Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER V - EXAMINATION – SUMMER 2016

Subject Code: 2650013 **Date:13/05/ 2016**

Subject Name: Geographical Information Systems (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.**

Q.1	**(a)**	What is Map Projection? Explain families of projection and types of projection with figure.	**07**
	(b)	Explain methods of compacting raster data to preserve storage.	**07**
Q.2	**(a)**	List all the vector models. Explain Topological models. Explain the information system in detail by illustrating all spatial and non spatial information systems.	**07**
	(b)	What is Overlay? Explain point in polygon overlay in Vector and Raster.	**07**
		OR	
	(b)	Explain spatial patterns and measurement levels for cartographic objects.	**07**
Q.3	**(a)**	Explain two fundamental methods of representing geographic space in map with example and figures.	**07**
	(b)	Explain High pass filter and Low pass filter.	**07**
		OR	
Q.3	**(a)**	Explain DB structure for managing data.	**07**
	(b)	Explain Slicing method and cut & fill method of statistical surface.	**07**
Q.4	**(a)**	Explain Primary Data and secondary data. Also explain Map preparation and Digitization process.	**07**
	(b)	List all the types of Errors. Explain entity errors and attribute errors.	**07**
		OR	
Q.4	**(a)**	Explain Metadata and metadata standards.	**07**
	(b)	Explain how to calculate or measure polygon length, parameter, area.	**07**
Q.5	**(a)**	Explain Geospatial Database Design in terms of conceptual and logical data modeling.	**07**
	(b)	Explain Nontraditional Cartographic Output.	**07**
		OR	
Q.5	**(a)**	Explain Map Design Controls in GIS output.	**07**
	(b)	Explain s/w development strategies & s/w testing methodology.	**07**

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