


CMR Institute of Technology, Bangalore			
Department(s): Information Science			
Semester: 04	ALL BRANCHES		
Engineering Mathematics IV		15MAT41	Lectures/week: 06
Course Instructor(s): Ms. Bharati sharma			
Course duration: 13.02.2017 to 03.06.17			

Course outline

Class	Chapter Title / Reference Literature	Topic	Percentage of portion covered	
			Reference	Cumulative
01 -10	NUMERICAL METHODS-I TB1-31.1-31.8	Numerical Solution of ordinary differential equations of first order	12.5	12.5
		Numerical methods for initial value problems		
		Picard's method		
		Taylor's series method		
		Modified Euler's method		
		Runge-Kutta method of fourth order		
		Predictor and corrector methods Milne's Method		
		Predictor and corrector methods Adams-Bashforth)		
11-20	NUMERICAL METHODS-2 TB1-31.9-31.10	Numerical solution of simultaneous first order ODEs	12.5	25
		Picard's Method		
		Problems on Picard's Method and Runge-Kutta method of fourth order		
		Runge-Kutta method of fourth order		
		Numerical solution of second order ODES -Picard's Method		
		Problems on Picards method		
		Numerical solution of second order ODES Runge-Kutta method		
		Problems on Runge-Kutta method. concept on Milne's method		
		Tutorial class		
21-30	PROBABILITY -I TB1-26.1-26.6	Introduction to Probability, Definitions	12.5	37.5
		Probability theorems, addition theorem of probability and problems		
		Probability associated with set theory		
		Random experiments, Sample Space and events		
		Axioms of probability		
		Conditional Probability, problems		
		Multiplication Law, problems		
		Baye's Theorem-proof		
		Problems on Baye's Theorem		
31-40	PROBABILITY -II TB1-26.7-26.18	Random Variables(Discrete random and continuous variables)	12.5	50

		Bernoulli's theorem, -Binomial Distribution(Mean and Standard deviation of the Binomial Distribution)		
		Problems on Binomial Distribution		
		Poisson distribution(Mean and Standard deviation of the Poisson Distribution)		
		Continuous Probability distributions		
		Exponential distribution(Mean and Standard deviation of the Exponential Distribution and problems)		
		Normal distribution and Standard Normal distribution		
		Problems on Normal distribution and Standard Normal distribution		
41-50	COMPLEX VARIABLES-I- TB1-20.1-20.6	Function of a complex variable, limit, continuity, differentiability	12.5	62.5
		Cauchy-Riemann equations in Cartesian and Polar form		
		Harmonic function, orthogonal property		
		Finding the derivative of an analytic function		
		Milne-Thompson method		
		Finding the conjugate harmonic function and the analytic function		
		Properties of analytic functions		
		Harmonic Property		
		Orthogonal Property		
		Application to flow problems		
51-58	COMPLEX VARIABLES-II TB1-20.7-20.14	Conformal transformation	12.5	75
		Bilinear transformation		
		Discussion of $w = z^2$		
		Discussion of $w = e^z$		
		Discussion of $w = z+a^2/z$		
		Complex line integral		
		Cauchy's theorem and integral formula		
59-66	SPECIAL FUNCTIONS TB1-16.1-16.17	Solution of Laplace Equation in cylindrical system leading to Bessel differential equation	12.5	87.5
		Solution of Laplace Equation in Spherical system leading to Bessel differential equation		
		Properties on Bessel functions		
		Legendre's equation		
		Bessel's function and properties		
		Orthogonal Property of Bessel's function		
		Series Solution of Legendre's Differential equation		
		Rodrigue's formula-Derivation and problems		
		Problems on Rodrigue's formula		
67-75	SAMPLING THEORY TB1-27.1-27.18	Sampling distribution	12.5	100
		Testing Hypothesis		
		Standard error		
		Test for hypothesis for means		
		Limits for means		
		Student's t distribution		
		Test of Significance of Difference between sample means		
		Chi square distribution		

Syllabus for Internal Assessment Tests (IAT)*

Sessional	Syllabus
T1	01-40
T2	41-66
T3	67-75

* See calendar of events for the schedules of IATs.

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, Willey Publication	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 IV	5 th Edition 2011	978-81-7686-675-4
References	RB4	Dr.K.S.C, Engineering Mathematics IV	2011-2012	---

Signature of Faculty

Signature of HOD

Signature of Principal

#132, AECS Layout, IT Park Road, Kundalahalli, Bangalore – 560 037, T:+9180 28524466 / 77

CMR
INSTITUTE OF
TECHNOLOGY



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Course Plan

SEMESTER : IV
BRANCH : ISE
SUBJECT : SOFTWARE ENGINEERING
SUBJECT CODE : 15CS42
NO OF HRS/WK : 5

NAME OF THE FACULTY : Mrs. Madhu G
DATE OF COMMENCEMENT: 13-02-17
DATE OF CLOSING : 24-05-17
CLASS STRENGTH : 61+61
TOTAL HRS : 57

Sessi on No	Module no (No of lectures planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter
1	1/1	14-02-17	Discussion on the course objective and outcomes	Chalk & Board	
2	2/1	16-02-17	Module 1 Introduction ,Software crisis Need for Software Engineering,	„	
3	3/1	17-02-17	Professional Software development, Software Engineering Ethics, Case study 1	„	
4	4/1	17-02-17	Case study 2 and 3	„	
5	5/1	18-02-17	Software Processes: waterfall model	„	
6	6/1	21-02-17	Incremental model, Spiral model	„	
7	7/1	23-02-17	Process activities	“	
8	8/1	27-02-17	Requirements Engineering: Requirements Engineering Processes	„	
9	9/1	27-02-17	Requirements Elicitation and Analysis	„	
10	10/1	28-02-17	Functional and non-functional requirements	„	
11	11/1	02-03-17	The software Requirements Document Requirements Specification	„	
12	12/1	07-03-17	Requirements validation Requirements Management	„	
13	13/1	08-03-17	Module1 interactive session and summary		Assign-1
14	1/2	08-03-17	Module 2 System Models: Context models	„	
15	2/2	09-03-17	Interaction models	„	
16	3/2	11-03-17	Structural models	“	
17	4/2	14-03-17	Behavioral models	„	
18	5/2	15-03-17	Behavioral models		
19	6/2	15-03-17	Model-driven engineering	„	
20	7/2	16-03-17	Design and Implementation: Introduction to RUP	„	
21	8/2	18-03-17	Design Principles	„	
22	9/2	21-03-17	Object-oriented design using the UML	„	
23	10/2	22-03-17	Object-oriented design using the UML		
24	11/2	22-03-17	Design patterns	„	
25	12/2	23-03-17	Implementation issues	„	

26	13/2	31-03-17	Open source development	“	
27	14/2	03-04-17	Module 2 interactive session and summary		Assign-2
28	1/3	04-04-17	Module 3 Software Testing: Development testing	”	
29	2/3	04-04-17	Development testing		
30	3/3	05-04-17	Test-driven development	”	
31	4/3	07-04-17	Release testing	”	
32	5/3	10-04-17	User testing	”	
33	6/3	11-04-17	Test Automation	”	
34	7/3	11-04-17	Software Evolution: Evolution processes	”	
35	8/3	12-04-17	Program evolution dynamics	”	
36	9/3	17-04-17	Software maintenance.	”	
37	10/3	19-04-17	Legacy system management.	“	
38	11/3	20-04-17	Module 3 interactive session and summary		Assign-3
39	1/4	20-04-17	Module 4 Project Planning: Software pricing	”	
40	2/4	21-04-17	Plan-driven development	”	
41	3/4	24-04-17	Project scheduling	”	
42	4/4	26-04-17	Project scheduling	”	
43	5/4	27-04-17	Estimation techniques	”	
44	6/4	27-04-17	Quality management: Software quality	”	
45	7/4	28-04-17	Reviews and inspections	“	
46	8/4	03-05-17	Software measurement and metrics	”	
47	9/4	05-05-17	Software standards	”	
48	10/4	11-05-17	Module 4 interactive session and summary		Assign-4
49	1/5	11-05-17	Module 5 Agile Software Development: Coping with Change	”	
50	2/5	12-05-17	The Agile Manifesto: Values and Principles. Agile methods	”	
51	3/5	15-05-17	SCRUM	”	
52	4/5	17-05-17	SCRUM and Extreme Programming	”	

53	5/5	18-05-17	Plan-driven and agile development	”	
54	6/5	18-05-17	Agile project management	“	
55	7/5	19-05-17	Agile project management	”	
56	8/5	22-05-17	Scaling agile methods	”	
57	9/5	24-05-17	Module 5 interactive session and summary	„	Assign-5

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	Class # 01 – 27
T2	Class # 28 – 48
T3	Class # 49 – 57

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

Literature:

Book Type	Code	Author & Title	Publication Info	
			Edition & Publisher	ISBN #
Text Book	TB	Ian Sommerville: Software Engineering	9th Edition, Pearson Education, 2012.	9788131762165, 8131762165
Text Book	TB	The SCRUM Primer, Ver 2.0, http://www.goodagile.com/scrumprimer/scrumprimer20.pdf	Online	-

Reference Book	RB	Roger.S.Pressman: Software Engineering-A Practitioners approach	7 th Edition, McGraw Hill, 2007.	9780071267823, 0071267824
Reference Book	RB	Pankaj Jalote: An Integrated Approach to Software Engineering	Wiley India	9780387208817, 038720881X

Signature of faculty

Signature of HOD

Signature of Principal

#132, AECS Layout, IT Park Road, Kundalahalli, Bangalore – 560 037
T:+9180 28524466 / 77

**CMR INSTITUTE
OF TECHNOLOGY**



Session wise – Course Plan

Department of Information Science & Engineering

SEMESTER : IV
BRANCH : ISE
SUBJECT : Design & Analysis of Algorithms
SUBJECT CODE : 15CS43
NO OF HRS/WK : 5

NAME OF THE FACULTY : Mrs. Megha Sharma
DATE OF COMMENCEMENT : 13.02.2017
DATE OF CLOSING : 03.06.17
CLASS STRENGTH : 61
TOTAL HRS : 62

Sessi on No	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teachi ng Aids	Assig nment s/ Tests planne d for the chapte r	Topics covered As per plan
1	1	13.02.17	Introduction to the course, Protocols for the class, What is an Algorithm,	Board, chalk, duster		
2	1	14.02.17	MODULE-1: Algorithm Specification	”		
3	1	15.02.17	Analysis Framework	”	Quiz in the class	

4	1	17.02.1 7	Performance Analysis: Space, Time Complexity	„	Students on the board	
5	1	18.02.1 7	Fundamental Data Structures	„	Seminar	
6	1	20.02.1 7	Asymptotic Notations	„		
7	1	21.02.1 7	Asymptotic Notations	„		
8	1	22.02.1 7	Asymptotic Notations	„		
9	1	27.02.1 7	Mathematical Analysis	„		
10	1	28.02.1 7	Mathematical Analysis	Board, chalk, duster		
11	2	01.03.1 7	MODULE-2: Divide & Conquer	„		
12	2	02.03.1 7	Binary Search	„		
13	2	06.03.1 7	Recurrence Equation	„		
14	2	08.03.1 7	Finding the Maximum & Minimum	„		
15	2	09.03.1 7	Merge Sort	„		
16	2	10.03.1 7	Quick Sort	„		
17	3	11.03.1 7	Quick Sort	„		
18	3	13.03.1 7	Strassen's Matrix Multiplication	„		
19	3	15.03.1 7	Advantages/Disadvantages of Divide & Conquer	„		
20	3	16.03.1 7	Topological Sort	Board, chalk, duster		

21	3	17.03.1 7	MODULE-3 Greedy Method	„		
22	3	18.03.1 7	Coin Change problem	„		
23	3	20.03.1 7	Knapsack Problem	„		
24	4	22.03.1 7	Job Sequencing with Deadlines	„		
25	4	23.03.1 7	Prim’s Algorithm	„		
26	4	24.03.1 7	Kruskal’s Algorithm	„		
27		27.03.1 7	IAT-1	Board, chalk, duster		
28		29.03.1 7	IAT-1	„		
29		30.03.1 7	IAT-1	„		
30	4	31.03.1 7	Dijkstra’s Algorithm	„		
31	4	01.04.1 7	Dijkstra’s Algorithm	„		
32	4	04.04.1 7	Huffman Trees & Codes	„		
33	4	05.04.1 7	Heaps	„		
34	5	06.04.1 7	Heap Sort	„		
35	5	07.04.1 7	MODULE-4 Dynamic Programming	„		
36	5	08.04.1 7	Multistage Graphs	Board, chalk, duster		
37	5	11.04.1 7	Warshall’s Algorithm	„		
38	6	12.04.1 7	Floyd’s Algorithm	„		
39	6	13.04.1 7	Optimal BST	„		

40	6	17.04.1 7	Knapsack Problem	„		
41	6	18.04.1 7	Bellman-Ford Algorithm	„		
42	7	20.04.1 7	Travelling Salesperson Problem	Board, chalk, duster		
43	7	21.04.1 7	Reliability Design	„		
44	7	22.04.1 7	Revision of Module-4	„		
45	7	24.04.1 7	Revision of Module-4	„		
46	8	25.04.1 7	Revision of Module-4	„		
47	8	27.04.1 7	Revision of Module-4	„		
48	8	28.04.1 7	Floyd's Algorithm- revision	„	Semin ar	
49	8	02.05.1 7	Knapsack Problem- revision	„	Semin ar	
50	8	03.05.1 7	Revision of Module-4	Board, chalk, duster	Semin ar	
51	9	04.05.1 7	Revision of Module-4	„	Semin ar	
52	9	08.05.1 7	IAT-2	„		
53	9	09.05.1 7	IAT-2	„		
54	9	10.05.1 7	IAT-2	„		
55	10	11.05.1 7	MODULE-5 Backtracking	„		
56	10	12.05.1 7	N-Queen's Problem	„		
57	10	13.05.1 7	Graph Colouring	„		
58	10	15.05.1 7	Hamiltonian cycles	„		

59	11	16.05.1 7	Branch & Bound	Board, chalk, duster	Quiz, Asses ments	
60	11	18.05.1 7	Travelling Salesperson Problem	„		
61	11	19.05.1 7	0/1 Knapsack Problem	„		
62	11	20.05.1 7	LC Branch & Bound	„		
63	12	22.05.1 7	FIFO Branch & Bound	„		
64	12	23.05.1 7	NP- Complete & NP-Hard	„		
65		25.05.1 7	Improvement Test	„		
66		26.05.1 7	Improvement Test	„		
67		27.05.1 7	Improvement Test	„		
68		29.05.1 7	Revision	„		
69		30.05.1 7	Revision of Module-5	„		
70		31.05.1 7	Revision of Module-5	„		
71		01.06.1 7	Revision of Module-5	„		
72		02.06.1 7	Revision of Module-4	„		
73		03.06.1 7	Revision of Module-3	„		

Syllabus for Sessionals:

Sessional #	Syllabus
T1	Module 1,2,3(partly)
T2	Module 3,4,5
T3	Parts of all Modules

Literature:

Signature of faculty

Signature of HOD

Signature of Principal

Book Type	Code	Author & Title	Edition & Publisher
Text Book	TB1	Introduction to the Design and Analysis of Algorithms, Anany Levitin:, 2rd Edition, 2009. Pearson.	2nd Edition, Pearson
Text Book	TB2	Computer Algorithms/C++, Ellis Horowitz, Satraj Sahni and Rajasekaran, 2nd Edition, 2014, Universities Press	2nd Edition, University Press

DEPARTMENT OF COMPUTER SCIENCE & ENGG			
Semester	IV	Name of the faculty	SOPHIYA SUSAN S
Branch	ISE	Date of commencement	13/02/2017
Subject	MICROPROCESSOR AND MICROCONTROLLER	Date of Closing	06/06/2017
Subject code	15CS44	Section & Class Strength	61
No of hours/week	6	Total hours	68Hrs

Session No	Chapter no (No of hrs planed for the chapter)	Date	Topics planned for the session	Teaching Aids	Assignment s/ Tests planned for the chapter	Topics covered As per plan
1	1/0	13/02/2017	Introduction, Prerequisites	Board, chalk, duster		
2	1/1	14/02/2017	Brief history of the x86 family	Board, chalk, duster		
3	2/1	15/02/2017	Architecture of 8086	Board, chalk, duster		
4	3/1	16/02/2017	Architecture of 8086	Board, chalk, duster		
5	4/1	17/02/2017	Introduction to assembly programming- MOV , ADD	Board, chalk, duster		
6	5/1	18/02/2017	Physical address and logical address	Board, chalk, duster		
7	6/1	20/02/2017	Program Segments- Code and Data Segment	Board, chalk, duster		
8	7/1	21/02/2017	The Stack segment- Problems	Board, chalk, duster	Assignment on MODULE 1	
9	8/1	22/02/2017	Flag Register	Board, chalk,		

				duster		
10	9/1	23/02/2017	Addressing Modes	Board, chalk, duster		
11	10/1	27/02/2017	Assembly language programming: Directives & a Sample Program	Board, chalk, duster		
12	11/1	28/02/2017	Assemble, Link & Run a program, More programs	Board, chalk, duster		
13	12/1	01/03/2017	Data Types and Data Definition, Full Segment Definition	Board, chalk, duster		
14	13/1	02/03/2017	Control Transfer Instructions, Flow chart and Pseudo code	Board, chalk, duster		
15	14/1	06/03/2017	Programs	Board, chalk, duster		
16	15/1	07/03/2017	Programs	Tutorial		
17	1/2	08/03/2017	8086 Instructions sets description- Arithmetic Instruction: ADD,SUB	Board, chalk, duster		
18	2/2	09/03/2017	Arithmetic Instruction- MUL,DIV,programs	Board, chalk, duster		
19	3/2	10/03/2017	Logic Instruction - Programs	Board, chalk, duster		
20	4/2	11/03/2017	Rotate Instruction - Programs	Board, chalk, duster	Assignment on MODULE 2	
21	5/2	13/03/2017	BCD and ASCII Conversion- Programs	Board, chalk, duster		
22	6/2	14/03/2017	Bios INT 10H Programming	Board, chalk, duster		
23	7/2	15/03/2017	DOS Interrupt 21H, Programming, 8088/86 Interrupts	Board, chalk, duster		
24	8/2	16/03/2017	8088/86 Interrupts	Board, chalk, duster		
25	9/2	17/03/2017	Interrupt Assignment	Board, chalk, duster		
26	10/2	18/03/2017	Programs	Tutorial		
27	1/3	20/03/2017	Signed number Arithmetic Operations	Board, chalk, duster		

28	2/3	21/03/2017	Signed number Arithmetic Operations- programs	Board, chalk, duster		
29	4/3	22/03/2017	String Operations-programs	Board, chalk, duster		
30	5/3	23/03/2017	String Operations-programs	Board, chalk, duster	Assignment on MODULE 3	
31	6/3	24/03/2017	Memory and Memory interfacing: Memory address decoding	Board, chalk, duster		
32	7/3	31/03/2017	Data integrity in RAM and ROM	Board, chalk, duster		
33	8/3	01/04/2017	16-bit memory interfacing	Board, chalk, duster		
34	9/3	03/04/2017	8255 I/O programming: I/O addresses MAP of x86 PC's	Board, chalk, duster		
35	10/3	04/04/2017	Programming and interfacing the 8255	Board, chalk, duster		
36	11/3	05/04/2017	Programming and interfacing the 8255	Board, chalk, duster		
37	12/3	06/04/2017	Programs	Board, chalk, duster		
38	1/4	07/04/2017	Microprocessors versus Microcontrollers, ARM Embedded Systems :The RISC design Philosophy	Board, chalk, duster		
39	2/4	08/04/2017	The ARM Design Philosophy, Embedded System Hardware	Board, chalk, duster		
40	3/4	10/04/2017	Embedded System Hardware	Board, chalk, duster		
41	4/4	11/04/2017	Embedded System Software	Board, chalk, duster	Assignment on MODULE 4	
42	5/4	12/04/2017	ARM Processor Fundamentals : Registers	Board, chalk, duster		
43	6/4	13/04/2017	Current Program Status Register	Board, chalk, duster		
44	7/4	17/04/2017	Pipeline, Exceptions	Board, chalk, duster		

45	8/4	18/04/2017	Interrupts and the Vector Table	Board, chalk, duster		
46	9/4	19/04/2017	Core Extensions	Tutorial		
47	10/4	20/04/2017	Revision	Board, chalk, duster		
48	1/5	21/04/2017	Introduction to the ARM Instruction Set : Data Processing Instructions	Board, chalk, duster		
49	2/5	22/04/2017	Data Processing Instructions	Board, chalk, duster		
50	3/5	24/04/2017	Data Processing Instructions	Board, chalk, duster		
51	4/5	25/04/2017	Branch Instructions	Board, chalk, duster		
52	5/5	26/04/2017	Programs	Board, chalk, duster		
53	6/5	27/04/2017	Programs	Board, chalk, duster		
54	7/5	28/04/2017	Software Interrupt Instructions	Board, chalk, duster	Assignment on MODULE 5	
55	8/5	02/05/2017	Program Status Register Instructions	Board, chalk, duster		
56	9/5	03/05/2017	Coprocessor Instructions	Board, chalk, duster		
57	10/5	04/05/2017	Loading Constants	Board, chalk, duster		
58	11/5	05/05/2017	Programs	Tutorial		
59	12/5	11/05/2017	Programs	Tutorial		
60	13/5	12/05/2017	Programs	Tutorial		
61	1/1-5	13/05/2017	Revision	Board, chalk, duster		
62	2/1-5	15/05/2017	Revision	Tutorial		
63	3/1-5	16/05/2017	Revision	Tutorial		
64	4/1-5	17/05/2017	Revision	Tutorial		

65	5/1-5	18/05/2017	Revision	Tutorial		
66	6/1-5	19/05/2017	Revision	Tutorial		
67	7/1-5	20/05/2017	Revision	Tutorial		
68	8/1-5	22/05/2017	Revision	Tutorial		

Syllabus for Internal Assessment:

Assessment #	Syllabus
IAT1	Class # 01 - 26
IAT2	Class # 27- 47
IMP	Class # 48- 60, some important topics from IAT1 and/or IAT2

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition&Publisher	ISBN #
TEXT BOOK	TB1	Muhammad Ali Mazidi, Janice GillispieMazidi, Danny Causey, The x86 PC Assembly Language Design and Interfacing,	5th Edition, Pearson, 2013.	978-81-317-3441-4
TEXT BOOK	TB2	ARM system developers guide , Andrew N Sloss, Dominic Symes and Chris Wright,	Elsevier,Morgan Kaufman publishers, 2008.	
REFERANCE BOOK	RF1	Douglas V. Hall, 'Microprocessors and interfacing'	Tata McGraw-Hill	0-07-060167
REFERANCE BOOK	RF2	K. Udaya Kumar & B.S. Umashankar : Advanced Microprocessors & IBM-PC Assembly Language Programming	TMH 2003.	

Signature of In charge

HOD-ISE

Department of Information Science and Engineering

S	SEMESTER :	IV -A	NAME OF THE FACULTY :	Ms .Ramya
	BRANCH :	ISE	DATE OF COMMENCEMENT :	13/02/2017
	SUBJECT :	Object Oriented Concepts	DATE OF CLOSING :	02/06/2017
	SUBJECT CODE :	15CS45	CLASS STRENGTH :	61
	NO OF HRS/WK :	5	TOTAL HRS :	62

Sessi on No	Chapter no (No of hrs planned for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignm ents/ Tests planned for the chapter	Topics covere d As per plan
1	1/1	13.02.17 Mon	A Review of structures, Procedure– Oriented Programming system,	Chalk & Talk		
2	2/1	15.02.17 Wed	Object Oriented Programming System,	”		
3	3/1	16.02.17 Thu	Comparison of Object Oriented Language with C	”		
4	1/2	18.02.17 Sat	Java’s magic: the Byte code; Java Development Kit (JDK);	”	Assignm ent- I	
5	2/2	18.02.17 Sat	The Java Buzzwords,	”		
6	3/2	20.02.17 Mon	Object-oriented programming;	”		
7	4/2	22.02.17 Wed	Simple Java programs. Data types, variables and arrays,	”		
8	5/2	23.02.17 Thu	arrays, Operators,	”		
9	6/2	28.02.17 Tue	Control Statements	”		
10	7/2	28.02.17 Tue	Revision of module 2	”	Assignm ent -II	
11	1/3	01.03.17 Wed	Classes: Classes fundamentals; Declaring objects;	”		
12	2/3	06.03.17 Mon	Constructors,	”		
13	3/3	07.03.17 Tue	this keyword, garbage collection	”		
14	4/3	09.03.17 Thu	inheritance basics,	”		
15	5/3	09.03.17 Thu	using super	”		

16	6/3	10.03.17 Fri	creating multi level hierarchy	”		
17	7/3	13.03.17 Mon	Method overriding.	”		
18	8/3	14.03.17 Tue	Exception handling in Java.	”		
19	9/3	16.03.17 Thu	Exception handling in Java.	”		
20	10/3	16.03.17 Thu	Exception handling in Java.	”		
21	11/3	17.03.17 Fri	Packages,	”		
22	12/3	20.03.17 Mon	Access Protection,	”		
23	13/3	21.03.17 Tue	Importing Packages,	“		
24	14/3	23.03.17 Thu	Interfaces.	”		
25	15/3	23.03.17 Thu	Interfaces.	”		
26	16/3	24.03.17 Fri	Revision of module 3	”	Assignm ent –III	
27	1/4	01.04.17 Sat	Multi Threaded Programming: What are threads?	”		
28	2/4	03.04.17 Mon	How to make the classes threadable	”		
29	3/4	05.04.17 Wed	Extending threads; Implementing runnable;	”		
30	4/4	05.04.17 Wed	Synchronization	”		
31	5/4	06.04.17 Thu	Changing state of the thread;	”		
32	6/4	08.04.17 Sat	Bounded buffer problems	“		
33	7/4	10.04.17 Mon	Read write problem,	”		
34	8/4	12.04.17 Wed	producer consumer problems	”		
35	9/4	12.04.17 Wed	Two event handling mechanisms; The delegation event model	”		
36	10/4	13.04.17 Thu	Event classes; Sources of events;	”		
37	11/4	18.04.17 Tue	Event listener interfaces; Using the delegation event model;	”		
38	12/4	19.04.17 Wed	Adapter classes; Inner classes.	”		
39	13/4	20.04.17 Thu	Revision of module 4	“	Assignm ent –IV	

40	1/5	21.04.17 Fri	Introduction, Two types of Applets; Applet basics	”		
41	2/5	21.04.17 Fri	Applet Architecture; An Applet skeleton;	”		
42	3/5	22.05.17 Mon	Simple Applet display methods	”		
43	4/5	25.04.17 Tue	Requesting repainting, Using the Status Window;	”		
44	5/5	26.04.17 Wed	The HTML APPLET tag; Passing parameters to Applets;	”		
45	6/5	27.04.17 Thu	getDocumentbase() and getCodebase();	”		
46	7/5	28.04.17 Fri	ApletContext and showDocument();	”		
47	8/5	28.04.17 Fri	The AudioClip Interface; The AppletStub Interface	“		
48	9/5	02.05.17 Tue	Output to the Console	”	Assignm ent -V	
49	10/5	04.05.17 Thu	The origins of Swing; Two key Swing features;	”		
50	11/5	05.05.17 Fri	Components and Containers	”		
51	12/5	11.05.17 Thu	The Swing Packages	”		
52	13/5	12.05.17 Fri	A simple Swing Application;	”		
53	14/5	12.05.17 Fri	Create a Swing Applet; JLabel and ImageIcon;	”		
54	15/5	13.05.17 Sat	JTextField;The Swing Buttons;	”		
55	16/5	16.05.17 Tue	JTabbedPane; JScrollPane	“		
56	17/5	17.05.17 Wed	JList; JComboBox; JTable	”		
57	18/5	18.05.17 Thu	Revision of module 5	”	Assignm ent -VI	
58	4/1	19.05.17 Fri	Namespaces, Nested classes,	”		
59	5/1	19.05.17 Fri	Constructors, Destructors.	”		
60	6/1	20.05.17 Sat	Console I/O	”		
61	7/1	23.05.17 Tue	Variables and reference variables, Function Prototyping, Function Overloading.	”		
62	8/1	24.05.17 Wed	Revision of module 1	”		

Sessional #	Syllabus
T1	Class # 01 - 26
T2	Class # 27 – 50
T3	Class # 51 - 62

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

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Sourav Sahay, Object Oriented Programming with C++	1 st Edition, Pearson Education , 2008	9788131720806
Text Book	TB2	Herbert Schildt, Java The Complete Reference	7 th Edition, Tata McGraw-Hill, 2007.	
References	RB1	E Balaguruswamy, Programming with Java A primer	Tata McGraw-Hill companies	

Signature of faculty

Signature of HOD

Signature of Principal

#132, AECS Layout, IT Park Road, Kundalahalli, Bangalore – 560 037
T: +9180 28524466 / 77

**CMR INSTITUTE
OF TECHNOLOGY**



Session wise – Course Plan

Department of Computer Science and Engineering

SEMESTER : IV -B
BRANCH : ISE
SUBJECT : Data Communication
SUBJECT CODE : 16CS46
NO OF HRS/WK : 6

NAME OF THE FACULTY : Priya L
DATE OF COMMENCEMENT : 13.2.2017
DATE OF CLOSING : 2.6.2017
CLASS STRENGTH : 61
TOTAL HRS : 60

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	1/1	13.1.17	UNIT 1: INTRODUCTION			
2	2/1	13.1.17	Data Communications, Networks	Board, chalk, duster		
3	3/1	14.2.17	Network types	„		

4	4/1	15.2.17	Internet history, standards & Administration	„		
5	5/1	15.2.17	Protocol Layering	„		
6	6/1	18.2.17	TCP / IP Protocol Suite- Layered Architecture and description of each layer	„		
7	7/1	20.2.17	Encapsulation & Decapsulation, Addressing, MUX and DEMUX	„		
8	8/1	20.2.17	OSI model	„		
	9/1	21.2.17	Data and Signals,Digital Signals	„	Assignment 1	
9	10/1	22.2.17	Transmission Impairments			
10	11/1	22.2.17	Data rate limits: Noisy and Noisless channel	„		
11	12/1	28.2.17	Performance,	„		
12	13/1	1.3.17	Digital-digital conversion (Only Line coding: Polar)	„		
13	14/1	1.3.17	Bipolar and Manchester coding	„		
14	½	2.3.17	UNIT-2 Analog-to-digital conversion (only PCM)	„		
15	2/2	6.3.17	Transmission Modes	„		
16	3/2	6.3.17	Digital-to-analog conversion ASK,FSK	„		
	4/2	9.3.17	PSK, QAM	Board, chalk, duster		
17	5/2	10.3.17	Multiplexing			
18	6/2	10.3.17	Spread Spectrum	„		
19	7/2	11.3.17	Introduction to switching	„	Assignment 2	
20	8/2	13.3.17	Circuit Switched Networks	„		
21	9/2	13.3.17	Datagram Networks	„		
22	10/2	16.3.17	Datagram Networks	„		
23	11/2	17.3.17	Virtual Circuit Networks	„		
24	12/2	17.3.17	Revision	„		
	1/3	18.3.17	Unit 3 Error Detection and Correction: Introduction	„		
25	2/3	20.3.17	Block coding			
26	3/3	20.3.17	Cyclic codes	„		
27	4/3	23.3.17	Cyclic codes,	„		
28	5/3	24.3.17	Checksum	„		
29	6/3	24.3.17	Forward Error correction	„		
30	7/3	31.3.17	DLC services	„		
31	8/3	1.4.17	Data-Link Layer protocols	„		
32	9/3	1.4.17	HDLC	„	Assignment 3	
33	10/3	5.4.17	PPP (Framing, Transition phases only)	„		
	11/3	6.4.17	Quiz	„		
34	¼	6.4.17	UNIT 4 :Random Access: ALOHA,CSMA			
35	2/4	7.4.17	CSMA/CD	„		
36	¾	8.4.17	CSMA/CA	„		
37	4/4	8.4.17	Controlled Access	„		
38	5/4	12.4.17	Channelization: FDMA	„		
39	6/4	13.4.17	TDMA	„		
40	7/4	17.4.17	CDMA	„		
41	8/4	18.4.17	Ethernet Protocol	„	Assignment 4	

	9/4	18.4.17	Standard Ethernet	„		
42	10/4	21.4.17	Standard Ethernet	„		
43	11/4	22.4.17	Fast Ethernet	„		
44	12/4	25.4.17	Gigabit Ethernet	„		
45	13/4	25.4.17	Wireless LAN:Introduction	„		
46	14/4	28.4.17	IEEE 802.22	„		
	15/4	2.5.17	Bluetooth	„		
47	1/5	2.5.17	UNIT 5:	„		
48	2/5	3.5.17	WiMAX	„		
49	3/5	4.5.17	Cellular Telephony	„		
	4/5	4.5.17	Second Generation	„		
50	5/5	12.5.17	Thirs Generation & Fourth Generation			
51	6/5	13.5.17	Satellite Networks	Board, chalk, duster		
52	7/5	13.5.17	Internet Protocol	„		
53	8/5	15.5.17	ICMPv4	„		
54	9/5		Mobile IP	„	Assignment 5	
55	10/5	16.5.17	Mobile IP-Phases	„		
56	11/5		IPv6 Addressing	„		
57	12/5		IPv6 Protocol	„		
58	13/5	19.5.17	ICMPv6 Protocol	„		
	14/5	20.5.17	Transition from IPv4 to IPv6	„		
59	15/5	20.5.17	Revision Problems-1,2			
60	16/5	22.5.17	Revision Problems-3,4	„		
61	17/5	23.5.17	Revision Problems-5	„		
62	18/5	23.5.17	TEST	„		

Syllabus for Internal Assessment Tests (IAT) *

IAT #	Syllabus
IAT-1	Class # 01 – 24
IAT-2	Class # 25–49
IAT-3	Class # 50–67

*: 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,,: Data Communication and Networking,	5 th Edition Tata McGraw-Hill, 2013..	978-0-07-063414-5
References	RB1	Alberto Leon-Garcia and Indra Widjaja: Communication Networks - Fundamental Concepts and Key architectures,	2 nd Edition Tata McGraw-Hill, 2004..	978-0070228399

References	RB2	William Stallings: Data and Computer Communication	8 th Edition, Pearson Education, 2007..	9780132433105
References	RB3	Larry L. Peterson and Bruce S. Davie: Computer Networks – A Systems Approach	4 th Edition, Elsevier, 2007	978-0123705488
References	RB4	Nader F. Mir: Computer and Communication Networks,	Pearson Education, 2007.	978-0131389106

Signature of faculty

Signature of HOD

Signature of Principal