

NABARUN ACADEMY

**11/27/1A, Jheel Rd, Pal Bazaar, Newland, Jadavpur,
Kolkata, West Bengal 700075, India**

Course on

Geoinformatics

(GIS, RS, GNSS)

Course Duration : 3 months [2 days/week] Total class- 23 + 1 special class (24)

Class Timing : Theory classes: 1 hrs each; Practical classes: 1 hrs each

Course Price: Rs. 5000/-

Syllabus:

Topics	No. of Theory Classes	No. of Prac. Classes	Total No. of Classes
Creating Geography related documents in MS Word, MS Excel and Database. E resources in Geography	1	2	3
GIS: Introduction to GIS, definition of GIS, Components of GIS, functions and advantages of GIS	1	-	1
<i>Spatial data model and process of GIS:</i> Dimensions of GIS data, Conceptual (field/object) and logical (raster/vector/object oriented), Data sources, data capture (raster/vector/attribute), Raster and vector data processing.	1	-	1

<p><i>GIS using QGIS:</i></p> <p>i) QGIS Interface & plugins concepts, raster styling, Georeferencing image to image and image to ground</p> <p>ii) Digitization, Vector data creation, editing, and manipulation, attribute creation and data entering, import/export shapefile to kml.</p> <p>iii) Convert CSV/excel file to vector layer, coordinate extraction, join external excel file with vector layer, coordinate transformation etc.</p> <p>iv) Overlay analysis, buffer preparation</p>	5	5	10
<p>Remote Sensing: Concept on remote sensing, platforms and sensor characteristics, remote sensing platforms, passive/active, orbits, swath, nadir, sensor resolutions</p>	1	-	1
<p>Digital Image Processing, using QGIS:</p> <p>i) Classification: Supervised & Unsupervised(landuse and land cover), image interpretation</p> <p>ii) Digital Elevation Model, NDVI, Layer stack, Subset, Mosaic</p>	2	2	4
<p>GNSS Technology: Introduction, concept of GNSS technology, three segments of GNSS, timing and ranging, calculating location, errors, differential GNSS, applications.</p> <p>i) GNSS positioning and waypoint collection, Area and length calculations from GNSS data</p>	1	2	3