# DEPARTMENT OF MATHEMATICS

# CERTIFICATE PROGRAMME IN GRAPH THEORY

CO ORDINATOR: MEERA V U

YEAR: 2020-2021

DURATION: 30 HOURS

## CURRICULUM

INTRODUCTION

Graph theory in Mathematics means the study of graphs. Graphs are one of the prime objects of study in Discrete Mathematics.

AIM AND OBJECTIVE

In the last three decades graph theory has established itself as a worthwhile mathematical discipline and there are many applications of Graph theory to a wide variety of subjects which include Operations Research, Chemistry, Economics, Engineering, Computer Science etc.

MODULE I : OBJECTIVES

To get general introduction to graph theory

MODULE II : OBJECTIVES

To understand the concept of Path,Cycle and Tree.

MODULE III: OBJECTIVES

To get an idea about the Hamilton graph and Planar graph.

## SYLLABUS

MODULE 1 (10 HOURS)

An introduction of graph,Isomorphism of graphs, Vertex degree, Sub graph, Matrix representation of graph.

MODULE 2 (10 HOURS)

Path and Cycle, Trees and Connectivity, Cut vertices and Connectivity.

MODULE 3(10 HOURS)
Hamiltonian graph,Plane and Planar graph, Euler formula.

Assesment Procedure: Multiple Choice Question Paper

Total Number Of Students Attended:63