2008

M.Sc.

3rd Semester Examination

REMOTE SENSING AND GIS

PAPER—IX

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.

Answers each module in separate books.

Module—I (RG-2101)

Answer any *two* questions. 2×10

1. What are the different scales of landuse mapping? How does the scale of landuse mapping change with desired level of detail? 3+7

2. Identify the major components of the hydrological cycle and give an estimate of storage and fluxes of water for each of the components. 3+7

3. Briefly describe the approaches and methods adopted in assessing precipitation using Remote Sensing techniques. 4+6

4. Mention the parameters to be considered in watershed modeling. How surface water quality can be monitored with the help of Remote Sensing tools. 3+7

Module—II (RG-2102)

Answer any *two* questions. 2×10

5. Why watershed is considered as the basic scientific unit for land and water management studies?

   Explain with the help of an empirical model — how satellite image, soil map and rainfall data can be used to estimate the annual runoff from a watershed. 3+7

6. How hygrometric curve of a watershed can influence the decision making on landuse planning.

   Which morphometric techniques are applied during the planning of canal alignment? How GIS could be helpful in this type of project? 3+4+3

7. What types of RS data are used for targeting shallow ground water in arid region? How ground water at greater depth are targeted by on spot investigation. 10

8. Write short notes on any *two* : 2×5

   (a) Stream order & bifurcation ratio.

   (b) Estimation of Aquatic biodiversity.

   (c) Cloud & snow mapping.

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