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B.E/B.Tech(Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2011

CIVIL ENGINEERING BRANCH

SIXTH SEMESTER

CE 9355 FUNDAMENTALS OF REMOTE SENSING AND GIS

(REGULATIONS 2008)

Time : 3 hrs

Max Marks : 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. Specify the range of wavelengths for "Near IR" and "Thermal IR" regions of electromagnetic spectrum.
2. Why sky appears blue in colour during day time?
3. What is meant by radiometric resolution?
4. List out the factors affecting the speed and orbital period of satellites.
5. Distinguish between supervised and unsupervised classification.
6. Mention any four types of data products.
7. Specify any two open source software available for GIS.
8. Distinguish between spatial and non-spatial data.
9. What is meant by vector data?
10. What are the four main stages involved in manual input of data to a GIS?

Part – B (5 x 16 = 80 Marks)

11. Explain the interaction of electromagnetic radiation with atmosphere.
- 12(a) Describe the factors influencing the selection of spatial resolution and spectral resolution of sensors.

(Or)

- 12(b) Describe the features of any four airborne remote sensing platforms.

13(a) List out the various visual interpretation keys. Explain, how would you apply these keys for visual interpretation?

(Or)

13(b) What is Digital Image Processing? Briefly explain the various steps involved in it.

14(a) Explain the features and limitations of any two types of map projections.

(Or)

14(b) With flow diagram, explain the major hardware and software components of geographical information system.

15(a) Explain the different methods used for speeding up data access and compression in GIS analysis.

(Or)

15(b) What steps would you take to limit the introduction of errors in the digitizing and the scanning of spatial data? Explain.