

MASTER OF SCIENCE (GEOINFORMATICS) (BCS-2019 COURSE)
M. Sc. (GEOINFORMATICS) Sem-I : WINTER : 2021
SUBJECT: FUNDAMENTALS OF REMOTE SENSING

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 05-01-2022

W-21245-2021

Max.Marks 60

N.B.

- 1) Attempt any **FOUR** questions from Q.1 to Q.5.
- 2) **Q.6** is **COMPULSORY**.
- 3) Figures to the right indicate **FULL** marks.

- Q.1** a) Give a diagrammatic overview of the four stages and operations therein of the remote sensing process. (06)
- b) Explain the following elements of visual image interpretation: (06)
i) Shape ii) Texture iii) Association
- Q.2** a) Describe the biophysical variables that can be derived using remote sensing with examples. (06)
- b) Describe the two main methods of determining the scale of single aerial photographs. (06)
- Q.3** a) Explain the quantum theory of electromagnetic radiation and state its significance in the remote sensing process. (06)
- b) Differentiate between multispectral and hyperspectral scanners. (06)
- Q.4** a) What are the different types of scattering in the atmosphere? Describe practical implications of scattering and its effect on the remote sensing process. (06)
- b) Write a note on thermal infra-red data collection. (06)
- Q.5** a) State the three laws that govern the thermal remote sensing process with examples. (06)
- b) Describe the operating principles of across and along track scanning with examples. (06)
- Q.6** Write short notes on **ANY THREE** of the following: (12)
- a) Stereoscopic photography
 - b) Use of collateral information
 - c) Significance of Band 4 and 5 of Landsat 7
 - d) IRS satellites