2008

M.Sc.

2nd Semester Examination

REMOTE SENSING & GIS

PAPER—VI (RG–1203 & 1204)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Write the answers of questions for each module in separate books.

GIS Fundamentals & Data Structure

RG—1203 (Full Marks : 20)

Answer any *two* questions.

1. (a) What is geographic matrix ? How this concept provide an elegant theoretical foundation for the initial development of modern GIS ?

   (b) What are the basic forms of real-world feature in geographic space ? How these forms lead to represent the real world in geographic database ? (2+3)+(1+4)

2. (a) What are the spatial relationships exist between different real world features ? Discuss very briefly about them.

   (b) Why it is difficult to represent temporal relationship in GIS ? How it is represented in digital geographic data ? (1+4)+(2+3)

3. What is the basic building block of data organization? Define data file and databases. Compare between datafile and databases. 2+3+5

4. Discuss briefly the data modeling process in database design and development of spatial data. 10

RG—1204 (Full Marks : 20)

Answer any *two* questions.

5. (a) Define domain, tuple and relation pertaining to relational data model.

   (b) What is roster model? Why regular square or rectangular tessellation is widely used in roster data model? 5+2+3

6. (a) What is minimum mapping unit (MMU) in the raster data model? Discuss very briefly any one algorithm used in roster data compression.

   (b) Define the following terms BMP, PCX, TIFF, GIF, JPEG. 2+3+5

7. (a) Define quadtree data model. Discuss its advantages in representing geographic data.

   (b) What are the basic concept of vector data model? Who it differens from spaghetti data model. 2+3+2+3

8. (a) Discuss reclassification method of roster-based data analysis.

   (b) Discuss briefly buffering and its use in vector based data analysis. 5+5

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