

R18

Code No: 157EZ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, December-2023/January-2024

REMOTE SENSING AND GIS

(Common to ME, ECE, 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 multi concept of remote sensing? [2]
- b) What are the three main types of remote sensing? [3]
- c) What is GIS? List important application of GIS. [2]
- d) Differentiate between Map and globe. [3]
- e) What is Geo TIFF? Give its importance. [2]
- f) What do you mean by cell by cell encoding data structure? [3]
- g) Differentiate between vectors and attributes. [2]
- h) What is geo-database and metadata? [3]
- i) What is the importance of decision making in GIS? [2]
- j) How do you use GIS in solving multi criteria problems. [3]

PART – B

(50 Marks)

- 2.a) What is remote sensing? Explain its importance and its applications.
- b) Explain in detail the various components of remote sensing. [5+5]

OR

- 3.a) What are remote sensing platforms? Explain different types of platforms.
- b) Explain the elements of visual interpretation. [5+5]

- 4.a) Describe the various components of GIS.
- b) What are different types of maps and explain their importance in GIS. [5+5]

OR

- 5.a) What is map scale? Explain different types and their importance.
- b) Explain the terms coordinate systems and georeferencing. [5+5]

- 6.a) Present a detailed comparison between vector and raster data and explain their importance in spatial data.
- b) Explain different types of geospatial data structures. [5+5]

OR

- 7.a) With help of flow chart, explain different stages of processing relevant to GIS data models.
- b) Present a detailed comparison between overlay and proximate analysis. [5+5]

QA QA QA QA QA QA QA Q

8.a) Explain different types of data inputs of GIS.

b) Explain the terms data accuracy and sources of error in GIS.

[5+5]

QA QA QA QA OR QA QA QA Q

9.a) Describe different types of spatial analysis.

b) Explain the spatial data interpolation techniques.

[5+5]

10. With help of a flow diagram, explain the steps involved in GIS process.

[10]

OR

11. Write detailed notes on:

a) GIS based road network planning.

b) Shortest path detection.

[5+5]

QA QA QA QA QA QA QA Q

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QA QA QA QA QA QA QA Q

QA QA QA QA QA QA QA Q

QA QA QA QA QA QA QA Q

QA QA QA QA QA QA QA Q

QA QA QA QA QA QA QA Q