

R18

Code No: 157EZ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, July/August - 2023

REMOTE SENSING AND GIS

(Common to EEE, ME, ECE, CSE, IT, AE, MIE)

Time: 3 Hours

Max.Marks:75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) What do you mean by Atmospheric Windows? [2]
- b) Differentiate between active and passive Remote Sensing. [3]
- c) What do you mean by map? List the types of maps. [2]
- d) Define Scale? Brief about the types of scales. [3]
- e) What is Spatial DBMS? [2]
- f) Define Topology and Coverage. [3]
- g) Write down the buffers in GIS. [2]
- h) List out the advantages of spatial interpolation. [3]
- i) What are the applications of network analysis? [2]
- j) List the data layers needed for Hazard Zonation. [3]

PART – B

(50 Marks)

- 2.a) What are the different types of Scattering involved in Remote Sensing? Explain. [5+5]
 - b) Brief on IRS programme with Satellites and Sensors available. [5+5]
- OR**
- 3.a) What are the types of resolutions involved in Remote Sensing? Explain. [5+5]
 - b) Explain about elements involved in visual Image Interpretation with examples. [5+5]
- 4.a) Define GIS? Explain the Components of GIS. [5+5]
 - b) Differentiate between Vector data & Raster data. [5+5]
- OR**
- 5.a) What are the sub systems of GIS? Explain them. [5+5]
 - b) What are the different methods of inputting data into GIS? [5+5]
- 6.a) What are network database structures? Brief the merits or demerits over hierarchical Systems. [5+5]
 - b) Explain the process of DTM Generation. List the uses of DEM. [5+5]
- OR**
- 7.a) What is Relational Database Management System? Explain how it works. [5+5]
 - b) What are the different vector data models available? Give advantages of each. [5+5]

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- 8.a) Explain how you will store point, line and area in raster System.
b) Explain the methodology of linking spatial data with attribute data. [5+5]
- OR**
- 9.a) What are the different data analysis methods in GIS? Brief them.
b) Discuss the different spatial data interpolation techniques. [5+5]

10.a) What are the system requirements needed for implanting a GIS in state level disaster management Unit?

b) Discuss how GIS will solve multi criteria problems? [5+5]

11.a) Explain how GIS will help in finding short route in road network planning.

b) What are the GIS applications in business? Brief with examples. [5+5]

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