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

GEOINFORMATICS BRANCH

SECOND SEMESTER – (REGULATIONS 2008)

GI 9151 REMOTE SENSING

Time: 3hrs

Max Marks: 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. Define Remote sensing. What are the different platforms used to achieve EMR Remote sensing?
2. Differentiate between active and passive remote sensing. Give examples.
3. What do you understand by the term "atmospheric windows"?
4. What do you understand by the term "Atmospheric attenuation"?
5. Write short note on Spectroradiometer.
6. Write short note on spectral reflectance and emittance.
7. Differentiate between sun synchronous and Geo synchronous orbits.
8. Differentiate between the optical and microwave sensors.
9. What are the factors to be considered while ordering the satellite data?
10. What do you understand by the term "Resolution of a satellite image"?

Part B (5 x 16 = 80)

11. i) Discuss in detail various process and elements involved in electromagnetic remote sensing of earth resources. 7
- ii) Explain the EMR diagram with neat sketch in detail. 9
- 12a i) Describe in detail the Standard atmospheric profile 6
- ii) Describe in detail the interaction of radiation with atmosphere 10

(OR)

- 12b i) Why sky looks blue in color? How sky looks during Sun rise and sun set? Why? 4
- ii) Explain in detail the atmospheric effects on visible, infrared, thermal and microwave spectrum. 12

(PTO)

13a.i) Describe in detail the EMR interaction with the earth material. 16

(OR)

13b.i) Describe the typical spectral reflectance curves of Vegetation, Soil and Water bodies in detail with neat sketches. 12

ii) Describe the terms "Spectral response pattern" in detail 4

14a.i) Explain in detail the working principles of SPOT satellite with neat sketches. 10

ii) Describe the working principles of LIDAR with neat sketch. 6

(OR)

14b.i) Explain in detail different types of Microwave sensors with neat sketch. 10

ii) Differentiate between TM and MSS sensors. 6

15a.i) Describe briefly various equipments used for visual interpretation of satellite image. 6

ii) Discuss in detail how the Landuse/Landcover map is prepared using visual interpretation 10

(OR)

15b.i) Explain the basic elements of image interpretation in detail. 10

ii) Describe in detail the different types of satellite data products 6