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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2013

GEO INFORMATICS ENGINEERING

II Semester

GI 8201 Optical and Thermal Remote Sensing

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Distinguish between radiance and radiant flux.
2. List out any four elements of visual interpretation.
3. What are geo-stationary satellites?
4. What is meant by temporal resolution of satellite imageries?
5. Define 'emissivity of objects'.
6. In what wavelength range, thermal remote sensors are working?
7. What is called as Hugen's phenomenon?
8. Differentiate hyperspectral remote sensing from multispectral remote sensing.
9. What are the applications of LIDAR remote sensing?
10. What are the benefits of image enhancement?

Part - B (5 x 16 = 80 marks)

11. (i) Draw a typical spectral signature curve of vegetation and explain it. (8)
 (ii) Describe the characteristics of various atmospheric regions from remote sensing point of view. (8)
12. a) Describe the factors influencing the different types of resolution in high resolution satellite imageries.
 OR
 b) Briefly explain the international satellite mission and write the pay load description of any one live international satellite with sensor having spatial resolution less than 2.4 m.
13. a) (i) Describe the working principle of thermal sensor. (8)
 (ii) Discuss the applications of thermal remote sensing. (8)
 OR
 b) Describe any two methods employed for the calibration of thermal data.
14. a) Explain any two techniques employed for capturing hyperspectral imageries.
 OR
 b) What are the characteristics of hyperspectral remote sensing data. Explain, how an object or phenomenon can be identified from hyperspectral data.

15. a) Explain the applications of different types of LIDAR system.

OR

b) What are the causes of geometric distortions in imageries? How these can be corrected?