

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022****Subject Code:3150617****Date:04-01-2023****Subject Name:Remote Sensing and GIS****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		<b>MARKS</b>
<b>Q.1</b>	(a) What is Remote Sensing and GIS ?	<b>03</b>
	(b) Discuss about integrated applications of GIS and Remote sensing in civil engineering.	<b>04</b>
	(c) Describe the application of RS & GIS in the area of Water resources management with suitable example.	<b>07</b>
<b>Q.2</b>	(a) Differentiate between Active and Passive Sensor.	<b>03</b>
	(b) Classify and explain various sensors in detail.	<b>04</b>
	(c) Discuss the Role of Spectral Reflectance Curves in Remote Sensing with Neat Sketch, including Spectral Reflectance of Soil, Water and Vegetation.	<b>07</b>
	<b>OR</b>	
	(c) Discuss about supervised and unsupervised classification with suitable example	<b>07</b>
<b>Q.3</b>	(a) Explain about Temporal and Spatial resolution	<b>03</b>
	(b) Enlist characteristics of Raster Image and Vector Image.	<b>04</b>
	(c) Describe elements of visual image interpretation with suitable example.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain error in GIS data.	<b>03</b>
	(b) What are the different file formats used to store Raster data and Vector data?	<b>04</b>
	(c) Describe about Digital image processing.	<b>07</b>
<b>Q.4</b>	(a) What is Geoid? Difference between WGS 84 and GRS 80?	<b>03</b>
	(b) Explain the different types of map Projections.	<b>04</b>
	(c) Enlist and explain various components of GIS	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) What is Buffering and Neighborhood ?	<b>03</b>
	(b) What is overlay in GIS? Explain different vector overlay operations?	<b>04</b>
	(c) State various input datasets required for Terrain Modelling? Give process steps for watershed delineation.	<b>07</b>
<b>Q.5</b>	(a) Enlist various GIS software packages and explain one in detail.	<b>03</b>
	(b) Explain procedure of georeferencing in any GIS Software.	<b>04</b>
	(c) Describe the application of RS & GIS in the area of Town planning with suitable example	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) What are the important components of ISRO Bhuvan Geo-portal?	<b>03</b>
	(b) Enlist various Remote sensing software packages and explain one in detail.	<b>04</b>

(c) Give a brief description of four types of natural disasters in India? How will Remote Sensing & GIS technology influence disaster management?

**07**

\*\*\*\*\*