

Fundamentals of GIS Practical

B. Sc. (Information Technology)		Semester – VI	
Course Name: Fundamentals of GIS Practical		Course Code: USIT6P4 (Elective-I)	
Periods per week (1 Period is 50 minutes)		3	
Credits		2	
		Hours	Marks
Evaluation System	Practical Examination	2½	50
	Internal	--	--

List of Practical	
1.	Familiarizing Quantum GIS: Installation of QGIS, datasets for both Vector and Raster data, Maps.
2.	Creating and Managing Vector Data: Adding vector layers, setting properties, formatting, calculating line lengths and statistics
3.	Exploring and Managing Raster data: Adding raster layers, raster styling and analysis, raster mosaicking and clipping
4.	Making a Map, Working with Attributes, Importing Spreadsheets or CSV files Using Plugins, Searching and Downloading OpenStreetMap Data
5.	Working with attributes, terrain Data
6.	Working with Projections and WMS Data
7.	Georeferencing Topo Sheets and Scanned Maps Georeferencing Aerial Imagery Digitizing Map Data
8.	Managing Data Tables and Saptial data Sets: Table joins, spatial joins, points in polygon analysis, performing spatial queries
9.	Advanced GIS Operations 1: Nearest Neighbor Analysis, Sampling Raster Data using Points or Polygons, Interpolating Point Data
10.	Advance GIS Operations 2: Batch Processing using Processing Framework Automating Complex Workflows using Processing Modeler Automating Map Creation with Print Composer Atlas Validating Map data

Books and References:					
Sr. No.	Title	Author/s	Publisher	Edition	Year
1.	Principles of Geographic Information Systems- An Introductory Text Book	Editors: Otto Huisman and Rolf A.	The International Institute of Geoinformation Science and Earth Observation	Fourth	2009
2.	Principles of Geographic Information Systems	P.A Burrough and R.A.McDonnell	Oxford University Press	Third	1999
3.	Introduction to Geographic Information Systems	Chang Kang-tsung (Karl),	McGrawHill	7 th	2013