



Sandip Foundation's

Sandip Institute of Technology & Research Center, Nashik

Mahiravani, Trimbak Road, Nashik – 422213.

Department of Computer Engineering

Academic Year : 2018-19

Subject : Discrete Mathematics Sub Code: 210241

Year: SE Semester : I

Subset of PO achieved by this course:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Course Outcomes:

1. To apply the knowledge of Set theory and Propositional Logic to represent languages & translating English sentences
2. To apply the knowledge of Relations and functions to represent the complex systems mathematically.
3. To compute permutations and combinations for solving complex mathematical problems

4. To apply the knowledge of graph data structure in web graph and google map applications.
5. To apply the knowledge of tree data structure in game tree, min-max tree and transport network applications.
6. To use Algebraic Structures and Coding Theory in solving real time problems.

LECTURE NO.	UNIT / SUB-UNIT	LECTURE CONTENT	LECTURE OUTCOME	TEACHING METHOD	INSTRUCTION MATERIAL	LEARNING MATERIAL	Evaluation
1		Discrete Mathematics, Significance of Discrete Mathematics in Computer Engineering	To predict the significance of Discrete Mathematics in Computer Engineering.	Chalk and talk	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition 	Ask Questions & answer
2		Sets–Naïve Set Theory (Cantorian Set Theory), Axiomatic Set Theory	To apply set theory to represent the system.	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition, pp-121-142 	Questions & answer

3	I:Set Theory and Logic	Need for Sets, Representation of 1. Sets, Set Operations, cardinality of set, principle of inclusion and exclusion	To apply set theory to represent languages.	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVL, pp-1.2, 1.16-1.17 	Questions & answer
4		Types of Sets – Countable and Uncountable Sets, Finite and Infinite Sets, Countably Infinite and Uncountably Infinite Sets.	To identify types of sets.	Chalk and talk	Notes	<ul style="list-style-type: none"> • Notes • Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVL, pp-1.14-1.15, 	Questions & answer
5.		Introduction to bounded , unbounded sets and multiset. Countability of Rational Numbers Using Cantor Diagonalization Argument, power set.	To discuss bounded , unbounded and multisets	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVL, pp-1.23-1.25, 1.18, 1.21 	Questions & answer

6		Propositional Logic- logic	To use Propositional Logic to represent English statements	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,Discrete Mathematics and its Applications , Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition,pp-1-24 • Book – Seymour Lipschutz, Marc Lars Lipson, ”Discrete Mathematics”,Tata McGraw Hill Education PVL,pp-4.1-4.6 	Feedback and question & answer session
7		Propositional Equivalences	To use Propositional Equivalences	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,Discrete Mathematics and its Applications , Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition,pp-25-26 • Book – Seymour Lipschutz, Marc Lars Lipson, ”Discrete Mathematics”,Tata McGraw Hill Education PVL,pp-4.1-4.39 	Questions & answer
8		Application of Propositional Logic- Translating English Sentences	To apply Propositional Logic for Translating English Sentences	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes 	Feedback and question & answer session

9		Proof by Mathematical Induction and Strong Mathematical Induction.	To select Mathematical Induction to find proof of statements	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen, Discrete Mathematics and its Applications , Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition, pp-80-108 Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVL, pp-1.21-1.23 	Assignment
10	II: Relations and Functions	Relations and Their Properties	To apply concept of relation to represent relations between objects.	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition, pp-573-582 Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVL, pp-2.1-2.4 	Questions & answer
11		n-ary Relations and Their Applications, Representing Relations	To apply concept of n-ary relations to represent relations between objects.	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition, pp-583-590 Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVL, pp-2.1-2.4 	Questions & answer

12		Closures of Relations, Equivalence Relations	To evaluate Closures of Relations.	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-597-617 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-2.13-2.18 	Questions & answer
13		Partial Orderings, partitions, Hasse Diagram	To discuss concept of partial orderings and partitions	Chalk and talk , Exercise	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-618-630 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-2.19,14.4-14.5 	Questions & answer
14		Lattices, Chains and Anti-Chains	To discuss concept of lattices and anti-chains	Chalk and talk	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-626-127 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-14.11-14.15 	Questions & answer

15		Transitive Closure and Warshall's Algorithm, n-Ary Relations and their Applications.	To discuss concept of n-ary Relations on sets.	Chalk and Talk, Exercise	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition, pp-603-606 • Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVT, pp-2.13-2.19 	Questions & answer
16		Functions- Surjective, Injective and Bijective functions	To discuss Surjective, Injective and Bijective functions	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition, pp-138-155 • Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVT, pp-3.1-3.12 	Questions & answer
17		Inverse Functions and Compositions of Functions	To discuss Inverse Functions and Compositions of Functions	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition, pp-145-147 	Questions & answer

18		The Pigeonhole Principle	To discuss Pigeonhole Principle	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-399-405 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.9-6.10 	Assignment
19	III :Counting	The Basics of Counting	To discuss basics of counting	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-385-397 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.1 	Questions & answer
20		Rule of Sum and Product	To apply Rule of Sum and Product to solve the problems	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-386-391 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-2.19 	Questions & answer

21		Permutations and Combinations	To compute Permutations and Combinations	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-407-438 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.5-6.7 	Questions & answer
22		Permutations and Combinations	To compute Permutations and Combinations	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-407-438 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.5-6.7 	Questions & answer
23		Binomial Coefficients	To discuss Binomial Coefficients	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-415-422 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.3-6.4 	Questions & answer

24		Binomial Coefficients and Identities	To discuss Binomial Coefficients	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-415-422 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.3-6.4 	Questions & answer
25		Generalized Permutations and Combinations	To discuss Generalized Permutations and Combinations	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-423-438 	Questions & answer
26		Algorithms for generating Permutations and Combinations	To discuss algorithm for generating Permutations and Combinations	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-435-439 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.3-6.9 	Questions & answer

27		Algorithms for generating Permutations and Combinations	To discuss algorithm for generating Permutations and Combinations	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-435-439 Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-6.3-6.9 	Assignment
28	IV:Graph Theory	Graphs and Graph Models	To discuss Graphs and Graph Models	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-441-450 Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-8.1-8.4 	Questions & answer
29		Graph Terminology and Special Types of Graphs	To discuss Graph Terminology and Special Types of Graphs	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition,pp-651-667 Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-8.4-8.6 	Questions & answer

30		Representing Graphs and Graph Isomorphism	To discuss representation of Graphs and Graph Isomorphism	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-668-677 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-8.5-8.6 	Questions & answer
31		Connectivity, Euler and Hamilton Paths	To compute Hamilton Paths	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-678-706 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-8.6-8.7 	Questions & answer
32		Single source shortest path- Dijkstra's Algorithm	To apply Single source shortest path- Dijkstra's Algorithm for solving real time problems	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-707-717 	Questions & answer

33	Example on Dijkstra's Algorithm	To demonstrate Dijkstra's Algorithm for finding shortest path	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-707-717 	Questions & answer
34	Planar Graphs	To discuss concept of Planar Graphs	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-718-726 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-8.15-8.17 	Questions & answer
35	Graph Colouring	To discuss concept of Graph Colouring	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill,ISBN978-0-07-288008-3, 7th Edition,pp-727-734 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-8.18-8.19 	Questions & answer
36	Case Study- Web Graph, Google map.	To discuss Web Graph, Google map.	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes 	Assignment

37	V:Trees	Introduction, properties of trees	To discuss properties of trees	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition,pp-745-756 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-10.1-10.2 	Questions & answer
38		Binary Search Tree, Decision Tree	To discuss binary search tree and dicision tree with their properties	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-758-761 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-10.9-10.11 	Discussion with students
39		Prefix codes and Huffman coding	To apply concept of huffman coding to solve the complex problems	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> • Notes • Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition,pp-762-766 • Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-2.19 	Questions & answer

40		Cut sets	To discuss concept of cut sets	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-807 	Questions & answer
41		Spanning Trees and Minimum Spanning Tree using Kruskal's algorithms	To apply Kruskals algorithm to find minimum spanning tree	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-801-802 	Questions & answer
42		Spanning Trees and Minimum Spanning Tree Prim's algorithms	To apply Prim's algorithm to find minimum spanning tree	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-798-800 	Questions & answer
43		The Max Flow- Min Cut Theorem (Transport Network)	To discusss Max Flow Min Cut Theorem	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes 	Questions & answer
44		Case Study- Game Tree	To discuss Game tree to solve the problem	Chalk and talk ,Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN 978-0-07-288008-3, 7th Edition,pp-765-769 	Questions & answer

45		Case Study-Mini-Max Tree.	To discuss the Min Max Tree to solve the problem	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes 	Assignment
46	VI:Algebraic Structures and Coding Theory	The structure of algebra	To discuss Algebraic Systems	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-811 Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-12.1 	Questions & answer
47		Algebraic Systems	To discuss Algebraic Systems	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen,"Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition,pp-811 Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-12.1 	Questions & answer
48		Semi Groups, Monoids, Groups	To discuss concept of Semi Groups, Monoids, Groups	Chalk and talk , Question & Answer	Notes	<ul style="list-style-type: none"> Notes Book – Seymour Lipschutz, Marc Lars Lipson,"Discrete Mathematics",Tata McGraw Hill Education PVL,pp-12.16-12.18 	Discussion with students & oral feed back

49	Homomorphism, Normal Subgroups and Congruence Relations	To discuss Homomorphism, Normal Subgroups and Congruence Relations	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVT, pp-2.12-12.15 	Questions & answer
50	Rings, Integral Domains and Fields	To discuss Rings, Integral Domains and Fields	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVT, pp-12.16-12.18 	Questions & answer
51	Coding Theory	To discuss Coding Theory	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes Text Book- Kenneth H. Rosen, "Discrete Mathematics and its Applications", Tata McGraw-Hill, ISBN978-0-07-288008-3, 7th Edition, pp-164-165 	Questions & answer
52	Polynomial Rings and polynomial Codes	To discuss Polynomial Rings and polynomial Codes	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes Book – Seymour Lipschutz, Marc Lars Lipson, "Discrete Mathematics", Tata McGraw Hill Education PVT, pp-12.16-12.22 	Questions & answer
53	Case Study- Brief Introduction to Galois Theory	To discuss Galois Theory	Chalk and talk, Question & Answer	Notes	<ul style="list-style-type: none"> Notes 	Questions & answer

54		Case Study-Field Theory and Group Theory	To discuss Field Theory and Group Theory	Chalk and talk , Question & Answer	Notes	• Notes	Assignment
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Signature :

Name of Faculty:

HOD

Note:

- Lecture shall have three phases- introduction, development & consolidation
- 2-3 teaching methods shall be employed during each lecture
- Ensuring students participation in lecture