

Five-Year Integrated M. Sc. Examination 2022

Earth and Environmental Science

Semester: VII

Paper: EES-4-7-1

Subject: Remote Sensing and GIS

Time: 4 Hours

Full Marks: 80

The marks of the questions are indicated on the margin.

Answer **Question No.1** and **any four** from the rest.

1. Write short notes on **any four** of the following. 4 X 4 = 16
 - a) Kinetic and Radiant temperature
 - b) Vector data model
 - c) Spectral Signature
 - d) Stereoscopy
 - e) Space segment of GPS
 - f) Land Use/Land Cover mapping
2.
 - a) Define 'remote sensing' and describe the basic principles involved in remote sensing technique. 6+6+4 = 16
 - b) Discuss the elements (or steps) that comprise the most common remote sensing process.
 - c) What are the advantages and limitations of remote sensing products over products of conventional survey?
3. Write a note on four types of resolution in remote sensing with reference to Indian satellites. 16
4.
 - a) What are the advantages of microwave remote sensing? 4+6+6 = 16
 - b) What are the components of a RADAR system?
 - c) Describe the system parameters and terrain parameters of radar image.
5.
 - a) Discuss the principle and application of thermal remote sensing. 8 + 8 = 16
 - b) What do you mean by standard FCC?
6.
 - a) Discuss various image enhancement and image transformation techniques. 8 + 8 = 16
 - b) Describe and compare the supervised and unsupervised method of image classification.
7. Discuss the application of Remote Sensing and GIS in natural disaster management. 16