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 EEE, CSE, IT, CS&BS, CS&IT, CESE, CSE(CS), CSE(AI&ML), CSE(DS), CSE(IOT))

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 is the scope of remote sensing?	[2]
b)	What is the importance of electromagnetic energy in remote sensing?	[3]
c)	What do you mean by nature of geographic data?	[2]
d)	What is georeferencing? Give its importance?	[3]
e)	List advantages of vector-based data models.	[2]
f)	What is quadratic data structure?	[3]
g)	Differentiate between raster and satellite imagery.	[2]
h)	What are four types of spatial patterns?	[3]
i)	List common pitfalls in GIS applications.	[2]
j)	Explain GIS applications for business.	[3]

PART – B

(50 Marks)

2.a)	Explain the process of remote sensing with help of a sketch.	
b)	Present a detailed classification of remote sensing platforms.	[5+5]
	OR	
3.a)	Write a detailed note on visual image interpretation of photographs and images.	
b)	Explain the concepts of digital image processing.	[5+5]
4.a)	Explain the components and function of GIS.	
b)	What are thematic maps? Explain the requirements of a base map.	[5+5]
	OR	
5.a)	Present a detailed classification of scales and their importance.	
b)	Explain the terms map projections and map transformation.	[5+5]
6.a)	Present a detailed comparison between object based and field-based models.	
b)	With help of a sketch, explain the representation of raster grid format for point, line and polygon.	[5+5]
	OR	
7.a)	Explain run-length encoding data structure. Present a sketch.	
b)	Write a detailed note on Non-topological structure.	[5+5]

8. Explain in detail five types of data input techniques in GIS. [10]

OR

9.a) Explain salient features of spatial analysis.

b) Write a detailed note on spatial data interpolation techniques. [5+5]

10. With help of a flow chart, explain the steps in implementation of GIS. [10]

OR

11. Write a note on the following GIS applications.

a) Identification of Hazard zones using remote sensing

b) Mineral mapping. [5+5]

--ooOoo--