

M.Sc. Examination, 2016
Semester – III
Environmental Science
Paper – MEC-34
(Remote Sensing & 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 note on **any four** of the following : 2×4=8
 - a) Spectral Response Curve
 - b) Geostationary satellites
 - c) Hyperspectral sensor
 - d) Vector data model
 - e) FCC
 - f) Classification of land use/land cover
 2. a) Describe the interaction of electromagnetic radiation (EMR) with the atmosphere. 4+4=8
b) What do you mean by 'Atmospheric Window'? Describe the atmospheric windows relevant to remote sensing data acquisition.
 3. a) Distinguish between 'scale' and 'resolution'. 2+6=8
b) Describe the four types of resolution in remote sensing data. With examples from IRS series satellites, show the interdependence of these resolutions.
 4. a) Why remote sensing technique is considered separately for Optical, Thermal & Microwave region of EMS? 3+5=8
b) Discuss the principle and application of thermal remote sensing with examples of thermal sensor.
 5. a) Describe the different types of remote sensing data products and data formats. 4+(2+2)=8
b) List the major image processing techniques involved in remote sensing. Give a work flow of digital image processing.
 6. a) Describe the different types of radiometric and geometric corrections of remotely sensed data. 5+3=8
b) Describe the functional segments of GPS
 7. a) Discuss the hydrological application of remote sensing. 4+4=8
b) How remote sensing data is being used in India to monitor and enhance agriculture productivity?
-