2009

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 <u>separate books</u>.

GIS Fundamentals & Data Structure

RG—1203 (Full Marks : 20)

Answer any *two* questions.

1. What is geodatabase? Why and how the geodatabase is created? Briefly discuss the salient features of geodatabase.   2+3+5

2. (a) Explain the basic types of simple features used in GIS and their geometric properties.

   (b) Explain the importance topology in GIS.

   (c) Discuss very briefly about modelling 'networks'.

                                                       3+3+4

(Turn Over)

3. (a) What is object-oriented geographic data representation ? Discuss very briefly about basic elements of object orientation.

   (b) Discuss very briefly about "georelational data model". Explain the difference between georelational data model and object based data model. 2+3+3+2

4. (a) Explain the difference between locational errors and topological errors.

   (b) "The Doughlas-Pencker algorithm typically produces simplified lines with sharp angles". Explain.

   (c) Explain the difference between DEM & DTM with suitable examples.

   (d) Some non-topological editing operations can create features from existing features. Give two examples of such operation and also give two examples which edit two existing features. 2+3+3+2

RG—1204 (Full Marks : 20)

Answer any *two* questions.

1. What is spatial interpolation ? Discuss very briefly about any two common spatial interpolation method. 3+7

2. How a continuously varying 'field' can be represented in GIS ? Discuss very briefly about 'local function' for raster GIS. 4+6

3. Discuss about 'Neighbourhood operation' in raster GIS. 10

4. Elucidate the concept of 'Overlay operation' and 'Buffering' in vector data analysis. 5+5