

R18

Code No: 157EZ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

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

REMOTE SENSING AND GIS

(Common to EEE, CSE, IT)

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 are the advantages of sensors carried on board satellites? [2]
- b) What are the four types of images? Give their applications. [3]
- c) What is the relation between GIS and SDSS? [2]
- d) What are the GIS layers used in land use mapping? [3]
- e) What do you mean by normalization? List its advantages. [2]
- f) Explain metadata and its uses. [3]
- g) Write a note on errors in data input and its effects. [2]
- h) What do you mean by data accuracy and how do you ensure the same? [3]
- i) What is the importance of decision making in GIS? [2]
- j) How do you demarcate hazard zones using GIS? [3]

PART – B

(50 Marks)

2. Present a detailed classification of remote sensing systems and explain their merits and demerits. [10]

OR

- 3.a) Explain the elements in evaluating images.
- b) Write a detailed note on visual interpretation techniques. [5+5]
- 4.a) Explain the importance of maps in GIS.
- b) What is a digital terrain model? Explain the role of digital terrain model in selection of dam site. [5+5]

OR

- 5.a) What is map standardization? Explain how it is carried out.
- b) Write notes on Scale; Coordinate systems; Geo-referencing. [5+5]
- 6.a) Bring out a detailed comparison between object and field-based models.
- b) Write a detailed note on Topologically Integrated Geographic Encoding and Referencing. [5+5]

OR

- 7.a) Explain different types of raster data structures.
- b) Explain topology, topological and non-topological data structures. [5+5]

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- 8.a) Explain different methods of data input and explain their merits and demerits.
- b) Write a note on Micro and Macro components of accuracy. [5+5]

OR

QA

- 9.a) Explain the salient aspects of vector data analysis.
- b) Discuss the various techniques used for spatial data interpolation. [5+5]

- 10.a) Write a note on system requirements for implementing a GIS.
- b) Discuss how decision making helps in implementation of GIS. [5+5]

OR

QA

- 11.a) Explain how Remote Sensing and GIS techniques are used in identification of sites of artificial recharge in groundwater development
- b) Explain how GIS is useful in identification of shortest route in Municipal Solid waste collection. [5+5]

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