B. Tech.

(SEM. VIII) EXAMINATION. 2006-07

REMOTE SENSING IN CIVIL ENGINEERING

Time : 3 Hours] [Total Marks : 100

Note : Answer all questions.

1 Answer any four parts of the following : 5×4=20
   a) Explain the terms spatial resolution, spectral resolution and radiometric resolution.
   b) What do you mean by photo interpretation keys? Explain them.
   c) Why ground truth verification is required? What is the criterion for grand truth collection?
   d) Discuss various techniques of photo interpretation?
   e) What are the characteristics of a good photographic image?
   f) How a civil engineer will select a site for highway project using remote sensing imaging?

2 Answer any two parts of the following : 10×2=20
   a) What is electromagnetic radiation? Show useful portions of electromagnetic spectrum for various sensing systems.
b) Discuss spectral reflectance curves for water and vegetation.
c) What is the utility of sensor in remote sensing? Explain various types of sensors.

3 Answer any two parts of the following: 10x2=20
a) Describe various multi-concepts used for analysis of remote sensing data.
b) How scale of image and image resolution affect the visual interpretation of an image?
c) Describe the importance of visible band in electromagnetic spectrum. Also describe the band ranges for satellite images in visible region.

4 Answer any two parts of the following: 10x2=20
a) Discuss the role of remote sensing for estimating post flood damage.
b) How could you assess natural vegetation quantitatively and qualitatively in an area using remote sensing data?
c) In air pollution studies remote sensing plays an important role justify.

5 Write short notes on any four of the following: 5x4=20
a) Sun synchronous satellite
b) Satellite data
c) Merits of satellite imagery
d) Format of digital data
e) Indian Remote Sensing Satellite.
f) Characteristics of any one satellite.