HONOUR SUBJECT
PCI5D001 GIS AND REMOTE SENSING (4-0-0)

MODULE-I

Remote sensing- introduction, physics of remote sensing- electromagnetic radiations and their characteristics, thermal emissions, multi-concept in remote sensing, remote sensing satellites and their data products, sensors and orbital characteristics, spectral reflectance curves for earth surface features, methods of remotely sensed data interpretation- visual interpretation, concept of fcc, digital image processing- digital image and its characteristics, satellite data formats, image rectification and restoration, image enhancement- contrast manipulation, spatial feature manipulation, multi-image manipulation

MODULE-II

Fundamentals of GIS: introduction, definition of GIS, evolution of GIS, roots of GIS, definition, GIS architecture, models of GIS, framework for GIS, GIS categories, map as a model, spatial referencing system, map projections, commonly used map projections, grid systems, cartographic symbolization, types of maps, typography, map design, map productions, map applications,

MODULE-III

 data management, models and quality issues: conceptual models, geographical data models, data primitives, data types - raster and vector approach, digital terrain modeling , approaches to digital terrain data modeling , acquisition of digital terrain data, data modeling and spatial analysis, sources of geographical data, data collectors and providers, creating digital data sets, data presentation, data updating, data storage

MODULE-IV

GIS data processing, analysis and visualization: raster based GIS data processing, vector based GIS data processing, human computer interaction and GIS, visualization of geographic information, principles of cartographic design in GIS, generation of information product, image classification and GIS, visual image interpretation, types of pictorial data products, image interpretation strategy, image interpretation process,

Text Books:
1. Remote Sensing and GIS, Basudeb Bhatta, Oxford University Press
2. Remote Sensing And GIS, M.A. Reddy, B.S. Publication, Hyderabad

Reference Books:
1. Fundamental of Remote Sensing by G. Joseph, Universities Press
2. Introduction Of GIS, Kang-Tsung Chang, Mcgraw-Hill
3. GIS, N. Panigrahi, Universities Press