2022

M.Sc.

2nd Semester Examination

REMOTE SENSING AND GIS

PAPER—RSG-203

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

RSG–203.1 GIS DATA ANALYSIS

Group – A

Answer any *two* questions. 2×2

1. Justify the necessity of positional and attribute accuracy for reducing data quality in GIS.

2. Define Quadtree.

3. What are the basic concepts of Entity?

4. What do you mean by "Hierarchical Model"?

Group – B

Answer any *two* questions. 2×4

5. Distinguish between Chain Coding, Run-length Coding and Block Coding in GIS data organization.

6. Investigate the role of the topological model in the identification of GIS data storage.

7. Briefly explain with the suitable sketches on the errors introduced while digitizing.

8. Describe the advantages and disadvantages of the Spaghetti Model in vector data structures.

Group – C

Answer any *one* question. 1×8

9. What do you mean by Database Management System? Describe the basic application and functions of Database Management System (DBMS)? 2+6

10. Discuss the different types of overlay analysis in vector data. Explain how it can be used to interact with each other in a spatial way. 6+2

RSG–203.2 GEODESY

Group – A

Answer any *two* questions. 2×2

1. Write down the Applications of Geodesy.

2. What is rectangular / Cartesian coordinate system ?

3. What is universal datum ?

4. What do you mean by satellite Geodesy ?

Group – B

Answer any *two* questions. 2×4

5. Prove that the sum of three sides of any spherical triangle is less than 360 degree.

6. What are the uses of Tidal Datum ?

7. Why the sides of a spherical triangle expressed in degree, minutes and seconds.

8. Differentiate Geoid and ellipsoid.

Group – C

Answer any *one* question. 1×8

9. What is spherical excess ? How it can be proved that Area of a spherical triangle (Δ) = $R^2 \in^c$?

10. Name the geodetic reference datum for India. When it was first introduced ? Name the place where the reference datum was fixed by Survey of India ? Why Indian spheroid has been changed by SOI from time to time ?

[Internal assessment – 10]