SOURASHTRA COLLEGE (Autonomous),**MADURAI-625 004.**

Lesson Plan / Teaching Plan

Name of the Staff	Dr. S.K.KANCHANA	**Subject Code**	21 PMS E12	**Year**	**2022-23**
Title of the Subject	GRAPH THEORY	**Programme**	M.Sc	**Semester**	**I**

Unit	**Learning Objectives**	**Teaching Content**	**Teacher(s) Activities or Application**	**Students Activities**	**Review and Assessment**	**Teaching Hours**
1.	(i) To make the students gain knowledge about graph, isomorphism of graphs, path and related results. (ii) To make the students how to represents a graph in computer.	Graphs and simple graphs, Graph isomorphism, The incidence and adjacency matrices, Sub graphs, Vertex degrees, Paths and connection, cycles, The shortest path problem, Sperner's lemma	*Explanation of various concepts, definitions, examples, theorems and problems * Providing learning materials	*Discussion on topics * preparing / writing notes and multiple choice questions	*Quiz *Seminar *Assignment *Class test *Internal test	15 Hours
2.	(i) To make the students gain knowledge about Trees, Cut edges and Bonds, Cut vertices (ii) To make the students to understand various concepts, definitions	Trees, Cut edges and Bonds, Cut vertices, Cayley's formula The connector problem, Connectivity, Blocks, Construction of Reliable communications Network	*Explanation of various concepts, definitions, examples, theorems and problems * Providing learning materials	*Discussion on topics *preparing/writing notes and multiple choice questions	*Quiz *Seminar *Assignment *Class test *Internal test	15 Hours
3.	(i) To make the students gain knowledge about matrices.	Euler tours, Hamiltonian cycles, The Chinese postman problem, The traveling salesman	*Explanation of various concepts, definitions, examples, theorems and	*Discussion on topics *preparing/writing notes and multiple	*Quiz *Seminar *Assignment	15 Hours

	(ii) To make the students to understand various concepts, definitions (iii) To make the students to apply various result to solve the Chinese postman problem, The traveling salesman problem	problem	problems * Providing learning materials	choice questions	*Class test *Unit test *Internal test	
4.	(i)To make the students gain knowledge about Matchings and coverings (ii) To make the students to understand various concepts, definitions	Matchings, Matchings and coverings in Bipartite graphs, Perfect matching, The personnel assignment problem	*Explanation of various concepts, definitions, examples, theorems and problems * Providing learning materials	*Discussion on topics *preparing/writing notes and multiple choice questions	*Quiz *Seminar *Assignment *Class test *Internal test	15 Hours
5.	(i) To make the students gain knowledge about Chromatic number (ii) To make the students to understand various concepts, definitions	Edge Chromatic number, Vizing's theorem	*Explanation of various concepts, definitions, examples, theorems and problems * Providing learning materials	*Discussion on topics *preparing/writing notes and multiple choice questions	*Quiz *Seminar *Assignment *Class test *Internal test	15 Hours

S.K. KANCHANA)
STAFF

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