

Geographic Information Systems

T.Y. B.Sc. (IT) : Sem. VI

EVALUATION SYSTEM

	Time	Marks
Theory Exam	2½ Hrs.	75
Practical Exam	–	50
Theory Internal	–	25

SYLLABUS

Unit I Spatial Data Concepts

Introduction to GIS, Geographically referenced data, Geographic, projected and planer coordinate system, Map projections, Plane coordinate systems, Vector data model, Raster data model

Unit II Data Input and Geometric Transformation

Existing GIS data, Metadata, Conversion of existing data, Creating new data, Geometric transformation, RMS error and its interpretation, Resampling of pixel values.

Unit III Attribute Data Input and Data Display

Attribute data in GIS, Relational model, Data entry, Manipulation of fields and attribute data, cartographic symbolization, types of maps, typography, map design, map production

Unit IV Data Exploration

Exploration, attribute data query, spatial data query, raster data query, geographic visualization

Unit V Vector data analysis

Introduction, buffering, map overlay, Distance measurement and map manipulation.

Raster data analysis

Data analysis environment, local operations, neighbourhood operations, zonal operations, Distance measure operations.

Unit VI Spatial Interpolation

Elements, Global methods, local methods, Kriging, Comparisons of different methods

