
Sixth Semester

Civil Engineering

CE 2024/CE 604/10111 CEE 14 — REMOTE SENSING TECHNIQUES AND GIS

(Regulations 2008/2010)


Time: Three hours Maximum: 100 marks

Draw the sketches wherever necessary.

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the wave theory.

2. What is spectral reflectance curve?

3. What are the different aerial platforms?

4. Mention the few payload instruments.

5. What is meant by supervised classification?

6. Define the term pre-processing.

7. What is meant by isopleth map?

8. List few standard GIS softwares.

9. What is meant by spaghetti model?

10. What do you understand about Data compression?
PART B — (5 × 16 = 80 marks)

11. (a) (i) Briefly explain about EMR interaction with atmosphere constituents. (12)
(ii) What are the ranges of wavelength's in the different EMR spectrum? (4)

Or

(b) Discuss on the Spectral reflectance characteristics of soil, Water and Vegetation in different spectral bands. (16)

12. (a) (i) What are the advantages and disadvantages of various remote sensing platforms? (12)
(ii) What is resolution of a sensor? List all sensor resolution. (4)

Or

(b) Discuss briefly about pay load description of important Earth Resources and Meteorological Satellites. (16)

13. (a) What are the elements of image interpretation? Explain how these elements help us to interpret remote sensing imagery. (16)

Or

(b) Explain briefly about the image enhancement techniques. (16)

14. (a) Write detailed notes on following:
(i) Map projection. (8)
(ii) Database management systems. (8)

Or

(b) (i) Discuss briefly about attribute and spatial data. (12)
(ii) What are general hardware and software components of GIS? (4)

15. (a) What do you understand by spatial data model? Describe conceptual and logical data model. (16)

(b) (i) Explain the concept of integrated data analysis. (8)
(ii) What do you understand by land information system? (8)