P.G. Semester-II Examination, 2023

GEO-INFORMATICS

Course ID : 23163 **Course Code : GI203T**

Course Title : Thermal, Microwave Remote Sensing and Application

Time : 2 Hours Full Marks : 40

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any **four** questions selecting at least **one** from **each Unit.**

UNIT-1

(Concept of Thermal Energy)

1. Write a short note on (a) Radiant Flux (b) Thermal Capacity (c) Thermal Conductivity. Distinguish between Black Body and Grey Body. 6+4=10

2. Explain the importance of atmospheric windows to design a thermal sensor? Write a major difference between thermal and optical sensor. What do you mean by emissivity? 5+2+3=10

UNIT-2

[Basic of Microwave Remote Sensing (RS)]

3. Why most passive microwave sensors are having a low spatial resolution? Explain the geometric configuration of SAR. What are the different types of polarization property and their importance of SAR data? 2+4+4=10

4. With the help of a neat diagram describe the incident, look, and depression angle. Write a short note on different types of relief displacement found in a RADAR image. 6+4=10

UNIT-3

(Processing of Thermal and Microwave Image)

5. Discuss the major applications of thermal imagery in Remote Sensing. Write a short note on Urban Heat Island. 7+3=10

6. Briefly explain the applications of microwave Remote Sensing. Explain the responses of microwave energy on vegetation, soil, and water. 4+6=10

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