GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER– V • EXAMINATION – WINTER - 2016

Subject Code: 650013   **Date:28/11/ 2016**
Subject Name: Geographical Information System
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 GIS? Define applications of GIS. Explain projections in detail with all its types.	**07**
	(b)	What is Overlay in GIS? Explain Point in Polygon, Line in Polygon and Polygon overlay in Raster & Vector.	**07**
Q.2	**(a)**	Explain different methods for compacting raster data in detail.	**07**
	(b)	Write a note on Raster (or field based model) and Vector (or polygon based model)	**07**
		OR	
	(b)	List all Vector models. Explain TIGER & TIN model.	**07**
Q.3	**(a)**	Explain GIS co-ordinates transformations for translation, scale change and rotation.	**07**
	(b)	What is Map? Explain Map preparation and Digitization process.	**07**
		OR	
Q.3	**(a)**	Classify methods of raster input with figure.	**07**
	(b)	Explain roving window (filter).	**07**
Q.4	**(a)**	Explain entity errors and Attribute errors.	**07**
	(b)	What is Buffer? Explain types of buffer and methods of buffer.	**07**
		OR	
Q.4	**(a)**	Explain α (alpha) index as measure of circuitry of linear objects and ϒ (Gamma) index as measure of connectivity of linear objects.	**07**
	(b)	Explain spatial integrity and convexity to measure polygon shape.	**07**
Q.5	**(a)**	Explain Map Design controls in GIS output.	**07**
	(b)	Analyze Logical and Physical Data Modeling for any Geospatial Database.	**07**
		OR	
Q.5	**(a)**	Illustrate Predictive models, Descriptive models and Prescriptive models.	**07**
	(b)	Evaluate non-cartographic & Nontraditional Cartographic output for any GIS output.	**07**

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