M.Sc. Examination 2018
Semester-III
Environmental Science
Course : MEC-34
(Remote Sensing and GIS)

Time : 3 Hours **Full Marks : 40**

Questions are of value as indicated in the margin

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

1. Write short notes on **any four** of the following. 2×4=8
   a) Spectral response curve for soil
   b) Relief displacement
   c) Kinetic and radiant temperature
   d) Standard FCC
   e) NavIC ('Navigation with Indian Constellation)
   f) Remote Sensing Application in air pollution studies

2. a) What is Electromagnetic Spectrum? Describe the properties of different types of electromagnetic waves. (1+3)+2+2=8

   b) Explain the concept of absorption bands and atmospheric windows.

3. a) What are the different types of remote sensing?

   b) What do you mean by spectral resolution? Compare the merits and limitations of multispectral and hyper-spectral remote sensing. 3+(1+4)=8

4. a) What is 'spectroscopy'? Explain the principles and procedures for spectroscopic imaging.

   b) Describe the elements of image interpretations. 4+4=8

5. a) What is digital image? Describe the common data formats of digital image. 4+4=8

   b) Explain various image transformation and image enhancement techniques.

6. a) Differentiate between the raster and vector data models.

   b) Write the basic principles of GPS (Global Positioning System) 4+4=8

7. Discuss the application of the geospatial technology in **any two** of the following: 4+4=8

   a) Watershed management

   b) Precision agriculture

   c) Forest management

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