

2025

M.Sc. 3rd Semester Examination
REMOTE SENSING AND GIS

Paper : RSG - 304.1/304.2

[Old Syllabus]

(CBCS)

Full Marks : 25

Time : One Hour

*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.*

Paper : RSG - 304.1

(Advanced Remote Sensing Techniques)

Group - A

1. Answer any *two* questions : 2×2=4

- (a) How does supervised classification differ from unsupervised classification in remote sensing?
- (b) What is meant by 'Blackbody'?
- (c) What are pixels, and what information does each pixel in a digital image contain?
- (d) What is LiDAR?

P.T.O.

(2)

Group - B

2. Answer any *two* questions :

4×2=8

- (a) What is microwave remote sensing and mention two advantages of microwave remote sensing over optical remote sensing.
- (b) How do microwave waves interact with different types of surface materials?
- (c) State Wien's displacement law.
- (d) Explain the concepts of Digital Surface Model (DSM) and Digital Terrain Model (DTM) and describe how they differ from each other.

Group - C

3. Answer any *one* question :

8×1=8

- (a) Mention the application areas of thermal remote sensing. Which sensors are being used in thermal remote sensing? 5+3
- (b) Explain the concept of hyperspectral remote sensing, highlighting its differences from multispectral remote sensing and the main advantage of hyperspectral data over multispectral data.

Internal Assessment : 5 marks

(3)

Paper : RSG - 304.2

(Application of Geo-Informatics)

Group - A

1. Answer any *two* questions :

2×2=4

- (a) What is the biosphere?
- (b) Write a short note on Troposphere.
- (c) What is geomorphology?
- (d) List any two elements of image interpretation.

Group - B

2. Answer any *two* questions :

4×2=8

- (a) Describe any two geomorphic processes that modify the Earth's surface.
- (b) Explain how different land use/land cover features can be identified visually.
- (c) Describe the water cycle as an example of Earth System interaction.
- (d) Explain how satellite imagery can be used in disaster management.

P.T.O.

(4)

Group - C

3. Answer any *one* question :

8×1=8

- (a) Explain the landforms produced by coastal processes.
- (b) Discuss the role of GIS in disaster management.

Internal Assessment : 5 marks
