2008

M.Sc.

1st Semester Examination

REMOTE SENSING AND GIS

PAPER—I

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.

Module—I (RG-1101)

(Surveying and Projections)

Answer any *two* questions.   20

1. How are bathymetric charts and topographic maps similar ? How do they differ ? Explain how the discharge of a channel is measured with conventional field survey techniques.   3+2+5

2. What is meant by cadastral map ? Discuss the method of geomorphological mapping with the use of surveying instruments. (Prismatic compass, Dumpy level, Clinometer)   2+8

3. Identify the properties and various uses of UTM projection. State the difference between Orthomorphic Projection and Equal Area Projection.   5+5

(Turn Over)

4. Proof that the length of any parallel is $2\Pi r \cos \phi$. Derive

that $\quad n = \dfrac{\text{Log } \cos\phi - \log \cos\phi_2}{\text{Log tan } 90° - \phi_{1/2} - \log \tan 90° - \phi_{2/2}} \quad$ in LCC

Projection. How does LCC Projection maintain its conformal property ? $\qquad$ 3+5+2

Module—II (RG-1102)

(Cartography & Digital Mapping)

Answer any *two* questions. $\qquad$ 20

5. What is digital cartography ? What are the visual variables in digital cartography ? What do you mean by CAC ? Briefly explain the objective of CAC ? 2+4+2+2

6. What is map design ? Briefly discuss the map design process in cartography. What do you mean by map art work ? $\qquad$ 2+6+2

7. What is the basic difference between chorocromatic map and choroschematic map ? What are the basic elements of map ? Why maps are considered as spatial data ? What is scale factor in map ? $\qquad$ 2+4+2+2

8. Write short notes on any *five* : $\qquad$ 5×2

(a) Vector plotters.

(b) Isopleth & Choropleth mapping.

(c) Significance of visual balance in map making.

(d) 3D visualization.

(e) Ground control points.

(f) Datum.

(g) Digital elevation model.

(h) Dynamic map Vs. static map.

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