

M.Sc. 1st Semester Examination, 2023

REMOTE SENSING AND GIS

(Fundamentals of GIS & Digital Cartography)

PAPER – RSG-102

Full Marks : 50

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

PAPER – RSG-102.1

(Fundamental of Geographic Information System)

GROUP—A

Answer any two questions : 2 × 2

1. Differentiate between spatial and attribute data with example.

2. What do you mean by open source software ?
Give suitable example.
3. Which steps would you follow to convert a hardcopy map into digital map ?
4. Which method would you use to georeference an image of administrative boundary without any co-ordinates ?

GROUP – B

Answer any **two** questions from the following :
4 × 2

5. Critically explain the resampling techniques with their specific applications.
6. What is 3D GIS ? Mention the application areas of mobile GIS.
7. Briefly mention the advantages and disadvantages of raster data structure.

8. What kind of errors do occur during digitization and key board entry of data ?

GROUP – C

Answer any **one** question from the following : 8×1

9. Discuss about different techniques of digitization. Explain their advantages and disadvantages. $5 + 3$
10. Mention the application areas of GIS. What are the sources of analog data in GIS ? $4 + 4$

PAPER – RSG-102.2

(*Digital Cartography*)

GROUP – A

Answer any **two** questions of the following : 2×2

1. Compare between absolute and derived data mentioning their application in GIS.

2. What do you mean by thematic mapping ?
3. What types of mapping techniques would you use for representing the rural population and birth rate ?
4. State the importance of hue in digital cartography ?

GROUP – B

Answer any **two** questions from the following :

4 × 2

5. Differentiate between discrete and continuous data with example. Mention their mapping techniques.
6. Write a short note on the characteristics of UTM projection system.
7. Which visual variables of mapping are used for representing qualitative and quantitative data (point, line and polygon) ?

(5)

8. Compare between choropleth and isopleth mapping techniques.

GROUP – C

Answer any **one** question from the following :

8 × 1

9. Explain different techniques associated with map generalization with suitable illustrations.

Compare nominal, interval and ratio scales of data with examples.

5 + 3

10. Discuss the advantages and disadvantages of digital cartography over conventional cartographic techniques. What do you know about dasymetric mapping ?

6 + 2

[Internal Assessment – 10 Marks]
