

M.Sc. 2nd Semester Examination, 2023

REMOTE SENSING AND GIS

(Fundamentals of Geospatial Technology)

PAPER – RSG-204.1 & 204.2 (CBCS)

Full Marks : 40

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 204.1

*(Fundamentals of Remote Sensing and
Photogrammetry)*

[Marks : 20]

GROUP – A

Answer any **two** questions : 2 × 2

1. What is atmospheric window ?
2. What is resolution of a sensor ?
3. What is stereo photography ?
4. Which properties will you consider for stereoscopic coverage of an aerial photo ?

GROUP – B

Answer any **two** questions : 4 × 2

5. Briefly present your concept of false colour composites in digital remote/sensing.
6. Compare between whiskbroom and pushbroom scanners.
7. Explain the basic characteristics of electromagnetic radiations.

(3)

8. Why does clear non-turbulent water appear blue/green in the visible part of the spectrum and black in the near infrared ?

GROUP – C

Answer any **one** question : 8 × 1

9. Briefly explain the process of remote sensing with a suitable sketch. What are the reasons behind selecting G,R and NIR bands for standard FCC ?
10. What are the various elements of visual image interpretation ?

PAPER – RSG 204.2

(Fundamentals of Geographic Information System & Navigational Satellite System)

[Marks : 20]

GROUP – A

Answer any **two** questions : 2 × 2

11. Mention the spatial entities used in GIS and their dimensions.

12. Define GIS and mention its characteristics.
13. What is NAVSTAR GPS ?
14. What are the two Pseudo-Random Noise (PRN) codes used in GPS ?

GROUP – B

Answer any **two** questions : 4 × 2

15. Highlight the major sources of data in GIS ?
16. Differentiate between raster and vector data structure.
17. Write a short note on orbital constellation of NAVSTAR GPS.
18. Compare between Standard Positioning & Precise Positioning Services of GNSS.

GROUP – C

Answer any **one** question : 8 × 1

19. Discuss about the components of GIS. What are the limitations of GIS ? 5 + 3

- 20.** Explain the control segment of GNSS. Discuss about factors responsible for GPS satellite signal errors.

3 + 5
