Post Graduate Certificate Programme in Geoinformatics

Course 1
GI-01 FUNDAMENTALS OF GIS

MARKS 100
DETAILED SYLLABUS

Credits - 4

CONTENTS **Marks** **Pages**

UNIT 1 : Basics of Geoinformatics **10** **6-20**

Concept of Geoinformatics; Major Fields of Geoinformatics; Introduction to Cartography and Surveying; Significance of Geoinformatics; Multidisciplinary nature & applications of Geoinformatics.

UNIT 2 : Understanding Maps **10** **21-36**

Definition of a map; Properties of maps; Types of maps; Present day significance of maps.

UNIT 3 : Map Projection in GIS **10** **37-51**

Map Projection Systems; Map Projections for Hemispheres and the World; Map Projections for Continents and Regions; Universal Transverse Mercator projection; International Terrestrial Reference Frame in GIS.

UNIT 4 : Basics of Geodesy and Spatial Referencing Systems **10** **52-64**

Shape and size of the earth; Ellipsoids and Datum; Co-ordinate Systems.

UNIT 5 : Introduction to Geographic Information Systems **20** **65-76**

Basic Concepts of Geographic Information Systems; Components of a GIS; Advantages of GIS; Social and Institutional Context of GIS; Contemporary Development of GIS.

UNIT 6 : Introduction to Database Management System **10** **77-86**

Overview of database in computer science; Basics of database system; Fundamentals of geo-database management system; Creation of geo-database for applications in geo-informatics.