formula and inverse interpolation formula. Numerical integration Simpson's 1/3,3/8 rule, Weddle's rule (only problems)	12.5	25.0
28-39	Module 3 Numerical methods Statistical methods	Numerical solution of algebraic and transcendental equations, Regula-Falsi method Secant method, Newton Raphson method, and Graphical method, Correlation, Regression Coefficients, lines of Regression. Curve fitting by the method of least squares, Fitting of curves of the form $y=a+bx$, $y=ax^2+bx+c$, $y=ae^{bx}$, $y=ax^b$	12.5	50.0
40-56	Module 2 Fourier Transforms Z transforms	Infinite Fourier transform, Fourier sine and cosine transforms, inverse transforms. Z transform: difference equations, Basic definition, standard z transforms, Damping rule, shifting rule, Initial and final value theorem (without proof) and problems, Inverse Z-Transform. Application: to solve difference equations	12.5	62.5
57-67	Module 5	Line integral_ definition and	12.5	75.0

	Vector integration	problems,surface and volume integrals- definition,Green' s theorem in a plane,Stokes and Gaus-divergence theorem(without proof)and problems. Calculus of variations:variation of function and functional,variational problems,Eulers equation,Geodesics, minimal surface of revolution, hanging chain ,problems.		
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Sessional	Syllabus
T1	Class 01-31
T2	Class 32-56
T3	Class 57-64

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition & Publisher	ISBN
Text Book	TB1	B.S. Grewal, Higher Engineering Mathematics, Latest Edition, Khanna publishers	Latest edition, Khanna publications	8174091955
Text Book	TB2	Erwin Kreyszig, Advanced Engineering Mathematics	Latest Edition Wiley India publishers	978812653135
References	RB1	B.V Ramana, Higher Engineering Mathematics,.	Latest Edition, Tata Mc. Graw Hill Publications	---
References	RB2	Peter V . O'Neil, Engineering Mathematics.	Cengage Learning India Pvt. Ltd. Publishers	---
References	RB3	Dr. D.S.C , Engineering Mathematics III	5 th Edition 2011 6 th edition 2016	978-81-7686-675-4
References	RB4	Dr. K.S.C , Engineering Mathematics III	2011-2012 2016 edition	---

Department of Information Science and Engineering

SEMESTER	: III –A&B	NAME OF THE FACULTY	: Monika Singh
BRANCH	: ISE	DATE OF COMMENCEMENT	: 26/7/2016
SUBJECT	: Analog and Digital Electronics	DATE OF CLOSING	: 19/11/2016
SUBJECT CODE	: 15CS32	CLASS STRENGTH	: 63
NO OF HRS/WK	: 6	TOTAL HRS	: 66

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter	Topics covered As per plan
1	1/1	29/7/16	Module1: JFET and its types	Chalk & Talk		
2	2/1	30/7/16	Construction And working operation of N-Channel	„		
3	3/1	2/8/16	Construction And working operation of P-Channel	„		
4	4/1	2/8/16	Characteristics & Numericals	„		
5	5/1	3/8/16	Construction And working operation of N-Channel Depletion type MOSFET	„	Assignm ent- I	
6	6/1	3/8/16	Construction And working operation of N-Channel Depletion Mosfet in Enhancement Mode	„		
7	7/1	5/8/16	Construction And working operation of P-Channel	„		
8	8/1	6/8/16	Numericals	„		
9	9/1	9/8/16	Construction And working operation of N-Channel Enhancement Mosfet	„		
10	10/1	9/8/16	Differences between JFETs and MOSFETs	„		
11	11/1	10/8/16	Numericals			
12	12/1	10/8/16	Biassing and Techniques			

13	13/1	12/8/16	Common Source Biasing and techniques. Numericals	”		
14	14/1	16/8/16	Common Drain Biasing	”		
15	15/1	18/8/16	Common Gate	”		
16	16/1	18/8/16	NUmericals	”		
17	17/1	19/8/16	Common Gate	”		
18	18/1	19/8/16	Biasing of Mosfet. Numericals	”	Assignm ent -I	
19	19/1	22/8/16	FET Applications. Cmos Devices	”		
20	20/1	23/8/16	IC-555 Timer	”		
21	21/1	25/8/16	Opamp:Ideal Vs Practical	”		
22	22/1	25/8/16	Performance Parameters			
23	23/1	26/8/16	Operational Amplifier Application Circuits: Peak Detector Circuit, Comparator	”		
24	24/1	26/9/16	Active Filters, Non- Linear Amplifier,	”		
25	25/1	29/9/16	Relaxation Oscillator, Current-To- Voltage Converter	”		
26	26/1	30/9/16	Voltage-To- Current Converter. Numericals	”		
27	1/2	1/9/16	Module2: Review of Basic Logic gates, Positive and Negative Logic,	”		
28	2/2	1/9/16	Introduction to HDL	”		
29	3/2	1/9/16	Sum-of-Products Method, Truth Table to Karnaugh Map, Pairs Quads, and Octets,	”		
30	4/2	2/9/16	Karnaugh Simplifications, Don't- care Conditions,	”		
31	5/2	2/9/16	Questions of K-Map			
32	6/2	10/9/16	Product-of-sums Method, Product- of-sums simplifications		Assignm ent -II	

33	7/2	13/9/16	Simplification by Quine-McClusky Method,	”		
34	8/2	14/9/16	Questions	”		
35	9/2	15/9/16	Hazards and Hazard covers, HDL Implementation Models.	”		
36	10/2	16/9/16	Questions	”		
37	11/2	16/9/16	Test	”		
38	1/3	16/9/16	Module3: Multiplexers, Demultiplexers,	”		
39	2/3	17/9/16	1-of-16 Decoder, BCD to Decimal Decoders	”		
40	3/3	17/9/16	Seven Segment Decoders, Encoders	”		
41	4/3	19/9/16	Exclusive-OR Gates, Parity Generators and Checkers, Magnitude Comparator,	”		
42	5/3	19/10/16	Programmable Array Logic, Programmable Logic Arrays, HDL Implementation of Data Processing Circuits.		Assignment –III	
43	6/3	20/9/16	Arithmetic Building Blocks, Arithmetic Logic Unit			
44	7/3	20/09/16	Flip- Flops: RS Flip-Flops, Gated Flip-Flops,	”		
45	8/3	21/09/16	Edge-triggered RS FLIP-FLOP, Edge-triggered D FLIP-FLOPs, Edge-triggered JK FLIPFLOPs	”		
46	9/3	22/09/16	Questions.	”		
47	10/3	23/09/16	Test	”		
49	1/4	23/09/16	Module4:Flip- Flops: FLIP-FLOP Timing, JK Master-slave FLIP-FLOP,	”		
50	2/4	24/09/16	Switch Contact Bounce Circuits,	”		
51	3/4	27/09/16	Various Representation of FLIP-FLOPs, HDL Implementation of	”		

			FLIP-FLOP.			
52	4/4	28/09/16	Registers: Types of Registers, Serial In - Serial Out, Serial In - Parallel out, Parallel In - Serial Out, Parallel In - Parallel Out, Universal Shift Register,	„	Assignment –IV	
53	5/4	28/09/16	Applications of Shift Registers, Register implementation in HDL.	”		
54	6/4	29/09/16	Counters: Asynchronous Counters, Decoding Gates,	‘		
55	7/4	3/10/16	Synchronous Counters,			
56	8/4	3/10/16	Changing the Counter Modulus.			
57	9/4	4/10/16	Questions			
58	10/4	4/10/16	Questions			
59	1/5	6/10/16	Module 5: Decade Counters, Presettable Counters			
60	2/5	7/10/16	Counter Design as a Synthesis problem,			
61	3/5	13/10/16	A Digital Clock, Counter Design using HDL.			
62	4/5	13/10/16	D/A Conversion and A/D Conversion: Variable, Resistor Networks, Binary Ladders,		Assignment –V	
63	5/5	14/10/16	D/A Converters, D/A Accuracy and Resolution, A/D Converter-Simultaneous Conversion,			
64	6/5	14/10/16	Questions			
65	7/5	18/10/16	A/D Converter-Counter Method, Continuous A/D Conversion, A/D Techniques,			
66	8/5	18/10/16	Dual-slope A/D Conversion, A/D Accuracy and Resolution.			

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	

T2	
Improvement Test	

*: See calendar of events for the schedules of IATs.

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Anil K Maini, Varsha Agarwal: Electronic Devices and Circuits,	Wiley, 2012.	ISBN:978-81-265-1895-1
Text Book	TB2	Donald P Leach, Albert Paul Malvino & Goutam Saha: Digital Principles and Applications	8 th Edition, Tata McGraw Hill, 2015	ISBN:978-0-07-014170-4
Reference Book	RB1	Stephen Brown, Zvonko Vranesic: Fundamentals of Digital Logic Design with VHDL	2 nd Edition, Tata McGraw Hill, 2005.	ISBN 9780070667242
Reference Book	RB2	R D Sudhaker Samuel: Illustrative Approach to Logic Design	Sanguine-Pearson, 2010.	ISBN: 9788131732304
Reference Book	RB1	M Morris Mano: Digital Logic and Computer Design	10 th Edition, Pearson, 2008	<i>ISBN-10:</i> 817758409

Signature of faculty

Signature of HOD

Signature of Principal

Department of Information Science & Engineering

SEMESTER : III
BRANCH : ISE
SUBJECT : Data Structures & Applications
SUBJECT CODE : 15CS33
NO OF HRS/WK : 5

NAME OF THE FACULTY : Mrs. Megha Sharma
DATE OF COMMENCEMENT : 25.07.2016
DATE OF CLOSING : 09.11.2016
CLASS STRENGTH :
TOTAL HRS :

Session No	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	Module - 1	25.07.16	Introduction to the course, Protocols for the class, Pointers	Board, chalk, duster	Assign 1	
2	Module - 1	26.07.16	Basic Concepts Pointers	„		
3	Module - 1	27.07.17	Pointers. Introd. To DS, Classification of DS	„	Quiz in the class	
4	Module - 1	28.07.16	Data Structure Operations	„	Students at the board	
5	Module - 1	29.07.16	DS Operations	„		
6	Module - 1	30.07.16	DS Operations	„	Quiz in the class	
7	Module - 1	01.08.16	Review: Structures & Unions	„		
8	Module - 1	02.08.16	Self Referential Structures. Arrays	„	Students at the board	
9	Module - 1	03.08.16	Multidimensional Arrays. Strings	„	Assign 2	
10	Module - 1	04.08.16	Dynamic Memory Mgmt.	Board, chalk, duster	Assign 3	

11	Module - 1	05.08.16	Dynamic Memory Mgmt. Review of Module-1	„	Class Test	
12	Module - 2	06.08.16	Stack	Kid's stack toy		
13	Module - 2	08.08.16	Stack: Operations & Applications	Board, chalk, duster		
14	Module - 2	09.08.16	Stack: Polish & Reverse Polish expressions	„		
15	Module - 2	10.08.16	Stack: Conversion- Infix to Postfix	„		
16	Module - 2	11.08.16	Stack: Conversion contd..	„	Assign 4	
17	Module - 2	12.08.16	Recursive Functions	„		
18	Module - 2	16.08.16	Recursion: Tower of Hanoi	Kid's toy		
19	Module - 2	17.08.16	Queues	Board, chalk, duster	Students at the board	
20	Module - 2	18.08.16	Queue Variants	Board, chalk, duster		
21	Module - 2	19.08.16	Application of Queues	„	Assign 5	
22	Module - 2	20.08.16	Review of Module-2	„	Class Test	
23	Module - 3	22.08.16	Linked Lists	Game in class		
24	Module - 3	23.08.16	Singly Linked Lists and Chains	Board, chalk, duster		
25	Module - 3	24.08.16	Representing Chains in C	„	Assign 6	
26	Module - 3	25.08.16	Implementation of Linked Lists	„	Students at the board	
27	Module - 3	26.08.16	Circular Linked Lists	Board, chalk, duster		
28	Module - 3	27.08.16	Implementation of Stacks & Queues	„		
29	Module - 3	29.08.16	Doubly Linked Lists	„		
30	Module - 3	30.08.16	Doubly Linked Lists	„		

31	Module - 3	31.08.16	Doubly Linked Lists	„	Assign 7	
32	Module - 3	01.09.16	Sparse Matrix	„		
33	Module - 3	02.09.16	Algorithms for Programming examples	„		
34	Module - 3	09.09.16	Application of Linked Lists	„	Class Test	
35	Module - 4	10.09.16	Trees	„		
36	Module - 4	13.09.16	Binary Trees- All Types	Board, chalk, duster		
37	Module - 4	14.09.16	Tree Traversals	„	Students at the board	
38	Module - 4	15.09.16	Tree Traversals	„	Assign 8	
39	Module - 4	16.09.16	Binary Search Trees(BST)- Creation	„		
40	Module - 4	17.09.16	BST- Insertion	„		
41	Module - 4	19.09.16	BST- Deletion	„		
42	Module - 4	20.09.16	Threaded Binary Trees	Board, chalk, duster		
43	Module - 4	21.09.16	BST Revisited	„	Students at the board	
44	Module - 4	22.09.16	Application of Trees	„	Assign 9	
45	Module - 4	23.09.16	Algorithms for Programming examples	„		
46	Module - 5	24.09.16	Graphs	„		
47	Module - 5	26.09.16	Graph Operations	„		
48	Module - 5	27.09.16	Sorting & Searching	„		
49	Module - 5	28.09.16	Sorting & Searching	„		

50	Module - 5	29.09.16	Graphs Revisited	Board, chalk, duster		
51	Module - 5	03.10.16	Hashing	„		
52	Module - 5	04.10.16	File Structures	„		
53	Module - 5	05.10.16	File Organization	„		
54	Module - 5	06.10.16	Sorting & Searching	„	Students at the board	
55	Module - 5	07.10.16	Sorting & Searching	„		
56	Module - 5	08.10.16	Continued	„		
57	Module 4 & 5	13.10.16	Revision	„		
58	Module -4& 5	14.10.16	Revision	„	Class Test	
59		17.10.16	Linked List Revision	Board, chalk, duster	Quiz, Assesme nts	
60		18.10.16	Continued	„		
61		19.10.16	Quiz	„		
62		20.10.16	Trees	„		
63		21.10.16	Linked Lists	„		
64		22.10.16	Binary Search Trees	„		
65		27.10.16	Graphs	„	Class Test	
66		28.10.16	Stacks	„		
67		02.11.16	Revision of Module – 1	„	Students at the board	
68		03.11.16	Revision of Module – 2	„	Students at the board	
69		04.11.16	Revision of Module –3	„	Students at the board	
70		05.11.16	Revision of Module–4	„	Students at the	

					board	
71		07.11.16	Revision of Module –5	„	Students at the board	
72		08.11.16	Revision	„	Students at the board	
73		09.11.16	Revision	„	Students at the board	

Syllabus for Sessionals:

Sessional #	Syllabus
T1	Module 1 & 2
T2	Module 3 & 4
T3	Module 4 & 5

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Ellis Horowitz & Sartaj Sahni: Fundamentals of Data Structures in C.	2 nd Edition, Universities Press, 2014.	
Text Book	TB2	Gilberg & Forouzan: Data Structures: A Pseudo Approach with C	2 nd Edition, Cengage Learning, 2014	
Reference Book	RB1	Reemathareja: Data Structures Using C	2 nd Edition, Oxford Press	
Reference Book	RB2	Seymour Lipschutz, Schaum's Outlines	Revised 1st Edition, McGraw Hill	
Reference Book	RB3	A M Tenenbaum: Data Structures Using C	Pearson	

Signature of faculty

Signature of HOD

Signature of Principal

Department of Computer Science and Engineering

SEMESTER : IIRD SEM
BRANCH : CSE
SUBJECT : Computer Organization
SUBJECT CODE : 15CS34
NO OF HRS/WK : 5

NAME OF THE FACULTY : MADHU G
DATE OF COMMENCEMENT : 25-7-2016
DATE OF CLOSING :
CLASS STRENGTH : 61
TOTAL HRS : 60hrs

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter
1		25/07/2016	Pre-requisites of CO	Chalk & Talk	
2	1/1	27/07/2016	Module-1 Basic Structure of Computers: Basic Operational Concepts	”	
3	1/1	28/07/2016	Bus Structures	”	
4	1/1	28/07/2016	Performance – Processor Clock, Basic Performance Equation	”	
5	1/1	29/07/2016	Clock Rate, Performance Measurement	”	
6	2/1	03/08/2016	Machine Instructions and Programs: Memory Location and Addresses	”	
7	2/1	04/08/2016	Memory Operations, Instructions and Instruction Sequencing, Addressing Modes,	”	
8	2/1	05/08/2016	Assembly Language, Basic Input and Output Operations	”	
9	2/1	05/08/2016	Stacks and Queues, Subroutines,	”	
10	2/1	06/08/2016	Additional Instructions, Encoding of Machine Instructions	”	Assignment- I
11	2/1	10/08/2016	Revision/Class test	”	

12	4/1	11/08/2016	Module -2 Input/Output Organization: Accessing I/O Devices,	”	
13	4/1	12/08/2016	Interrupts – Interrupt Hardware	”	
14	4/1	12/08/2016	Enabling and Disabling Interrupts	”	
15	4/1	13/08/2016	Handling Multiple Devices	”	
16	4/1	18/08/2016	Controlling Device Requests, Exceptions,	”	
17	4/1	19/08/2016	Direct Memory Access	”	
18	4/1	20/08/2016	Buses Interface Circuits	”	
19	4/1	20/08/2016	Standard I/O Interfaces – PCI Bus, SCSI Bus, USB.	”	Assignment-II
20	4/1	21/08/2016	Revision/Class test	”	
21	5/1	25/08/2016	Module – 3 Memory System: Basic Concepts	”	
22	5/1	26/08/2016	Semiconductor RAM Memories	”	
23	5/1	27/08/2016	Read Only Memories ,Speed, Size, and Cost	”	
24	5/1	27/08/2016	Cache Memories – Mapping Functions	”	
25	5/1	28/08/2016	Replacement Algorithms	”	
26	5/1	01/09/2016	Continue Replacement Algorithms	”	
27	5/1	02/09/2016	Performance Considerations	”	
28	5/1	03/09/2016	Continue performance considerations	”	
29	5/1	03/09/2016	Virtual Memories	”	
30	5/1	04/09/2016	Secondary Storage.	”	
31	5/1	09/09/2016	Continue Secondary storage	”	Assignment-III
32	5/1	10/09/2016	Revision/Class test	”	

33	6/1	11/09/2016	Module-4 Arithmetic: Numbers	”	
34	6/1	11/09/2016	Arithmetic Operations and Characters	”	
35	6/1	12/09/2016	Addition and Subtraction of Signed Numbers	”	
36	6/1	22/09/2016	continue	”	
37	6/1	23/09/2016	Design of Fast Adders	”	
38	6/1	25/09/2016	Continue design of fast adders	”	
39	6/1	25/09/2016	Multiplication of Positive Numbers	”	
40	6/1	26/09/2016	Signed Operand Multiplication	”	
41	6/1	30/09/2016	Continue multiplication	”	
42	6/1	01/10/2016	Fast Multiplication	”	
43	6/1	05/10/2016	Integer Division	”	
44	6/1	05/10/2016	Floating-point Numbers and Operations.	”	Assignment-IV
45	6/1	06/10/2016	Revision/Class test	”	
46	7/1	09/10/2016	Module-5 Basic Processing Unit: Some Fundamental Concepts	”	
47	7/1	10/10/2016	Execution of a Complete Instruction	”	
48	7/1	13/10/2016	Multiple Bus Organization	”	
49	7/1	13/10/2016	Hard-wired Control	”	
50	7/1	14/10/2016	Micro programmed Control	”	
51	8/1	17/10/2016	Pipelining	”	
52	8/1	19/10/2016	Pipelining continue	”	
53	8/1	20/10/2016	Embedded Systems and Large Computer Systems: Basic Concepts of pipelining	”	

54	9/1	20/10/2016	Examples of Embedded Systems, Processor chips for embedded applications	”	
55	9/1	21/10/2016	Continue	“	
56	9/1	03/11/2016	Simple Microcontroller	”	
57	9/1	04/11/2016	Forms of parallel processing	”	
58	9/1	05/11/2016	Array Processors	”	
59	9/1	05/11/2016	The structure of General-Purpose Multiprocessors.	”	Assignment-V
60	9/1	06/11/2016	Revision/Class test	”	

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	Class # 01 - 19
T2	Class # 21– 36
T3	Class # 37– 59

*: See calendar of events for the schedules of IATs.

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Carl Hamacher, Zvonko Vranesic, Safwat Zaky: Computer Organization	5th Edition, Tata McGraw Hill, 2002	007-120411-3
References	RB1	William Stallings: Computer Organization & Architecture	7th Edition, PHI, 2006	978-0-13-607373-4

Signature of faculty

Signature of HOD

Signature of Principal

Department of Information Science and Engineering

SEMESTER	: IV -A	NAME OF THE FACULTY	: Sheetal R
BRANCH	: ISE	DATE OF COMMENCEMENT	: 26/7/2016
SUBJECT	: UNIX and Shell Programming	DATE OF CLOSING	: 19/11/2016
SUBJECT CODE :		CLASS STRENGTH	: 61
NO OF HRS/WK :	5	TOTAL HRS	: 60

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter	Topics covered As per plan
1	1/1	28/7/16	Module1: Why UNIX?, Computer System, The UNIX Environment.	Chalk & Talk		
2	2/1	29/7/16	UNIX Structure, Accessing Unix, Commands, Common commands, other commands	”		
3	3/1	1/8/16	File Systems: Filenames, File types, Regular files, directory files	”		
4	4/1	3/8/16	File system implementation.	”		
5	5/1	3/8/16	Operations unique to directories	”	Assignm ent- I	
6	6/1	4/8/16	Operations unique to regular files,	”		
7	7/1	5/8/16	Operations common to both	”		
8	8/1	8/8/16	Security and File permission- Users and groups	”		
9	9/1	10/8/16	Security levels	”		
10	10/1	10/8/16	Changing permissions, user masks	”		
11	11/1	11/8/16	Changing ownership and group			
12	12/1	12/8/16	Test			

13	1/2	17/8/16	Module 2: The Basic Vi editor: Vi Basics, modes, commands.	”		
14	2/2	19/8/16	Command categories, local commands in vi	”		
15	3/2	19/8/16	range commands, global commands in vi.	”		
16	4/2	20/8/16	Rearrange text in vi , ex editor	”		
17	5/2	22/8/16	Introduction to shells- Unix session, standard streams, redirection, pipes	‘		
18	6/2	24/8/16	tee command, command execution	”	Assignment -II	
19	7/2	26/8/16	quotes, command substitution	”		
20	8/2	26/8/16	Job control, aliases	”		
21	9/2	27/8/16	variables, predefined variables, options	”		
22	10/2	29/8/16	Shell/ Environment customization			
23	11/2	31/8/16	Test			
24	1/3	2/9/16	Module 3 : Communications- User communication , Electronic mail	”		
25	2/3	2/9/16	Remote access , File transfer	”		
26	3/3	9/9/16	Interactive korn shell – korn shell features, two special files, variables, options	”		
27	4/3	10/9/16	Startup scripts , command history , command execution process	‘		
28	5/3	14/9/16	Korn Shell programming- Basic concepts, Expressions, Decision making, repetition	”	Assignment –III	
29	6/3	16/9/16	Special parameters and variables , changing positional parameters	”		
30	7/3	16/9/16	Argument validation	”		
31	8/3	17/9/16	Debugging scripts	”		
32	9/3	19/9/16	Script examples	”		
33	10/3	21/9/16	Script examples			

34	11/3	23/9/16	Test			
35	1/4	23/9/16	Module 4: File I/O- Introduction, file descriptors , open function, creat function	”		
36	2/4	24/9/16	Close function, seek, read, write function	”		
37	3/4	26/9/16	I/O efficiency, file sharing , Atomic operations	”		
38	4/4	28/9/16	dup1 and dup2, sync , fsync and datasync functions	“	Assignment –IV	
39	5/4	3/10/16	Unix Processes: The Environment of UNIX process-Introduction, main function	”		
40	6/4	3/10/16	Process Termination, Command-line Arguments	”		
41	7/4	4/10/16	Environment list	”		
42	8/4	5/10/16	Memory layout of a C program, Shared Libraries	”		
43	9/4	7/10/16	Memory allocation	”		
44	10/4	13/10/16	Environment variables			
45	11/4	13/10/16	Test			
46	1/5	14/10/16	Module 5: Introduction, Process identifiers, fork, vfork	”		
47	2/5	17/10/16	exit, wait, waitpid, wait3, wait4 functions	“		
48	3/5	19/10/16	Race conditions, exec functions, , Changing User IDs and group IDs	”		
49	4/5	21/10/16	Interpreter files, System function, Process accounting,	”		
50	5/5	21/10/16	User identification, Process times	”	Assignment -V	
51	6/5	22/10/16	Process Relationships: Introduction,	”		
52	7/5	27/10/16	Terminal Logins	”		
53	8/5	2/11/16	Network Logins, Process groups, Sessions	”		

54	9/5	4/11/16	Controlling Terminal	”		
55	10/5	4/11/16	tcgetpgrp and tcsetpgrp functions, job control	“		
56	11/5	5/11/16	Shell execution of programs			
57	12/5	7/11/16	Test			

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	
T2	
Improvement Test	

*: See calendar of events for the schedules of IATs.

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Behrouz A. Forouzan and Richard F. Gilberg: UNIX and Shell Programming	India Edition Cengage Learning, 2009.	ISBN 13: 9788131503256
Text Book	TB2	W. Richard Stevens, Stephen A Rago: Advanced programming in the UNIX Environment	2 nd Edition , Pearson Education	
Reference Book	RB1	Sumitabha Das: UNIX – Concepts and Applications	4 th Edition, Tata McGraw Hill, 2006.	ISBN-10: 0070635463
Reference Book	RB2	M.G. Venkateshmurthy: UNIX & Shell Programming	Pearson Education, 2005.	ISBN-13: 978- 8177587456

Signature of faculty

Signature of HOD

Signature of Principal

Department of Information Science and Engineering

SEMESTER : IV -A
BRANCH : ISE
SUBJECT : UNIX and Shell Programming
SUBJECT CODE :
NO OF HRS/WK : 5

NAME OF THE FACULTY : Sheetal R
DATE OF COMMENCEMENT : 25/7/2016
DATE OF CLOSING : 19/11/2016
CLASS STRENGTH : 60
TOTAL HRS : 60

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter	Topics covered As per plan
1	1/1	28/7/16	Module1: Why UNIX?, Computer System, The UNIX Environment.	Chalk & Talk		
2	2/1	30/7/16	UNIX Structure, Accessing Unix, Commands, Common commands, other commands	”		
3	3/1	1/8/16	File Systems: Filenames, File types, Regular files, directory files	”		
4	4/1	2/8/16	File system implementation.	”		
5	5/1	3/8/16	Operations unique to directories	”	Assignm ent- I	
6	6/1	4/8/16	Operations unique to regular files,	”		
7	7/1	6/8/16	Operations common to both	”		
8	8/1	8/8/16	Security and File permission- Users and groups	”		
9	9/1	9/8/16	Security levels	”		
10	10/1	10/8/16	Changing permissions, user masks	”		
11	11/1	11/8/16	Changing ownership and group			

12	12/1	16/8/16	Test			
13	1/2	17/8/16	Module 2: The Basic Vi editor: Vi Basics, modes, commands.	”		
14	2/2	18/8/16	Command categories, local commands in vi	”		
15	3/2	19/8/16	range commands, global commands in vi.	”		
16	4/2	20/8/16	Rearrange text in vi , ex editor	”		
17	5/2	23/8/16	Introduction to shells- Unix session, standard streams, redirection, pipes	“		
18	6/2	24/8/16	tee command, command execution	”	Assignment -II	
19	7/2	25/8/16	quotes, command substitution	”		
20	8/2	26/8/16	Job control, aliases	”		
21	9/2	27/8/16	variables, predefined variables, options	”		
22	10/2	30/8/16	Shell/ Environment customization			
23	11/2	31/8/16	Test			
24	1/3	1/9/16	Module 3 : Communications- User communication , Electronic mail	”		
25	2/3	2/9/16	Remote access , File transfer	”		
26	3/3	9/9/16	Interactive korn shell – korn shell features, two special files, variables, options	”		
27	4/3	13/9/16	Startup scripts , command history , command execution process	“		
28	5/3	14/9/16	Korn Shell programming- Basic concepts, Expressions, Decision making, repetition	”	Assignment –III	
29	6/3	15/9/16	Special parameters and variables , changing positional parameters	”		
30	7/3	16/9/16	Argument validation	”		
31	8/3	17/9/16	Debugging scripts	”		
32	9/3	20/9/16	Script examples	”		
33	10/3	21/9/16	Script examples			

34	11/3	22/9/16	Test			
35	1/4	23/9/16	Module 4: File I/O- Introduction, file descriptors , open function, creat function	”		
36	2/4	24/9/16	Close function, seek, read, write function	”		
37	3/4	27/9/16	I/O efficiency, file sharing , Atomic operations	”		
38	4/4	28/9/16	dup1 and dup2, sync , fsync and datasync functions	“	Assignment –IV	
39	5/4	29/9/16	Unix Processes: The Environment of UNIX process-Introduction, main function	”		
40	6/4	3/10/16	Process Termination, Command-line Arguments	”		
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42	8/4	6/10/16	Memory layout of a C program, Shared Libraries	”		
43	9/4	7/10/16	Memory allocation	”		
44	10/4	8/10/16	Environment variables			
45	11/4	13/10/16	Test			
46	1/5	14/10/16	Module 5: Introduction, Process identifiers, fork, vfork	”		
47	2/5	18/10/16	exit, wait, waitpid, wait3, wait4 functions	“		
48	3/5	19/10/16	Race conditions, exec functions, , Changing User IDs and group IDs	”		
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Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
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Signature of faculty

Signature of HOD

Signature of Principal

CMR Institute of Technology, Bangalore		
Department(s): IS		
Semester: 03		
DISCRETE MATHEMATICAL STRUCTURES	15CS36	Lectures/week: 06
Course Instructor(s): Bharti Sharma		
Course duration: 25 th July 2016 -19 th Nov 2016		

Class	Chapter Title / Reference Literature	Topic	Percentage of portion covered	
			Reference	Cumulative
01-20	Module 1 Fundamentals of Logic and Fundamentals of Logic	Basic connectives and truth tables, Logic equivalence, the laws of Logic, Logical Implication, Rules of inference, Quantifiers, The use of Quantifiers, Definitions and the proofs of theorems.	20	20
21-35	Module 2 Properties of Integers and Fundamental Principles of Counting	Mathematical Induction, the Well Ordering principle-Mathematical Induction, Recursive definitions, Fundamental Principles of Counting: Combinations with Repetition.	20	40
36-45	Module 3 Relations and Functions	Cartesian products and Relations, Functions-Plain and One-to-one, Onto functions, Stirling numbers of the second kind, Special functions, the Pigeon-hole Principle, Function Composition and Inverse functions, Properties of relations, computer recognition, zero-one matrices and directed graphs, Partial orders-Hasse diagrams, Equivalence relations and Partitions	20	60

45-55	Module 4 The Principle of Inclusion and Exclusion and Recurrence Relations	The Principle of Inclusion and Exclusion: The Principle of Inclusion and Exclusion, Generalizations of the Principle, Derangements – Nothing is in its Right Place, Rook Polynomials. Recurrence Relations: First Order Linear Recurrence Relation, The Second Order Linear Homogeneous Recurrence Relation with Constant Coefficients.	20	80
56-71	Module 5 Introduction to Graph Theory And Trees.	Introduction to Graph Theory: Definitions and Examples, Sub graphs, Complements, and Graph Isomorphism, Vertex Degree, Euler Trails and Circuits, Trees: Definitions, Properties, and Examples, Routed Trees, Trees and Sorting, Weighted Trees and Prefix Codes	20	100

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Sessional	Syllabus
T1	Class 01-30
T2	Class 31-52
T3	Class 53-71

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition & Publisher	ISBN
Text Book	TB1	Ralph P Grimaldi B.V.Ramana Discrete and Combinatorial Mathematics, “An Applied Introduction”	5 th edition Pearson Education 2004	
References	RB1	Kenneth H Rosen Discrete Mathematics and its applications	7 th edition McGraw Hill 2010	
References	RB2	Jayant Ganguly A Treatise on Discrete Mathematical Structures	Pearson 2010	

References	RB3	D.S.Malik and M.K.Sen Discrete Mathematics: Theory and its applications	Cengage Learning 2004	
References	RB4	Thomas Koshy Discrete Mathematics with Applications	Elsevier 2005	