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PG/IS/RSG/101/24

M. Sc. 1st Semester Examination, 2024

REMOTE SENSING AND GIS

(Fundamentals and Physics of Remote Sensing)

PAPER — RSG-101

Full Marks : 25

Time : 1 hour

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

GROUP—A

Answer any **two** questions : 2 × 2

1. Why is sun look red in rising or in sun set ?

2. How is remote sensing different from traditional surveying methods ?

3. Define spatial resolution of remote sensing.

4. What is false colour image in relation to remote sensing ?

GROUP-B

Answer any **two** questions : 4×2

5. Briefly define Kirchhoff's law.

6. What do you mean by the term 'Atmospheric Window' ? Give example.

7. What is Wien's Law and how does it describe the relationship between temperature and peak wavelength of emitted radiation ?

8. What are 'Mie' and 'Rayleigh' scattering ?

(*Continued*)

(3)

GROUP – C

Answer any **one** question : 8×1

9. What is the wavelength of electromagnetic radiation which has a frequency of 5×10 Hz ? What type of EMR has within this wavelength ? Given, $C = 3 \times 10^8$ m/s. The notation has it usual meaning.

10. Discuss the energy interaction processes in the Earth's atmosphere and the resultant impacts on space based remote sensing processes.

[Internal Assessment — 05 Marks]

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