

2025

M.Sc. 1st Semester Examination
REMOTE SENSING AND GIS

Paper : RSGC401X0

(Fundamentals and Physics of Remote Sensing)

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.

Group - A

Answer any *two* questions : $2 \times 2 = 4$

1. Define sensor in remote sensing.
2. What is meant by visible region of EMR?
3. Define black body radiation.
4. What is non-selective scattering?

Group - B

Answer any *two* questions : $4 \times 2 = 8$

5. Briefly discuss the role of atmosphere in the remote sensing process.

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6. Briefly state the wavelength, frequency, and energy relationship of EMR and explain its relevance in remote sensing.
7. Briefly describe Stefan-Boltzmann law and its significance in Earth observation.
8. Briefly explain how moisture content influences spectral reflectance.

Group - C

Answer any *one* question : $8 \times 1 = 8$

9. Discuss the relationship between emissivity, radiant temperature, and kinetic temperature with suitable examples.
10. Describe the spectral reflectance characteristics of vegetation and soil with suitable diagrams.

Internal Assessment - 5 marks
