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T:+9180 28524466 / 77

CMR INSTITUTE
OF TECHNOLOGY

Session wise – Course Plan

DEPARTMENT OF INFORMATION SCIENCE & ENGG

Semester	IV	Name of the faculty	Dr. Jhansi Rani P
Branch	ISE	Date of commencement	18/01/2016
Subject	DESIGN AND ANALYSIS OF ALGORITHM	Date of Closing	11/05/2016
Subject code	10CS43	Section & Class Strength	A (60)
No of hours/week	5/1	Total hours	62 hrs

Session No	Chapter no (No of hrs planed 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	19/01/2016	UNIT 1: Prerequisite topic: Course Over view, Objectives, and outcomes. Notion of Algorithm	Board, chalk, duster		
2	2/1	20/01/2016	Review of Asymptotic Notations,	Board, chalk, duster		
3	3/1	21/01/2016	Mathematical Analysis of Non-Recursive and Recursive Algorithms	Board, chalk, duster		
4	4/1	22/01/2016	Brute Force Approaches: Introduction, Selection Sort	Board, chalk, duster		
5	5/1	22/01/2016	Bubble Sort	Board, chalk, duster		
6	6/1	27/01/2016	Sequential Search	Board, chalk, duster		
7	7/1	28/01/2016	Brute Force String Matching	Board, chalk, duster		
8	1/2	29/01/2016	UNIT 2: Divide and Conquer: General Method	Board, chalk, duster	Assignment on UNIT 1	
9	2/2	30/01/2016 1	Defective Chess Board			
10	3/2	30/01/2016	Binary Search	PPT		
11	4/2	03/02/2016	Merge Sort	Board, chalk, duster		
12	5/2	04/02/2016	Quick Sort	PPT		

13	6/2	05/02/2016	Performance of Quick and Merge Sort	Board, chalk, duster		
14	7/2	08/02/2016	Examples	Board, chalk, duster		
15	1/3	08/02/2016	UNIT 3 : GREEDY METHOD: The General Method	Board, chalk, duster	Assignment on UNIT 2	
16	2/3	11/02/2016	Knapsack Problem	Board, chalk, duster		
17	3/3	12/02/2016	Job Sequencing with Deadlines	Board, chalk, duster		
18	4/3	13/02/2016	Minimum-Cost Spanning Trees: Prim's Algorithm	Board, chalk, duster		
19	5/3	15/02/2016	Kruskal's Algorithm	Board, chalk, duster		
20	6/3	15/02/2016	Single Source Shortest Paths.	Board, chalk, duster		
21	7/3	18/02/2016	Examples	Board, chalk, duster		
22	1/4	22/02/2016	UNIT 4 : DYNAMIC PROGRAMMING: The General Method	Board, chalk, duster	Assignment on UNIT 3	
23	2/4	23/02/2016	Warshall's Algorithm	Board, chalk, duster		
24	3/4	24/02/2016	Floyd's Algorithm for the All-Pairs Shortest Paths Problem	Board, chalk, duster		
25	4/4	24/02/2016	Single-Source Shortest Paths: General Weights	Board, chalk, duster		
26	5/4	29/02/2016	0/1 Knapsack	Board, chalk, duster		
27	6/4	01/03/2016	The Traveling Salesperson problem	Board, chalk, duster		
28	7/4	02/03/2016	Examples	Board, chalk, duster		
29	1/5	03/03/2016	UNIT 5: Decrease-and-Conquer Approaches: Introduction	Board, chalk, duster	Assignment on UNIT 4	
30	2/5	03/03/2016	Insertion Sort	Board, chalk, duster		

31	3/5	08/03/2016	Depth First Search	Board, chalk, duster		
32	4/5	09/03/2016	Breadth First Search	Board, chalk, duster		
33	5/5	10/03/2016	Topological Sorting Space-Time Tradeoffs: Introduction	Board, chalk, duster		
34	6/5	11/03/2016	Sorting by Counting,	Board, chalk, duster		
35	7/5	11/03/2016	Input Enhancement in String Matching	Board, chalk, duster		
36	8/5	19/03/2016	Examples	Board, chalk, duster	Assignment on UNIT 5	
37	1/6	21/03/2016	UNIT 6: Lower-Bound Arguments	Board, chalk, duster		
38	2/6	22/03/2016	Decision Trees	Board, chalk, duster		
39	3/6	23/03/2016	P Problems	Board, chalk, duster		
40	4/6	23/03/2016	NP Problems	Board, chalk, duster		
41	5/6	29/03/2016	NPComplete Problems	Board, chalk, duster		
42	6/6	30/03/2016	Challenges of Numerical Algorithms	Board, chalk, duster		
43	7/6	31/03/2016	Examples		Assignment on UNIT 6	
44	1/7	01/04/2016	UNIT 7 : Backtracking: n - Queens problem	Board, chalk, duster		
45	2/7	01/04/2016	Hamiltonian Circuit Problem	Board, chalk, duster		
46	3/7	05/04/2016	Subset – Sum Problem.	Board, chalk, duster		
47	4/7	06/04/2016	Branch-and-Bound: Assignment Problem	Board, chalk, duster		
48	5/7	07/04/2016	Knapsack Problem	Board, chalk, duster		
49	6/7	11/04/2016	Traveling Salesperson Problem.	Board, chalk, duster		

50	7/7	11/04/2016	Approximation Algorithms for NP-Hard Problems – Traveling Salesperson Problem	Board, chalk, duster		
51	8/7	15/04/2016	Knapsack Problem	Board, chalk, duster	Assignment on UNIT 7	
52	1/8	16/04/2016	UNIT 8: PRAM ALGORITHMS: Introduction	Board, chalk, duster		
53	2/8	18/04/2016	Computational Model	Board, chalk, duster		
54	3/8	20/04/2016	Parallel Algorithms for Prefix Computation	Board, chalk, duster		
55	4/8	20/04/2016	List Ranking	Board, chalk, duster		
56	5/8	23/04/2016	Graph Problems	Board, chalk, duster		
57	6/8	28/04/2016	Examples	Board, chalk, duster	Assignment on UNIT 8	
58	7/8	29/04/2016	Programs	Board, chalk, duster		
59	8/8	30/04/2016	Revision	Board, chalk, duster		
60	9/8	30/04/2016	Revision	Board, chalk, duster		
61	10/8	04/05/2016	Revision	Board, chalk, duster		
62	11/8	05/05/2016	Revision	Board, chalk, duster		

Syllabus for Internal Assessment :

Assessment #	Syllabus
IA1	Class # 01 – 33
IA2	Class # 34- 56
IT	Class # 57 - 62

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition & Publisher	ISBN #

Text Book	TB1	Anany Levitin: Introduction to The Design & Analysis of Algorithms, (Listed topics only from the Chapters 1, 2, 3, 5, 7, 8, 10, 11).	2 nd Edition, Pearson Education, 2007.	978 81 317 1837 7
Text Book	TB2	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran: Fundamentals of Computer Algorithms, (Listed topics only from the Chapters 3, 4, 5, 13)	2 nd Edition, Universities Press, 2007.	978 81 7371 612 6
Reference	RB1	Thomas H. Cormen, Charles E. Leiserson, Ronal L. Rivest, Clifford Stein: Introduction to Algorithms	3 rd Edition, PHI, 2010.	0-07-013151-1
Reference	RB2	R.C.T. Lee, S.S. Tseng, R.C. Chang & Y.T. Tsai: Introduction to the Design and Analysis of Algorithms A Strategic Approach,	Tata McGraw Hill, 2005.	10: 0071243461

Signature of In charge

HOD-CSE



Session wise – Course Plan

Department of Information Science and Engineering

SEMESTER :IV-B(ISE)
BRANCH :ISE
SUBJECT :DAA
SUBJECT CODE :10CS43
NO OF HRS/WK :5

NAME OF THE FACULTY :Febin.A.Vahab
DATE OF COMMENCEMENT :18.01.2016
DATE OF CLOSING :21.05.2016
CLASS STRENGTH :49
TOTAL HRS :66

Session No	No of hrs planned /Chapter Number	Date	Topics planned for the session	Teaching Aids	Assignments/Tests planned for the chapter	Topics covered As per plan
1	0	18.1.2016	Briefing the syllabus, Mode of class and study, Prerequisites of the course, Expectation from the student.	Black Board, Chalk, Duster		
2	1/1	20.1.2016	UNIT – 1 INTRODUCTION: Notion of Algorithm	Black Board, Chalk, Duster		
3	2/1	21.1.2016	Review of asymptotic Notations	Black Board, Chalk, Duster		
4	3/1	22.1.2016	Asymptotic notations continued.	Black Board, Chalk, Duster		
5	4/1	23.1.2016	Mathematical Analysis of Non-Recursive Algorithms.	Black Board, Chalk, Duster	Assignment-I	
6	5/1	25.1.2016	Mathematical Analysis Recursive Algorithms.	Black Board, Chalk, Duster		
7	6/1	28.1.2016	Brute Force Approaches: Introduction	Black Board, Chalk, Duster		
8	7/1	29.1.2016	Selection Sort	Black Board, Chalk, Duster		
9	8/1	30.1.2016	Bubble Sort	Black Board, Chalk, Duster		
10	9/1	01.2.2016	Sequential Search	Black Board, Chalk, Duster		
11	10/1	02.2.2016	Brute Force String Matching	Black Board, Chalk, Duster		
12		04.2.2016	Test on UNIT 1	Black Board, Chalk, Duster		
13	1/2	05.2.2016	UNIT - 2 DIVIDE AND CONQUER: Divide and Conquer, :General Method	Black Board, Chalk, Duster		
14	2/2	08.2.2016	Defective Chess Board	Black Board, Chalk, Duster		
15	3/2	09.2.2016	Binary Search	Black Board, Chalk, Duster		
16	4/2	10.2.2016	Merge Sort	Black Board, Chalk, Duster	Assignment II	
17	5/2	12.2.2016	Merge Sort-Analysis	Black Board, Chalk, Duster		

18	6/2	13.2.2016	Quick Sort.	Black Board, Chalk, Duster		
19	7/2	15.2.2016	Performance Analysis	Black Board, Chalk, Duster		
20		16.2.2016	Test on UNIT 2	Black Board, Chalk, Duster		
21	1/3	17.2.2016	UNIT - 3 THE GREEDY METHOD: The General Method	Black Board, Chalk, Duster		
22	2/3	22.2.2016	Knapsack Problem	Black Board, Chalk, Duster		
23	3/3	23.2.2016	Job Sequencing with Deadlines,	Black Board, Chalk, Duster	Assignment III	
24	4/3	24.2.2016	Minimum-Cost Spanning Trees: Prim's Algorithm,	Black Board, Chalk, Duster		
25	5/3	25.2.2016	Kruskal's Algorithm.	Black Board, Chalk, Duster		
26	6/3	26.2.2016	Single Source Shortest Paths	Black Board, Chalk, Duster		
27	7/3	01.3.2016	Single Source Shortest Paths Continued	Black Board, Chalk, Duster		
28		02.3.2016	Test on UNIT 3	Black Board, Chalk, Duster		
29	1/5	03.3.2016	UNIT - 5 DECREASE-AND-CONQUER APPROACHES, SPACE-TIME TRADEOFFS: Decrease-and-Conquer Approaches: Introduction	Black Board, Chalk, Duster		
30	2/5	04.3.2016	Insertion Sort	Black Board, Chalk, Duster		
31	3/5	05.3.2016	Depth First Search	Black Board, Chalk, Duster	Assignment IV	
32	4/5	09.3.2016	Breadth First Search	Black Board, Chalk, Duster		
33	5/5	10.3.2016	Topological Sorting	Black Board, Chalk, Duster		
34	6/5	11.3.2016	Space - Time Tradeoffs: Introduction.	Black Board, Chalk, Duster		
35	7/5	17.3.2016	Sorting by Counting	Black Board, Chalk, Duster		
36	8/5	18.3.2016	Input Enhancement in String Matching	Black Board, Chalk, Duster		
37		21.3.2016	Test on UNIT 5	Black Board, Chalk, Duster		
38	1/7	22.3.2016	UNIT - 7 COPING WITH LIMITATIONS OF ALGORITHMIC POWER: Backtracking	Black Board, Chalk, Duster		
39	2/7	23.3.2016	n - Queens problem	Black Board, Chalk, Duster		
40	3/7	24.3.2016	Hamiltonian Circuit Problem	Black Board, Chalk, Duster	Assignment V	

41	4/7	28.3.2016	Subset –Sum Problem.	Black Board, Chalk, Duster		
42	5/7	30.3.2016	Branch-and-Bound: Assignment Problem	Black Board, Chalk, Duster		
43	6/7	31.3.2016	Knapsack Problem	Black Board, Chalk, Duster		
44	8/7	01.4.2016	Traveling Salesperson Problem.	Black Board, Chalk, Duster		
45	9/7	02.4.2016	Approximation Algorithms for NP-Hard Problems – Traveling Salesperson Problem	Black Board, Chalk, Duster		
67	10/7	04.4.2016	Knapsack Problem	Black Board, Chalk, Duster		
78		06.4.2016	Test on UNIT 7	Black Board, Chalk, Duster		
89	1/4	07.4.2016	UNIT - 4 DYNAMIC PROGRAMMING: The General Method	Black Board, Chalk, Duster		
49	2/4	11.4.2016	Warshall’s Algorithm.	Black Board, Chalk, Duster		
50	3/4	12.4.2016	Floyd’s Algorithm for the All-Pairs Shortest Paths Problem	Black Board, Chalk, Duster	Assignment VI	
51	4/4	13.4.2016	Single-Source Shortest Paths: General Weights	Black Board, Chalk, Duster		
52	5/4	16.4.2016	0/1 Knapsack	Black Board, Chalk, Duster		
53	6/4	18.4.2016	The Traveling Salesperson problem	Black Board, Chalk, Duster		
54		20.4.2016	Test on UNIT 4	Black Board, Chalk, Duster		
55	1/6	21.4.2016	UNIT – 6 LIMITATIONS OF ALGORITHMIC POWER AND COPING WITH THEM: Lower- Bound Arguments	Black Board		
56	2/6	22.4.2016	Decision Trees	Black Board		
57	3/6	28.4.2016	P, NP, and NP-Complete Problems	Black Board		
58	4/6	29.4.2016	NP Problems	Black Board		
59	5/6	30.4.2016	NP-Complete Problems	Black Board		
60	6/6	02.5.2016	Challenges of Numerical Algorithms.	Black Board		
61	1/8	03.5.2016	UNIT 8 PRAM ALGORITHMS: Introduction	Black Board	Assignment VII	
62	2/8	05.5.2016	Computational Model	Black Board		

63	3/8	06.5.2016	Parallel Algorithms for Prefix Computation	Black Board		
64	4/8	07.5.2016	List Ranking	Black Board		
65	5/8	10.5.2016	Graph Problems	Black Board		
66		11.5.2016	Test on Unit 6 and 8			

Signature of faculty

Signature of HOD

Signature of Principal

Syllabus for Internal Assessment Tests (IAT) *

IAT #	Syllabus
IAT-1 (14.3.2016-16.3.2016)	Class # 01 – 27
IAT-2 (25.4.2016-27.4.2016)	Class # 29-53
Improvement test (12.5.2016-14.5.2016)	Class # 55-65

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

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition // Publisher	ISBN #
Text Book	TB1	Anany Levitin: Introduction to the Design and Analysis of Algorithms	2nd Edition, Pearson Education, 2007	978-81-317-5895-3
Text Book	TB2	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran: Fundamentals of Computer Algorithms	2nd Edition, Universities Press, 2007	978-81-7371-612-6
Reference	RB1	Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein: Introduction to Algorithms	3rd Edition, PHI, 2010	978-81-203-4007-7
Reference	RB2	R.C.T. Lee, S.S. Tseng, R.C. Chang, Y.T. Tsai: Introduction to the Design and Analysis of Algorithms A Strategic Approach.	Tata McGraw Hill, 2005	0071243461/0-07-124346-1

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CMR INSTITUTE OF TECHNOLOGY



Session wise – Course Plan

Department of Information Science and Engineering

SEMESTER :IV-C
BRANCH :CSE
SUBJECT :DAA
SUBJECT CODE :10CS43
NO OF HRS/WK :5

NAME OF THE FACULTY :Febin.A.Vahab
DATE OF COMMENCEMENT :18.01.2016
DATE OF CLOSING :21.05.2016
CLASS STRENGTH :64
TOTAL HRS :65

Session No	No of hrs planned /Chapter Number	Date	Topics planned for the session	Teaching Aids	Assignments/Tests planned for the chapter	Topics covered As per plan
1	0	18.1.2016	Briefing the syllabus, Mode of class and study, Prerequisites of the course, Expectation from the student.	Black Board, Chalk, Duster		
2	1/1	19.1.2016	UNIT – 1 INTRODUCTION: Notion of Algorithm	Black Board, Chalk, Duster		
3	2/1	19.1.2016	Review of asymptotic Notations	Black Board, Chalk, Duster		
4	3/1	20.1.2016	Asymptotic notations continued.	Black Board, Chalk, Duster		
5	4/1	22.1.2016	Mathematical Analysis of Non-Recursive Algorithms.	Black Board, Chalk, Duster	Assignment-I	
6	5/1	25.1.2016	Mathematical Analysis Recursive Algorithms.	Black Board, Chalk, Duster		
7	6/1	27.1.2016	Brute Force Approaches: Introduction	Black Board, Chalk, Duster		
8	7/1	27.1.2016	Selection Sort	Black Board, Chalk, Duster		
9	8/1	28.1.2016	Bubble Sort	Black Board, Chalk, Duster		
10	9/1	30.1.2016	Sequential Search	Black Board, Chalk, Duster		

11	10/1	02.2.2016	Brute Force String Matching	Black Board, Chalk, Duster		
12		03.2.2016	Test on UNIT 1	Black Board, Chalk, Duster		
13	1/2	03.2.2016	UNIT - 2 DIVIDE AND CONQUER: Divide and Conquer, :General Method	Black Board, Chalk, Duster		
14	2/2	04.2.2016	Defective Chess Board	Black Board, Chalk, Duster		
15	3/2	08.2.2016	Binary Search	Black Board, Chalk, Duster		
16	4/2	10.2.2016	Merge Sort	Black Board, Chalk, Duster	Assignment II	
17	5/2	11.2.2016	Merge Sort-Analysis	Black Board, Chalk, Duster		
18	6/2	11.2.2016	Quick Sort.	Black Board, Chalk, Duster		
19	7/2	12.2.2016	Performance Analysis	Black Board, Chalk, Duster		
20		15.2.2016	Test on UNIT 2	Black Board, Chalk, Duster		
21	1/3	17.2.2016	UNIT - 3 THE GREEDY METHOD: The General Method	Black Board, Chalk, Duster		
22	2/3	18.2.2016	Knapsack Problem	Black Board, Chalk, Duster		
23	3/3	18.2.2016	Job Sequencing with Deadlines,	Black Board, Chalk, Duster	Assignment III	
24	4/3	22.2.2016	Minimum-Cost Spanning Trees: Prim's Algorithm,	Black Board, Chalk, Duster		
25	5/3	26.2.2016	Kruskal's Algorithm.	Black Board, Chalk, Duster		
26	6/3	29.2.2016	Single Source Shortest Paths	Black Board, Chalk, Duster		
27	7/3	29.2.2016	Single Source Shortest Paths Continued	Black Board, Chalk, Duster		
28		01.3.2016	Test on UNIT 3	Black Board, Chalk, Duster		
29	1/5	03.3.2016	UNIT - 5 DECREASE-AND-CONQUER APPROACHES, SPACE-TIME TRADEOFFS: Decrease-and-Conquer Approaches: Introduction	Black Board, Chalk, Duster		
30	2/5	05.3.2016	Insertion Sort	Black Board, Chalk, Duster		
31	3/5	08.3.2016	Depth First Search	Black Board, Chalk, Duster	Assignment IV	

32	4/5	08.3.2016	Breadth First Search	Black Board, Chalk, Duster		
33	5/5	09.3.2016	Topological Sorting	Black Board, Chalk, Duster		
34	6/5	11.3.2016	Space - Time Tradeoffs: Introduction.	Black Board, Chalk, Duster		
35	7/5	18.3.2016	Sorting by Counting	Black Board, Chalk, Duster		
36	8/5	19.3.2016	Input Enhancement in String Matching	Black Board, Chalk, Duster		
37		19.3.2016	Test on UNIT 5	Black Board, Chalk, Duster		
38	1/7	21.3.2016	UNIT - 7 COPING WITH LIMITATIONS OF ALGORITHMIC POWER: Backtracking	Black Board, Chalk, Duster		
39	2/7	23.3.2016	n - Queens problem	Black Board, Chalk, Duster		
40	3/7	28.3.2016	Hamiltonian Circuit Problem	Black Board, Chalk, Duster	Assignment V	
41	4/7	29.3.2016	Subset –Sum Problem.	Black Board, Chalk, Duster		
42	5/7	29.3.2016	Branch-and-Bound: Assignment Problem	Black Board, Chalk, Duster		
43	6/7	30.3.2016	Knapsack Problem	Black Board, Chalk, Duster		
44	8/7	01.4.2016	Traveling Salesperson Problem.	Black Board, Chalk, Duster		
45	9/7	04.4.2016	Approximation Algorithms for NP-Hard Problems – Traveling Salesperson Problem	Black Board, Chalk, Duster		
46	10/7	05.4.2016	Knapsack Problem	Black Board, Chalk, Duster		
47		05.4.2016	Test on UNIT 7	Black Board, Chalk, Duster		
48	1/4	06.4.2016	UNIT - 4 DYNAMIC PROGRAMMING: The General Method	Black Board, Chalk, Duster		
49	2/4	11.4.2016	Warshall’s Algorithm.	Black Board, Chalk, Duster		
50	3/4	13.4.2016	Floyd’s Algorithm for the All- Pairs Shortest Paths Problem	Black Board, Chalk, Duster	Assignment VI	
51	4/4	15.4.2016	Single-Source Shortest Paths: General Weights	Black Board, Chalk, Duster		
52	5/4	15.4.2016	0/1 Knapsack	Black Board, Chalk, Duster		
53	6/4	16.4.2016	The Traveling Salesperson problem	Black Board, Chalk, Duster		
54		20.4.2016	Test on UNIT 4	Black Board, Chalk, Duster		

55	1/6	22.4.2016	UNIT – 6 LIMITATIONS OF ALGORITHMIC POWER AND COPING WITH THEM: Lower-Bound Arguments	Black Board		
56	2/6	23.4.2016	Decision Trees	Black Board		
57	3/6	23.4.2016	P, NP, and NP-Complete Problems	Black Board		
58	4/6	28.4.2016	NP Problems	Black Board		
59	5/6	30.4.2016	NP-Complete Problems	-		
60	6/6	03.5.2016	Challenges of Numerical Algorithms.	-		
61	1/8	04.5.2016	UNIT 8 PRAM ALGORITHMS: Introduction	-	Assignment VII	
62	2/8	04.5.2016	Computational Model	-		
63	3/8	05.5.2016	Parallel Algorithms for Prefix Computation			
64	4/8	07.05.2016	List Ranking			
65	5/8	11.05.2016	Graph Problems			

Syllabus for Internal Assessment Tests (IAT) *

IAT #	Syllabus
IAT-1 (14.3.2016-16.3.2016)	Class # 01 – 27
IAT-2 (25.4.2016-27.4.2016)	Class # 29-53
Improvement test (12.5.2016-14.5.2016)	Class # 55-65

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

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition // Publisher	ISBN #
Text Book	TB1	Anany Levitin: Introduction to the Design and Analysis of Algorithms	2ndEdition,Pearson Education,2007	978-81-317-5895-3

Text Book	TB2	Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran: Fundamentals of Computer Algorithms	2nd Edition, Universities Press, 2007	978-81-7371-612-6
Reference	RB1	Thomas H.Cormen, Charles E. Leiserson, Ronald L. Rivest, Clifford Stein: Introduction to Algorithms	3rd Edition, PHI, 2010	978-81-203-4007-7
Reference	RB2	R.C.T.Lee, S.S.Tseng, R.C.Chang, Y.T.Tsai: Introduction to the Design and Analysis of Algorithms A Strategic Approach.	Tata McGraw Hill, 2005	0071243461/0-07-124346-1



Session wise – Course Plan

Department of Computer Science and Engineering

SEMESTER IV A
BRANCH : CS,IS
SUBJECT : GTC
SUBJECT CODE : 10CS42
NO OF HRS/WK : 6

NAME OF THE FACULTY : Dr.K.Meenakshi
DATE OF COMMENCEMENT : 18.01.2015
DATE OF CLOSING : 21.05.2015
CLASS STRENGTH : 66
TOTAL HRS : 79

Session No	Chapter no (No of hrs planed 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	18.01.16	1.Introduction to Graph Theory	Board, chalk, duster		
2	2/1	19.01.16	Definitions and examples			
3	3/1	20.01.16	Definitions and examples			
4	4/1	21.01.16	Incidence, degrees-definitions and theorems			
5	5/1	23.01.16	Subgraphs, Complements			
6	6/1	23.01.16	Subgraphs, Complements		Assignment- I	
7	7/1	25.01.16	Graph Isomorphism			
8	8/1	27.01.16	Graph Isomorphism			
9	9/1	28.01.16	Euler trails and circuits			
10	10/1	29.01.16	Euler trails and circuits			

11	11/1	01.02.16	Euler trails and circuits			
12	1/2	01.02.16	2.Introduction to Graph Theory Planar Graphs			
13	2/2	02.02.16	Planar graphs			
14	3/2	03.02.16	Hamilton paths and cycles			
15	4/2	04.02.16	Hamilton paths and cycles		Assignment -II	
16	5/2	05.02.16	Hamilton paths and cycles			
17	6/2	09.02.16	Graph coloring and chromatic polynomials			
18	7/2	09.02.16	Graph coloring and chromatic polynomials			
19	8/2	10.02.16	Graph coloring and chromatic polynomials			
20	1/3	09.02.16	3 Trees -definitions, properties			
21	2/3	09.02.16	Properties and theorems			
22	3/3	10.02.16	Properties and theorems			
23	4/3	11.02.16	Properties and theorems			
24	5/3	12.02.16	Definitions, properties,theorems			
25	6/3	13.02.16	Properties and theorems		Assignment -III	
26	7/3	16.02.16	Rooted trees , trees and sorting			
27	8/3	16.02.16	Rooted trees , trees and sorting			
28	9/3	17.02.16	Weighted trees and prefix codes			
29	10/3	18.02.16	Weighted trees and prefix codes			
30	1/4	22.02.16	4.Optimization and Matching -definitions			
31	2/4	23.02.16	Optimization and Matching-definitions			
32	3/4	25.02.16	Dijkstra's Algorithm			
33	4/4	25.02.16	Dijkstra's Algorithm			
34	5/4	26.02.16	Minimal spanning trees			
35	6/4	29.02.16	Kruskal Algorithm			
36	7/4	01.03.16	Kruskal Algorithm			

37	8/4	02.03.16	Prim Algorithm			
38	9/4	04.03.16	Prim Algorithm		Assignment -IV	
39	10/4	04.03.16	Transport Networks			
40	11/4	05.03.16	Max flow Min cut theorem			
41	12/4	08.03.16	Max flow Min cut theorem			
42	13/4	09.03.16	Matching theory			
43	13/4	10.03.16	Matching theory			
44	1/5	17.03.16	5.Fundamental principles of Counting -The Rules of Sum and Product			
45	2/5	17.03.16	Permutations, Combinations		Assignment -V	
46	3/5	18.03.16	The Binomial theorem			
47	4/5	19.03.16	The Binomial theorem			
48	5/5	21.03.16	Combinations with repetition			
49	6/5	22.03.16	Combinations with repetition			
50	7/5	24.03.16	Catalan numbers			
51	8/5	24.03.16	Catalan numbers			
52	1/6	28.03.16	6.The Principle of Inclusion and Exclusion			
53	2/6	29.03.16	The Principle of Inclusion and Exclusion			
54	3/6	30.03.16	Generalisation of the principle			
55	4/6	31.03.16	Generalisation of the principle			
56	5/6	02.04.16	Derangements			
57	6/6	04.04.16	Derangements			
58	7/6	05.04.16	Derangements			
59	8/6	06.04.16	Derangements			
60	1/7	07.04.16	7.Generating Functions Introductory examples		Assignment -VI	

61	2/7	12.04.16	Definitions and examples			
62	3/7	13.04.16	Definitions and examples			
63	4/7	15.04.16	Calculation techniques			
64	5/7	16.04.16	Calculation techniques			
65	6/7	18.04.16	Partition of integers		Assignment -VII	
66	7/7	21.04.16	Partition of integers			
67	8/7	21.04.16	The exponential generating function			
68	9/7	22.04.16	The exponential generating function			
69	10/7	23.04.16	The summation operator			
70	1/8	28.04.16	8. Recurrence relations First order linear recurrence relation			
71	2/8	29.04.16	First order linear recurrence relation			
72	3/8	02.05.16	The second order linear homogeneous recurrence relation			
73	4/8	02.05.16	The second order linear homogeneous recurrence relation			
74	5/8	03.05.16	The non-homogeneous recurrence relation		Assignment -VIII	
75	6/8	04.05.16	The non-homogeneous recurrence relation			
76	7/8	05.05.16	The method of generating functions			
77	8/8	06.05.16	The method of generating functions			
78	9/8	10.05.16	Revision			
79	10/8	11.05.16	Revision			

Syllabus for Internal Assessment Tests (IAT)*

Sessional	Syllabus
T1	01-42
T2	43-68
T3	69-79

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition & Publisher	ISBN
Text Book	TB1	RALPH P. GRIMALDI DISCRETE AND COMBINATORIAL MATHEMATICS	5 TH EDITION, PEARSON EDUCATION, 2004	8174091955
References	RB1	D.S.CHANDRASEKHARAI AH, GRAPH THEORY AND COMBINATORICS	PRISM, 2005	---
References	RB2	CHARTRAND ZHANG INTRODUCTION TO GRAPH THEORY	TMH, 2006	
References	RB3	RICHARD A. BRUALDI: INTRODUCTORY COMBINATORICS	4 TH EDITION, PEARSON EDUCATION, 2004	
References	RB4	GEIR AGNARSSON AND RAYMOND GEENLAW: GRAPH THEORY	PEARSON EDUCATION, 2007	

Signature of Faculty**Signature of HOD**



Department of Computer Science and Engineering

SEMESTER IV B
BRANCH : CS,IS
SUBJECT : GTC
SUBJECT CODE : 10CS42
NO OF HRS/WK : 6

NAME OF THE FACULTY : Prathap
DATE OF COMMENCEMENT : 18.01.2015
DATE OF CLOSING : 21.05.2015
CLASS STRENGTH : 60
TOTAL HRS : 79

Ses sion 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	18.01.16	1.Introduction to Graph Theory	Board, chalk, duster		
2	2/1	19.01.16	Definitions and examples			
3	3/1	20.01.16	Definitions and examples			
4	4/1	21.01.16	Incidence, degrees-definitions and theorems			
5	5/1	23.01.16	Subgraphs, Complements			
6	6/1	23.01.16	Subgraphs, Complements		Assignm ent- I	
7	7/1	25.01.16	Graph Isomorphism			
8	8/1	27.01.16	Graph Isomorphism			
9	9/1	28.01.16	Euler trails and circuits			
10	10/1	29.01.16	Euler trails and circuits			

11	11/1	01.02.16	Euler trails and circuits			
12	1/2	01.02.16	2.Introduction to Graph Theory Planar Graphs			
13	2/2	02.02.16	Planar graphs			
14	3/2	03.02.16	Hamilton paths and cycles			
15	4/2	04.02.16	Hamilton paths and cycles		Assignment -II	
16	5/2	05.02.16	Hamilton paths and cycles			
17	6/2	09.02.16	Graph coloring and chromatic polynomials			
18	7/2	09.02.16	Graph coloring and chromatic polynomials			
19	8/2	10.02.16	Graph coloring and chromatic polynomials			
20	1/3	09.02.16	3 Trees -definitions, properties			
21	2/3	09.02.16	Properties and theorems			
22	3/3	10.02.16	Properties and theorems			
23	4/3	11.02.16	Properties and theorems			
24	5/3	12.02.16	Definitions, properties,theorems			
25	6/3	13.02.16	Properties and theorems		Assignment -III	
26	7/3	16.02.16	Rooted trees , trees and sorting			
27	8/3	16.02.16	Rooted trees , trees and sorting			
28	9/3	17.02.16	Weighted trees and prefix codes			
29	10/3	18.02.16	Weighted trees and prefix codes			
30	1/4	22.02.16	4.Optimization and Matching -definitions			
31	2/4	23.02.16	Optimization and Matching-definitions			
32	3/4	25.02.16	Dijkstra's Algorithm			
33	4/4	25.02.16	Dijkstra's Algorithm			
34	5/4	26.02.16	Minimal spanning trees			
35	6/4	29.02.16	Kruskal Algorithm			
36	7/4	01.03.16	Kruskal Algorithm			

37	8/4	02.03.16	Prim Algorithm			
38	9/4	04.03.16	Prim Algorithm		Assignment -IV	
39	10/4	04.03.16	Transport Networks			
40	11/4	05.03.16	Max flow Min cut theorem			
41	12/4	08.03.16	Max flow Min cut theorem			
42	13/4	09.03.16	Matching theory			
43	13/4	10.03.16	Matching theory			
44	1/5	17.03.16	5.Fundamental principles of Counting-The Rules of Sum and Product			
45	2/5	17.03.16	Permutations, Combinations		Assignment -V	
46	3/5	18.03.16	The Binomial theorem			
47	4/5	19.03.16	The Binomial theorem			
48	5/5	21.03.16	Combinations with repetition			
49	6/5	22.03.16	Combinations with repetition			
50	7/5	24.03.16	Catalan numbers			
51	8/5	24.03.16	Catalan numbers			
52	1/6	28.03.16	6.The Principle of Inclusion and Exclusion			
53	2/6	29.03.16	The Principle of Inclusion and Exclusion			
54	3/6	30.03.16	Generalisation of the principle			
55	4/6	31.03.16	Generalisation of the principle			
56	5/6	02.04.16	Derangements			
57	6/6	04.04.16	Derangements			
58	7/6	05.04.16	Derangements			
59	8/6	06.04.16	Derangements			
60	1/7	07.04.16	7.Generating Functions Introductory examples		Assignment -VI	

61	2/7	12.04.16	Definitions and examples			
62	3/7	13.04.16	Definitions and examples			
63	4/7	15.04.16	Calculation techniques			
64	5/7	16.04.16	Calculation techniques			
65	6/7	18.04.16	Partition of integers		Assignment -VII	
66	7/7	21.04.16	Partition of integers			
67	8/7	21.04.16	The exponential generating function			
68	9/7	22.04.16	The exponential generating function			
69	10/7	23.04.16	The summation operator			
70	1/8	28.04.16	8.Recurrence relations First order linear recurrence relation			
71	2/8	29.04.16	First order linear recurrence relation			
72	3/8	02.05.16	The second order linear homogeneous recurrence relation			
73	4/8	02.05.16	The second order linear homogeneous recurrence relation			
74	5/8	03.05.16	The non-homogeneous recurrence relation		Assignment -VIII	
75	6/8	04.05.16	The non-homogeneous recurrence relation			
76	7/8	05.05.16	The method of generating functions			
77	8/8	06.05.16	The method of generating functions			
78	9/8	10.05.16	Revision			
79	10/8	11.05.16	Revision			

Syllabus for Internal Assessment Tests (IAT)*

Sessional	Syllabus
T1	01-42
T2	43-68
T3	69-79

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition & Publisher	ISBN
Text Book	TB1	RALPH P.GRIMALDI DISCRETE AND COMBINATORIAL MATHEMATICS	5 TH EDITION, PEARSON EDUCATION, 2004	8174091955
References	RB1	D.S.CHANDRASEKHARAI AH, GRAPH THEORY AND COMBINATORICS	PRISM, 2005	---
References	RB2	CHARTRAND ZHANG INTRODUCTION TO GRAPH THEORY	TMH, 2006	
References	RB3	RICHARD A.BRUALDI: INTRODUCTORY COMBINATORICS	4 TH EDITION, PEARSON EDUCATION, 2004	
References	RB4	GEIR AGNARSSON AND RAYMOND GEENLAW:GRAPH THEORY	PEARSON EDUCATION, 2007	

Signature of Faculty**Signature of HOD**



Department of Computer Science and Engineering

SEMESTER : IV -A
BRANCH : CSE
SUBJECT : Unix and Shell Programming
SUBJECT CODE : 10CS44
NO OF HRS/WK : 5

NAME OF THE FACULTY : Mr Gourish G
DATE OF COMMENCEMENT : 18/Jan/2016
DATE OF CLOSING : 11/May/2016
CLASS STRENGTH : 66
TOTAL HRS : 76

Session No	Chapter no (No of hrs planed for the chapter) (UNIT#/HRS)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	18.01.16	Introduction	Chalk & Talk		
2	1/2	19.01.16	Basics of OS	”		
3	1/3	20.01.16	Boot Sequence of OS	”		
4	1/4	21.01.16	Unix Architecture and system calls	”		
5	1/5	22.01.16	Features of Unix	”		
6	1/6	23.01.16	Locating commands,structure and man	”		
7	1/7	25.01.16	Help,apropos and control keys	”		
8	1/8	27.01.16	Filename,file systems and parent-child relationship	”		
9	1/9	28.01.16	Absolute path and relative paths,cd ,mkdir,rmdir,pwd	”		
10	1/10	29.01.16	Ls and it options	”		
11	1/11	30.01.16	Live Session/Revision	Laptops		

12	1/12	01.02.16	Class Test on Unit I	”	Test	
13	2/1	02.02.16	Ls -l,ls -ld,file ownership,chmod	”		
14	2/2	03.02.16	Relative and absolute permissions	”		
15	2/3	04.02.16	Security implications,-R,Dir perm,chown and chgrp	“		
16	2/4	05.02.16	The Vi modes,Input mode	”		
17	2/5	08.02.16	Save and quit	”		
18	2/6	09.02.16	Editing text	”		
19	2/7	10.02.16	Search and replace	”		
20	2/8	11.02.16	Live Session/ Revision	Laptops	Assignm ent I	
21	3/1	12.02.16	Shell : Pattern matching,escape,quoting	”		
22	3/2	13.02.16	Redirection,special files and pipes	”		
23	3/3	15.02.16	Tee,command substitution and shell variables	“		
24	3/4	16.02.16	Process basics, ps,e,A,fork,exec wait.	”		
25	3/5	17.02.16	Background jobs and killing jobs	”		
26	3/6	18.02.16	Job Control	”		
27	3/7	22.02.16	Env Variables,HOME,LOGNAME and aliases.	”		
28	3/8	23.02.16	Command History and Inline command editing	”		
29	4/1	24.02.16	Live Session/Revision	Laptops		
30	4/2	25.02.16	File Attr: Hard and softlinks	”		
31	4/3	26.02.16	Directory and umask,Modification time	”		
32	4/4	29.02.16	Access time ,touch and find	“		

33	4/5	01.03.16	Find criteria, pr,head ,tail	”		
34	4/6	02.03.16	Cut,paste	”		
35	4/7	03.03.16	sort,uniq,tr	”		
36	4/8	04.03.16	Class Test 2 on Unit 3,4	”	Test	
37	5/1	05.03.16	Grep,grep	”		
38	5/2	08.03.16	*,?,[]	”		
39	5/3	09.03.16	Sed:line addressing, Multiple instructions	“		
40	5/4	10.03.16	Context addressing,	”		
41	5/5	11.03.16	Editing,	”		
42	5/6	17.03.16	writing lines to file,	”		
43	5/7	18.03.16	Deleting lines,	”		
44	5/8	19.03.16	substitution	”		
45	5/9	21.03.16	Substitution contd, Repeat pattern,	”		
46	5/10	22.03.16	Interval RE, and tagged RE.	”		
47	5/11	23.03.16	Live Session	Laptops	Assignm ent II	
48	6/1	24.03.16	Shell Scripts,read	”		
49	6/2	28.03.16	Using cmd args,exit status	”		
50	6/3	29.03.16	The logical ,if ,Numeric and string comparison	”		
51	6/4	30.03.16	Case ,file tests,	”		
52	6/5	31.03.16	Expr,positional parameters	”		
53	6/6	01.04.16	loops(for ,while)	”		
54	6/7	02.04.16	Set and shift	”		

55	6/8	04.04.16	Here document,trap	“		
56	6/9	05.04.16	Sample program 1	”		
57	6/10	06.04.16	Sample program 2	”		
58	6/11	07.04.16	Sample program 3	”		
59	6/12	11.04.16	Class Test III on Unit 5	Test		
60	7/1	12.04.16	Awk scripting,filtering,split,	”		
61	7/2	13.04.16	var and exp,comparisons	”		
62	7/3	15.04.16	Built in Vars	”		
63	7/4	16.04.16	Arrays	”		
64	7/5	18.04.16	Functions and control flow	”		
65	7/6	20.04.16	loops	”		
66	7/7	21.04.16	Programming example 1	”		
67	7/8	22.04.16	Programming example 1	”		
67	7/9	23.04.16	Programming example 1	”	Assignm ent III	
68	8/1	28.04.16	Perl,chop	”		
69	8/2	29.04.16	Vars and exp,functions	”		
70	8/3	30.04.16	Cmd args,lists	”		
71	8/4	02.05.16	Arrays,foreach,split	”		
72	8/5	03.05.16	File tests	”		
73	8/6	04.05.16	Regular expressions	”		
74	8/7	05.05.16	Programming Examples1	”		
75	8/8	06.05.16	Programming Examples2	”		
76	8/1	07.05.16	REVISION	”		

Syllabus for Internal Assessment Tests (IAT) *

IAT #	Syllabus
IAT-1	Class # 01 – 35
IAT-2	Class # 36 - 67
IAT-3	Class # 68- 76

Literature:

Book Type	Code	Author & Title	Publication information	
			Edition // Publisher	ISBN #
Text Book	TB1	Sumitabha Das, “ UNIX – Concepts and Applications”	Fourth Edition, Tata McGraw Hill	0-07-063546-3
Reference	RB1	Behrouz A Forouzan and Richard F Gilberg, “ UNIX and Shell Programming “	Cengage Learning, INDIA Edition, Ninth Indian Reprint 2009	978-81-315-0325-6
Reference	RB2	M.G. Venkateshmurthy, “ Introduction to UNIX and Shell Programming “	Pearson Education, 2005, Eighth Impression 2011	978-81-7758-745-6

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Department of Computer Science and Engineering

SEMESTER	: IV - C	NAME OF THE FACULTY	: Sheetal R
BRANCH	: ISE	DATE OF COMMENCEMENT	: 18/01/2016
SUBJECT	: UNIX Shell Programming	DATE OF CLOSING	: 21/05/2016
SUBJECT CODE	: 10CS44	CLASS STRENGTH	: 65
NO OF HRS/WK	: 5	TOTAL HRS	: 64

Session No	Chapter no (No of hrs planed 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	19/01/2016	Introduction, The UNIX operating system	Chalk & Talk		
2	2/1	20/01/2016	The UNIX Architecture and command usage: Architecture, features, POSIX and the single UNIX specification.	„		
3	3/1	21/01/2016	Locating commands, internal and external commands, command structure, flexibility of command usage.	„		
4	4/1	22/01/2016	Man page, understanding the man documentation.	„		
5	5/1	23/01/2016	The File system: The file, File name, Parent Child relationship	„	Assignment- I	
6	6/1	27/01/2016	Home variable, pwd, cd, mkdir, rmdir	„		
7	7/1	28/01/2016	Absolute and relative pathnames and ls command.	„		
8	8/1	29/01/2016	Test	„		
9	1/2	30/01/2016	Basic file attributes: ls -l, -d option	„		

10	2/2	1/02/2016	File ownership, file permissions , chmod.	”		
11	3/2	3/02/2016	Directory permissions, changing file ownership	”		
12	4/2	4/02/2016	Vi Basics, Input mode	”	Assignm ent -II	
13	5/2	5/02/2016	Saving text and quitting	”		
14	6/2	8/02/2016	Navigation, editing text	”		
15	7/2	9/02/2016	Undoing last instruction, repeating the last command, searching for pattern and substitution.	“		
16	8/2	11/02/2016	Test	”		
17	1/3	11/02/2016	The Shell: Shell offerings, pattern matching	”		
18	2/3	12/02/2016	Escaping and quoting, Redirection, special files, pipes	”		
19	3/3	13/02/2016	Tee, command substitution, shell variables	”		
20	4/3	15/02/2016	The Process: Basics, ps, system processes, process creation	”	Assignm ent –III	
21	5/3	16/02/2016	Internal and external commands, process states and zombies, running jobs in background	”		
22	6/3	18/02/2016	Nice, killing process , job control, at and batch, cron, time.	”		
23	7/3	22/02/2016	Customizing the environments : The shells, environment variable	“		
24	8/3	23/02/2016	Bash, ksh.	”		
25	9/3	24/02/2016	Test	”		
26	1/4	25/02/2016	More file attributes: File systems and Inodes, hard links	”		
27	2/4	29/02/2016	Symbolic links, The directory, umask	”		
28	3/4	1/03/2016	Modification an Access times, Find	”		
29	4/4	2/03/2016	Simple Filters: The sample database, pr, head	”	Assignm ent –IV	
30	5/4	3/03/2016	Tail,cut	”		

31	6/4	4/03/2016	Paste, sort	”		
32	7/4	8/03/2016	Uniq, tr	“		
33	8/4	9/03/2016	An example: Displaying a word-count list	”		
34	1/5	10/03/2016	Filters using regular expressions: grep	”		
35	2/5	11/03/2016	Basic regular expressions	”		
36	3/5	17/03/2016	Extended regular expressions, sed, line addressing	”		
37	4/5	19/03/2016	Using multiple instructions , context addressing	”		
38	5/5	21/03/2016	Writing selected lines to a file, text editing	”	Assignment -V	
39	6/5	22/03/2016	Substitution	“		
40	7/5	23//03/2016	Test	”		
41	1/6	24/03/2016	Essential shell programming :shell scripts	”		
42	2/6	29/03/2016	Read, using command line arguments, exit command, logical operators	”		
43	3/6	30/03/2016	The if conditional, using test and [], the case conditional	”		
44	4/6	31/03/2016	Expr,\$0	”		
45	5/6	1/04/2016	While, for	”	Assignment -VI	
46	6/6	2/04/2016	Set and shift , the here document	”		
47	7/6	5/04/2016	Trap, debugging shell scripts,	“		
48	8/6	6/04/2016	sample validation.	”		
49	9/6	7/04/2016	Test	”		

50	1/7	11/04/2016	Awk- an advanced filter: simple awk filtering, splitting a line to fields	”		
51	3/7	12/04/2016	Printf: formatting output, variables and expressions, comparison operators	”		
52	4/7	15/04/2016	Number processing , variables, storing awk programs in a file	”	Assignment -VII	
53	5/7	16/04/2016	Begin and end sections, builtin variables	”		
54	6/7	18/04/2016	Arrays	”		
55	7/7	20/04/2016	Functions	”		
56	8/7	21/04/2016	Control flow- The if statement	”		
57	9/7	23/04/2016	Looping with for , while	”		
58	1/8	28/05/2016	Perl: The master manipulator	”		
59	2/8	29/05/2016	Perl preliminaries, chop function	”		
60	3/8	30/05/2016	Variables and operators, string handling functions	”		
61	4/8	4/05/2016	Specifying filenames in command line, \$_: The default variable, current line number	”	Assignment -VIII	
62	5/8	5/05/2016	List and arrays	”		
63	6/8	6/05/2016	Foreach, split,join	”		
64	7/8	7/05/2016	Dec2bin.pl, grep, associative arrays	”		

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	Class # 01 - 36
T2	Class # 37 – 58
Improvement Test	Class #59 - 64

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

Literature:

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

Signature of faculty

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Signature of Principal



Department of Computer Science and Engineering

SEMESTER : IV -B	NAME OF THE FACULTY : Sheetal R
BRANCH : ISE	DATE OF COMMENCEMENT : 18/01/2016
SUBJECT : UNIX Shell Programming	DATE OF CLOSING : 21/05/2016
SUBJECT CODE : 10CS44	CLASS STRENGTH : 45
NO OF HRS/WK : 5	TOTAL HRS : 65

Session No	Chapter no (No of hrs planed 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	18/01/2016	Introduction, The UNIX operating system	Chalk & Talk		
2	2/1	19/01/2016	The UNIX Architecture and command usage: Architecture, features, POSIX and the single UNIX specification.	„		
3	3/1	20/01/2016	Locating commands, internal and external commands, command structure, flexibility of command usage.	„		
4	4/1	20/01/2016	Man page, understanding the man documentation.	„		
5	5/1	23/01/2016	The File system: The file, File name, Parent Child relationship	„	Assignment- I	
6	6/1	25/01/2016	Home variable, pwd, cd, mkdir, rmdir	„		
7	7/1	27/01/2016	Absolute and relative pathnames and ls command.	„		
8	8/1	28/01/2016	Test	„		
9	1/2	28/01/2016	Basic file attributes: ls -l, -d option	„		
10	2/2	1/02/2016	File ownership, file permissions , chmod.	„		

11	3/2	2/02/2016	Directory permissions, changing file ownership	”		
12	4/2	2/02/2016	Vi Basics, Input mode	”	Assignment -II	
13	5/2	3/02/2016	Saving text and quitting	”		
14	6/2	4/02/2016	Navigation, editing text	”		
15	7/2	4/02/2016	Undoing last instruction, repeating the last command, searching for pattern and substitution.	“		
16	8/2	9/02/2016	Test	”		
17	1/3	10/02/2016	The Shell: Shell offerings, pattern matching	”		
18	2/3	11/02/2016	Escaping and quoting, Redirection, special files, pipes	”		
19	3/3	12/02/2016	Tee, command substitution, shell variables	”		
20	4/3	12/02/2016	The Process: Basics, ps, system processes, process creation	”	Assignment –III	
21	5/3	16/02/2016	Internal and external commands, process states and zombies, running jobs in background	”		
22	6/3	17/02/2016	Nice, killing process , job control, at and batch, cron, time.	”		
23	7/3	18/02/2016	Customizing the environments : The shells, environment variable	“		
24	8/3	22/02/2016	Bash, ksh.	”		
25	9/3	22/02/2016	Test	”		
26	1/4	25/02/2016	More file attributes: File systems and Inodes, hard links	”		
27	2/4	26/02/2016	Symbolic links, The directory, umask	”		
28	3/4	29/02/2016	Modification an Access times, Find	”		
29	4/4	1/03/2016	Simple Filters: The sample database, pr, head	”	Assignment –IV	
30	5/4	1/03/2016	Tail, cut	”		

31	6/4	4/03/2016	Paste, sort	”		
32	7/4	5/03/2016	Uniq, tr	“		
33	8/4	8/03/2016	An example:Displaying a word-count list	”		
34	1/5	9/03/2016	Filters using regular expressions: grep	”		
35	2/5	9/03/2016	Basic regular expressions	”		
36	3/5	17/03/2016	Extended regular expressions, sed, line addressing	”		
37	4/5	18/03/2016	Using multiple instructions , context addressing	”		
38	5/5	19/03/2016	Writing selected lines to a file, text editing	”	Assignm ent -V	
39	6/5	21/03/2016	Substitution	“		
40	7/5	21/03/2016	Test	”		
41	1/6	24//03/201 6	Essential shell programming :shell scripts	”		
42	2/6	28/03/2016	Read, using command line arguments, exit command, logical operators	”		
43	3/6	29/03/2016	The if conditional, using test and [], the case conditional	”		
44	4/6	30/03/2016	Expr,\$0	”		
45	5/6	30/03/2016	While, for	”	Assignm ent -VI	
46	6/6	2/04/2016	Set and shift , the here document	”		
47	7/6	5/04/2016	Trap, debugging shell scripts,	“		
48	8/6	6/04/2016	sample validation.	”		
49	9/6	12/04/2016	Test	”		

50	1/7	13/04/2016	Awk- an advanced filter: simple awk filtering, splitting a line to fields	”		
51	3/7	15/04/2016	Printf:formatting output, variables and expressions, comparison operators	”		
52	4/7	16/04/2016	Number processing , variables, storing awk programs in a file	”	Assignment -VII	
53	5/7	16/04/2016	Begin and end sections, builtin variables	”		
54	6/7	21/04/2016	Arrays	”		
55	7/7	22/04/2016	Functions	”		
56	8/7	23/04/2016	Control flow- The if statement	”		
57	9/7	28/04/2016	Looping with for , while	”		
58	1/8	28/04/2016	Perl: The master manipulator	”		
59	2/8	2/05/2016	Perl preliminaries, chop function	”		
60	3/8	3/05/2016	Variables and operators, string handling functions	”		
61	4/8	4/05/2016	Specifying filenames in command line, \$_: The default variable, current line number	”	Assignment -VIII	
62	5/8	5/05/2016	List and arrays	”		
63	6/8	5/05/2016	Foreach, split,join	”		
64	7/8	10/05/2016	Dec2bin.pl, grep, associative arrays	”		
65	8/8	11/05/2016	Regular expressions and substitution,file handling , file tests	”		

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	Class # 01 - 36
T2	Class # 37 - 58
Improvement Test	Class #59 - 65

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

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Sumitabha Das: UNIX – Concepts and Applications	4 th Edition, Tata McGraw Hill, 2006.	ISBN-10: 0070635463
Reference Book	RB1	Behrouz A. Forouzan and Richard F. Gilberg: UNIX and Shell Programming	Cengage Learning, 2005.	ISBN 13: 9788131503256
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



**CMR INSTITUTE
OF TECHNOLOGY**

Session wise – Course Plan

Department of Information science and engineering

SEMESTER : IV -A
BRANCH : ISE
SUBJECT : Computer Organization
SUBJECT CODE : 10CS46
NO OF HRS/WK : 5

NAME OF THE FACULTY : Harikrishnan R S
DATE OF COMMENCEMENT : 18.01.2016
DATE OF CLOSING : 11.05.2016
CLASS STRENGTH : 60
TOTAL HRS : 65

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1		18.01.16	Prerequisites	Chalk & Talk		
2		19.01.16	Prerequisites	”		
3		20.01.16	Prerequisites	”		
4	1/1	21.01.16	Computer Types, Historical Perspectives, Functional Units	”		
5	2/1	23.01.16	Basic operational concept, Performance Equation, Performance Measurement	”		
6	3/1	25.01.16	Numbers, Arithmetic Operations and Characters	”	Assignment- I	
7	4/1	26.01.16	Memory Location & Addresses	”		
8	5/1	27.01.16	Instructions and Instruction Sequencing	”		
9	6/1	28.01.16	Instructions and Instruction Sequencing	”		

10	7/1	30.01.16	Instructions and Instruction Sequencing	„		
11	1/2	2.02.16	Addressing Mode	„		
12	2/2	3.02.16	Assembly language	„		
13	3/2	4.02.16	Basic Input and Output Operations, Stacks and Queues	„		
14	4/2	5.02.16	Additional Instructions, Encoding of machine Instructions	„	Assignment - II	
15	5/2	.02.16	Subroutines	“		
16	6/2	8.02.16	Subroutines	„		
17	1/3	10.02.16	Accessing I/O Devices	„		
18	2/3	11.02.16	Interrupts-Interrupt Hardware, Enabling and Disabling Interrupts	„		
19	3/3	12.02.16	Interrupts-Handling Multiple Devices	„		
20	4/3	13.02.16	DMA	„	Assignment -III	
21	5/3	15.02.16	Buses	„		
22	6/3	17.02.16	Buses	„		
23	7/3	18.02.16	Exceptions	“		
24	1/4	22.02.16	Interface Circuits	„		
25	2/4	23.02.16	Interface Circuits	„		
26	3/4	24.02.16	Interface Circuits	„		
27	4/4	26.02.16	Interface Circuits	„		
28	5/4	29.02.16	PCI bus	„		
29	6/4	1.03.16	PCI bus, SCSI bus	„	Assignment -IV	
30	7/4	2.03.16	SCSI bus, USB	„		
31	8/4	3.03.16	USB	„		
32	9/4	5.03.16	USB	“		
33	1/6	8.03.16	Addition and Subtraction of Signed Numbers	„		

34	2/6	9.03.16	Design of fast adders	”		
35	3/6	10.03.16	Multiplication of positive numbers	”		
36	4/6	11.03.16	Signed operand multiplication,	”	Assignment - V	
37	5/6	18.03.16	Fast multiplication	”		
38	6/6	19.03.16	Integer Division	”		
39	7/6	21.03.16	Integer Division	“		
40	8/6	22.03.16	Floating point number and operations	”		
41	9/6	23.03.16	Floating point number and operations	”		
42	1/8	28.03.16	Performance, The Power wall	”		
43	2/8	29.03.16	The switch from Uni-processor to multiprocessor, Amdahl's law,	”		
44	3/8	30.03.16	Shared memory, Multiprocessors, Clusters, Message passing multiprocessors	”		
45	4/8	31.03.16	Hardware multithreading	”		
46	5/8	1.04.16	SISD, MIMD, SIMD, SPMD, Vector	”		
47	6/8	4.04.16	Sums	“		
48	1/7	5.04.16	Some fundamental concept	”		
49	2/7	6.04.16	Execution of complete instruction	”		
50	3/7	7.04.16	Execution of complete instruction	”		
51	4/7	11.04.16	Multiple bus organization	”		
52	5/7	13.04.16	Hard wired control	”		
53	6/7	15.04.16	Micro-programmed control	”		
54	7/7	16.04.16	Micro-programmed control	”		

55	1/5	18.04.16	Basic Concepts	“		
56	2/5	20.04.16	Semiconductor RAM Memories	”		
57	3/5	22.04.16	Read only memory, Speed, Size and Cost.	”		
58	4/5	23.04.16	Cache Memories-Mapping Function	”		
59	5/5	28.04.16	Replacement algorithms, cache- sums	”		
60	6/5	29.04.16	Performance Considerations	”		
61	7/5	30.04.16	Performance Considerations			
62	8/5	3.05.16	Virtual Memories			
63	9/5	4.05.16	Virtual Memories			
64	10/5	5.05.16	Secondary Storage			
65	11/5	6.05.16	Secondary Storage			
66		7.05.16	REVISION			
67		11.05.16	REVISION			

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	Class # 01 - 32
T2	Class # 33 – 65
Improvement test	Important VTU Questions from Class # 01 - 65

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

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Leland.L.Beck: System Software,	3 rd Edition, Pearson Education, 1997.	978-81-317-6460-2
Text Book	TB2	John.R.Levine, Tony Mason and Doug Brown: Lex and Yacc,	O'Reilly, SPD, 1998.	1565920007, 9781565920002
References	RB1	D.M.Dhamdhare: System Programming and Operating Systems	2 nd Edition, Tata McGraw - Hill, 1999.	1449335942

Signature of faculty

Signature of HOD

Signature of Principal

Department of Computer Science and Engineering

SEMESTER: IV –B-ISE
BRANCH : ISE
SUBJECT : Computer Organization
SUBJECT CODE: 10CS46
NO OF HRS/WK: 5

NAME OF THE FACULTY : V.Aishwaryalakshmi
DATE OF COMMENCEMENT : 18.01.2015
DATE OF CLOSING : 11.05.2015
CLASS STRENGTH :
TOTAL HRS : 65

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1			Prerequisites	Chalk & Talk		
2			Prerequisites	”		
3			Prerequisites	”		
4	1/1	19.01.16	Computer Types, Historical Perspectives, Functional Units	”		
5	2/1	20.01.16	Basic operational concept, Performance Equation, Performance Measurement	”		
6	3/1	21.01.16	Numbers, Arithmetic Operations and Characters	”		
7	4/1	22.01.16	Memory Location & Addresses	”		
8	5/1	23.01.16	Instructions and Instruction Sequencing	”		
9	6/1	27.01.16	Instructions and Instruction Sequencing	”		
10	7/1	28.01.16	Instructions and Instruction Sequencing	”		
11	1/2	29.01.16	Addressing Mode	”		
12	2/2	30.01.16	Assembly language	”		

13	3/2	1.02.16	Basic Input and Output Operations, Stacks and Queues	„	Assignment- I	
14	4/2	3.02.16	Additional Instructions, Encoding of machine Instructions	„		
15	5/2	4.02.16	Subroutines	“		
16	6/2	5.02.16	Subroutines	„		
17	1/3	8.02.16	Accessing I/O Devices	„		
18	2/3	9.02.16	Interrupts-Interrupt Hardware, Enabling and Disabling Interrupts	„		
19	3/3	11.02.16	Interrupts-Handling Multiple Devices	„	Assignment -II	
20	4/3	12.02.16	DMA	„		
21	5/3	13.02.16	Buses	„		
22	6/3	15.02.16	Buses	„		
23	7/3	16.02.16	Exceptions	“		
24	1/4	18.02.16	Interface Circuits	„		
25	2/4	22.02.16	Interface Circuits	„		
26	3/4	23.02.16	Interface Circuits	„		
27	4/4	24.02.16	Interface Circuits	„		
28	5/4	25.02.16	PCI bus	„	Assignment –III	
29	6/4	29.02.16	PCI bus, SCSI bus	„		
30	7/4	1.03.16	SCSI bus, USB	„		
31	8/4	2.03.16	USB	„		
32	9/4	3.03.16	USB	“		
33	1/6	4.03.16	Addition and Subtraction of Signed Numbers	„		
34	2/6	8.03.16	Design of fast adders	„		
35	3/6	9.03.16	Multiplication of positive numbers	„		
36	4/6	10.03.16	Signed operand multiplication,	„		
37	5/6	11.03.16	Fast multiplication	„		

38	6/6	17.03.16	Integer Division	”	Assignment –IV	
39	7/6	19.03.16	Integer Division	“		
40	8/6	21.03.16	Floating point number and operations	”		
41	9/6	22.03.16	Floating point number and operations	”		
42	1/8	23.03.16	Performance, The Power wall	”		
43	2/8	24.03.16	The switch from Uni-processor to multiprocessor, Amdahl’s law,	”		
44	3/8	29.03.16	Shared memory, Multiprocessors, Clusters, Message passing multiprocessors	”		
45	4/8	30.03.16	Hardware multithreading	”		
46	5/8	31.03.16	SISD,MIMD, SIMD, SPMD, Vector	”		
47	6/8	1.04.16	Sums	“		
48	1/7	2.04.16	Some fundamental concept	”		
49	2/7	5.04.16	Execution of complete instruction	”		
50	3/7	6.04.16	Execution of complete instruction	”		
51	4/7	7.04.16	Multiple bus organization	”		
52	5/7	11.04.16	Hard wired control	”		
53	6/7	12.04.16	Micro-programmed control	”		
54	7/7	15.04.16	Micro-programmed control	”		
55	1/5	16.04.16	Basic Concepts	“		
56	2/5	18.04.16	Semiconductor RAM Memories	”		
57	3/5	20.04.16	Read only memory, Speed, Size and Cost.	”		
58	4/5	21.04.16	Cache Memories-Mapping Function	”		
59	5/5	23.04.16	Replacement algorithms, cache-sums	”		

60	6/5	28.04.16	Performance Considerations	”		
61	7/5	29.04.16	Performance Considerations			
62	8/5	30.04.16	Virtual Memories			
63	9/5	2.05.16	Virtual Memories			
64	10/5	4.05.16	Secondary Storage			
65	11/5	5.05.16	Secondary Storage			
66		6.05.16	REVISION			
67		7.05.16	REVISION			

Syllabus for Internal Assessment Tests (IAT) *

Sessional #	Syllabus
T1	Class # 01 - 32
T2	Class # 33 – 65
T3	Class # 17 – 41

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

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Leland.L.Beck: System Software,	3 rd Edition, Pearson Education, 1997.	978-81-317-6460-2
Text Book	TB2	John.R.Levine, Tony Mason and Doug Brown: Lex and Yacc,	O'Reilly, SPD, 1998.	1565920007, 9781565920002
References	RB1	D.M.Dhamdhere: System Programming and Operating Systems	2 nd Edition, Tata McGraw - Hill, 1999.	1449335942

SESSION WISE – COURSE PLAN

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SEMESTER : IV A (ISE) NAME OF THE FACULTY : SUDHAKAR K. N
BRANCH : CSE DATE OF : 18TH JAN 2016
SUBJECT : MICROPROCESSORS COMMENCEMENT : 21ST MAY 2016
SUBJECT CODE : 10CS45 DATE OF CLOSING : 66
NO OF HRS/WK : 5 CLASS STRENGTH : 54
TOTAL HRS

Session No.	Chapter No. (No of hours planned for the chapter)	Date	Topics planned for the Session	Teaching Aids	Assignments (IA) /Tests planned for the chapter	Topics covered As per plan
1	1/1	18/01/2016	Unit I: Prerequisites and importance of learning concepts over microprocessors.	Chalk & Talk		
2	2/1	20/01/2016	A Historical Background of microprocessors and its evolution.	..		
3	3/1	21/01/2016	The Microprocessor-Based Personal Computer Systems	..	IA- I	
4	4/1	23/01/2016	Internal Microprocessor Architecture	..		
5	5/1	23/01/2016	Register Organization and Flag register structure.	..		
6	6/1	25/01/2016	Flag register and its influence on programming.	..		
7	7/1	28/01/2016	Real Mode Memory Addressing	..		
8	1/2	29/01/2016	Unit II: Protected Mode Memory Addressing	..		
9	2/2	01/02/2016	Memory Paging	..		
10	3/2	01/02/2016	Flat Mode Memory	..	IA -II	
11	4/2	02/02/2016	Data Addressing Modes	..		

12	5/2	04/02/2016	Data Addressing Modes continues	”		
13	6/2	05/02/2016	Program Memory Addressing Modes	”		
14	7/2	09/02/2016	Stack Memory Addressing Modes	”		
15	1/3	09/02/2016	Unit III: Data Movement Instructions: MOV Instruction Revisited	”		
16	2/3	10/02/2016	Stack operations PUSH/POP, LEA LES	”		
17	3/3	12/02/2016	Assembler Details	”	IA –III	
18	4/3	13/02/2016	Assembler Directives	”		
19	5/3	16/02/2016	Comparison and effect of flags over it.	”		
20	6/3	16/02/2016	String Instructions: String Data Transfers, Miscellaneous String Data Transfers	”		
21	7/3	17/02/2016	Miscellaneous Data Transfer Instructions, Segment Override Prefix	”		
22	8/3	22/02/2016	Arithmetic Instructions: Addition, Subtraction	”		
23	9/3	23/02/2016	Multiplication and Division.	”		
24	1/4	25/02/2016	Unit IV: BCD and ASCII Arithmetic.	”		
25	2/4	25/02/2016	Basic Logic Instructions, Shift and Rotate.	”		
26	3/4	26/02/2016	String instructions: String Comparisons and programming examples	”	IA–IV	
27	4/4	01/03/2016	Program Control Instructions: The Jump Group Controlling the Flow of the program.	”		
28	5/4	02/03/2016	Procedures and Macros with examples.	”		
29	6/4	04/03/2016	Introduction to Interrupts (INT 21H and INT 10H)	”		
30	7/4	04/03/2016	Machine Control and Miscellaneous Instructions.	”		
31	1/8	05/03/2016	UNIT VIII: I/O Interface basics and IN and OUT instruction revisited	”		
32	2/8	09/03/2016	Block diagram of Programmable Peripheral Interface 82C55	”	IA-V	
33	3/8	10/03/2016	82C55 organization of ports and how we can access them.	”		
34	4/8	17/03/2016	Programmable Interval Timer 8254	”		
35	5/8	17/03/2016	Interrupts: Basic Interrupt Processing. Details about IVT	”		

36	6/8	18/03/2016	Hardware Interrupts: INTR and INTA	”		
37	7/8	21/03/2016	Direct Memory Access: Basic DMA Operation and Definition.	”		
38	8/8	22/03/2016	The 8237 DMA Controller.	”		
39	1/5	24/03/2016	Unit V: Pin-Outs and the Pin Functions of 8086	”		
40	2/5	24/03/2016	Min and Max mode of 8086 and 8088	”	IA -VI	
41	3/5	28/03/2016	Clock Generator	”		
42	4/5	30/03/2016	Bus Buffering and Latching	”		
43	5/5	31/03/2016	Bus Timings Ready and Wait state	”		
44	6/5	02/04/2016	Minimum Mode versus Maximum Mode	”		
45	7/5	02/04/2016	Memory Interfacing: Memory Devices	”		
46	8/5	04/04/2016	Interfacing continues with comparison with 8086 & 8086.	”		
47	1/6	06/04/2016	UNIT VI: Introduction to combine Assembly Language with C/C++: Using Assembly Language with C/C++ for 16-Bit DOS Applications	”		
48	2/6	07/04/2016	Using Assembly Language with C/C++ for 16-Bit DOS Applications Continues	”	IA -VII	
49	3/6	12/04/2016	Using Assembly Language with C/C++ for 16-Bit DOS Applications Continues	”		
50	4/6	12/04/2016	Using Assembly Language with C/C++ for 32-Bit DOS Applications	”		
51	5/6	13/04/2016	Using Assembly Language with C/C++ for 32-Bit DOS Applications Continues	”		
52	6/6	16/04/2016	Modular Programming	”		
53	7/6	18/04/2016	Modular Programming Continues	”		
54	8/6	21/04/2016	Programming using the Keyboard and Video Display	”		
55	9/6	21/04/2016	Programming using the Keyboard and Video Display continues	”		
56	1/7	22/04/2016	UNIT VII: Memory Interfacing (continued): Address Decoding	”		

57	2/7	28/04/2016	8086 Memory Interface.	”	IA - VIII	
58	3/7	29/04/2016	8086 Memory Interface continues	”		
59	4/7	02/05/2016	Implementation using ROM	”		
60	5/7	02/05/2016	Implementation using ROM continues	”		
61	6/7	03/05/2016	Implementation using ROM continues	”		
62	7/7	05/05/2016	Basic I/O Interface	”		
63	8/7	06/05/2016	I/O Interface continues	”		
64	9/7	10/05/2016	I/O Port Address Decoding	”		
65	10/7	10/05/2016	I/O Port Address Decoding Continues.	”		


Syllabus for Internal Assessment Tests (IAT)*

Sessional #	Syllabus
IAT1	Class # 01 – 30
IAT2	Class # 31 – 55
IMP_IAT	Class # 56 – 65 & Portion from IAT1 & 2

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

Literature:

Book Type	Code	Author & Title	Publication info	
			Edition & Publisher	ISBN #
Text Book	TB1	Barry B Brey: The Intel Microprocessors, 8th Edition, Pearson Education, 2009. (Listed topics only from the Chapters 1 to 13)	8 th Edition, Tata McGraw Hill,2009	9780135026458
References	RB1	Douglas V. Hall: Microprocessors and Interfacing, Revised 2nd Edition, TMH, 2006.	2 nd Edition, Tata McGraw Hill,2006	978-0-07-060167-3
References	RB2	K. Udaya Kumar & B.S. Umashankar Advanced Microprocessors & IBM-PC Assembly Language Programming, TMH 2003.	Tata McGraw Hill,2011	978-0-07-463430-1

CMR Institute of Technology, Bangalore		
Department(s): IS , Mechanical		
Semester: 04	ALL BRANCHES	
Engineering Mathematics IV	10MAT41	Lectures/week: 06
Course Instructor(s): Uma Raju		
Course duration: 18 Jan 2016 – 21 May 2016		

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 <i>t</i> 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
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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
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CMR Institute of Technology, Bangalore		
Department(s): IS , Mechanical		
Semester: 04	ALL BRANCHES	
Engineering Mathematics IV	10MAT41	Lectures/week: 06
Course Instructor(s): Prathap		
Course duration: 18 Jan 2016 – 21 May 2016		

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		
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