M.Sc. 2nd Semester Examination, 2025

REMOTE SENSING AND GIS

PAPER — RSG-204 (CBCS)

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

PART — I

(*Fundamentals of Remote Sensing and Photogrammetry*)

GROUP—A

Answer any **two** questions :   2 × 2

1. Define false colour composite (FCC).

2. Mention two advantages of remote sensing.

3. What is electromagnetic radiation (EMR) ?

4. What does the term ortho rectification refer to photogrammetry ?

GROUP—B

Answer any two questions : 4 × 2

5. Critically compare between push-broom and whiskbroom scanner.

6. Explain the characteristics of electromagnetic radiation in relation to remote sensing.

7. Explain the conditions for stereoscopic vision.

8. Discuss the historical development of aerial photography.

(Continued)

GROUP – C

Answer any **one** question : 8 × 1

9. Explain the process of remote sensing and discuss its scope, advantages, and limitations.

2 + 3 + 3

10. Discuss various platforms and sensors used in remote sensing. How do their characteristics influence data acquisition ? 4 + 4

PART – II

(*Fundamentals of Geographic Information System & Navigational Satellite System*)

GROUP – A

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

2 × 2

11. What is the difference between spatial data and attribute data ?

12. How many GCPs are required for georeferencing with 1st order Polynomial Transformation ?

13. What is meant by GPS relative positioning ?

14. What does the acronym NavIC stand for ?

GROUP—B

Answer any two from the following questions :

4×2

15. What are the sources of data in GIS ?

16. Briefly describe the components of GIS.

17. Briefly explain the different factors responsible for errors in GPS radio signals.

18. Critically compare IRNSS & GNSS with suitable examples.

GROUP – C

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

8×1

19. Discuss about the methods of digitization in GIS. What are the limitations of GIS ?

$5 + 3$

20. Discuss the orbital constellation in detail and give an overview of the radio signal properties and different services of NAVSTAR GPS. 8

[Internal Assessment — 10 Marks]

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