

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- VII EXAMINATION-SUMMER 2023****Subject Code: 3170617****Date: 26/06/2023****Subject Name: Application of GIS in Civil Engineering****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

		MARKS
Q.1	(a) Discuss the application of GIS in water supply and distribution for urban city area.	03
	(b) Write the functions of GIS in hydrological flood assessment.	04
	(c) Write the differences of salient features of ArcGIS and QGIS	07
Q.2	(a) Explain the purpose of georeferencing in QGIS software.	03
	(b) Explain the usefulness of GIS in soil mapping.	04
	(c) Write a note on Land use/Land cover system in India.	07
	OR	
	(c) Explain how GIS is beneficial over traditional practices in solid and hazardous waste management.	07
Q.3	(a) List various analytical tools used in QGIS software for delineation of watershed.	03
	(b) Draw the Flow chart showing the methodology for GIS data processing.	04
	(c) Explain the use of Arc SWAT tool used in ArcGIS software.	07
	OR	
Q.3	(a) Write the process of downloading DEM in ArcGIS.	03
	(b) Describe various types maps used in GIS.	04
	(c) Explain in detail the following: (1) Quadrant count analysis (2) nearest neighbour analysis	07
Q.4	(a) Explain various object-based data models.	03
	(b) Differentiate between Raster data model and Vector data model.	04
	(c) Write a note on methods of transformations used in GIS.	07
	OR	
Q.4	(a) Explain conical map projection with neat sketches.	03
	(b) What do you mean by database? Explain Database Management System.	04
	(c) Explain the concept of dynamic visualization of GIS modelling.	07
Q.5	(a) Explain the criteria for decision making in GIS modelling.	03
	(b) Explain various data sources for GIS.	04
	(c) Write the procedure of TIN analysis in GIS.	07
	OR	
Q.5	(a) Discuss the applications of GIS in water resources.	03
	(b) Differentiate between DTM and DEM.	04
	(c) Explain how the digital terrain model is analyzed in GIS.	07
