M.Sc. 2nd Semester Examination, 2011

REMOTE SENSING & GIS

PAPER—RSG-202 (Gr. A & B)

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

GROUP – A

[*Marks* : 20]

Answer any *two* questions : 10×2

1. (*a*) Discuss the functional component of GIS.

(*b*) Discuss briefly about data and information. $5 + 5$

2. (*a*) How we study objects in GIS application ?

   (*b*) Explain "geographic phenomena". 5 + 5

3. (*a*) What is "tessellation" ? Explain 'regular' and 'irregular" tessellation.

   (*b*) What is object oriented database system and its advantage. 5 + 5

4. (*a*) Explain topological properties and topological mapping.

   (*b*) Explain with examples the five rules of topological consistency in two dimensional space. 5 + 5

GROUP – B

[*Marks* : 20]

Answer any *two* questions : 10 × 2

1. What is spatial interpolation ? Discuss very briefly about any two common spatial interpolation method. What is minimum mapping unit (MMU) in the raster data model ? 3 + 5 + 2

2. What do you mean by spatial modeling ? State the adequacy of modeling in geospatial analysis. Explain the Index Model approach in GIS analysis ? 2 + 3 + 5

3. Enumerate the process of creating TIN and explain why TIN may be unsuitable for modeling the continuous variation of physical attributes other than elevation measured at point locations. Compare ordinary point kriging and thin plate splines as methods for interpolating elevation data to make DEM. 6 + 4

4. Write short notes on any *two* from the following : 5 + 5

   (*i*) Projection and transformations

   (*ii*) Decision making using GIS

   (*iii*) Errors in digitization

   (*iv*) NSDI & SSDI.