



CBCS SCHEME

21CV651

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Remote Sensing and GIS

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define Remote Sensing. Explain the basic concept of Remote Sensing. (10 Marks)
- b. What is Electromagnetic spectrum? Explain the different range of wavelengths of EMR with neat sketch. (10 Marks)

OR

- 2 a. Define Sensor. Add a note on various types of sensor resolution. (10 Marks)
- b. Enumerate the different types of elements considered during visual interpretation process. (10 Marks)

Module-2

- 3 a. Discuss the different types of photogrammetry and their applications. (10 Marks)
- b. Describe the process of Flight Planning for aerial photogrammetric missions. (10 Marks)

OR

- 4 a. Outline advantages of employing aerial photo-grammetry over traditional ground survey methods. (10 Marks)
- b. Discuss the factors that influence the scale of a vertical photograph and how they are controlled during aerial photography missions. (10 Marks)

Module-3

- 5 a. List and explain the advantages of using GIS technology in spatial management and analysis. (10 Marks)
- b. What are the differences between primary and secondary sources of geographic data? (10 Marks)

OR

- 6 a. Define Geographic Information System (GIS). Explain the basic components of a GIS system and their function. (10 Marks)
- b. Enumerate and explain various sources of data used in GIS applications. (10 Marks)

Module-4

- 7 a. Apply the role of remote sensing and GIS in prioritizing the river basins for water resources management. (10 Marks)
- b. Explain how GIS technology can be utilized in highway alignment studies. Discuss the factors considered in selecting optimal alignments for new highways or roads expansion. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Explain the role of RS, GIS and GPS applications in collecting and analyzing spatial data for environmental engineering projects. (10 Marks)
- b. Discuss the applications of GIS in geostatistical analysis of water quality parameters. (10 Marks)

Module-5

- 9 a. Explain the role of GIS and Remote Sensing in urban planning and management. Provide examples of how GIS technology is used to analyse urban spatial data and support decision-making processes. (10 Marks)
- b. Describe the concept of change detection studies using remote sensing imagery. Discuss the methods and techniques used to detect and quantify land use changes in urban areas over time. (10 Marks)

OR

- 10 a. Explain the role of GIS, Remote Sensing and GPS in Disaster management, including disaster risk assessment, preparedness planning, response coordination and recovery efforts. (10 Marks)
- b. Make use of applications of remote sensing in monitoring urban forest cover and how assessing ecosystem services provided by urban green spaces. (10 Marks)

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