Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – WINTER • 2014

Subject Code: 650013 **Date: 08-12-2014**

Subject Name: Geographical Information System

Time: 10:30 am - 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)**	i. What is basic difference between CAC and GIS?	**02**
		ii. State application for which CAC is more suitable than GIS	**01**
		iii. Briefly explain four subsystems of GIS	**04**
	(b)	i. Define Meridians , Parallels , Attribute Pseudo Node and Map Scale	**04**
		ii. Explain spatial measurement levels using example of line object	**03**
Q.2	**(a)**	Explain any two methods of compacting raster data	**07**
	(b)	Explain vector model for surface representation	**07**
		OR	
	(b)	Explain Hybrid and Integrated GIS data model	**07**
Q.3	**(a)**	Explain entity errors of GIS vector data model	**07**
	(b)	i. Explain aggregation function for GIS vector data	**03**
		ii. Explain block function for GIS raster data	**04**
		OR	
Q.3	**(a)**	Explain Euler function / number in context of measuring polygon shape	**07**
	(b)	Explain 2-D Cartesian transformation using example of polygon object	**07**
Q.4	**(a)**	Draw irregular polygon and explain method of determining mean centre	**07**
	(b)	Describe method of measuring polygon length and perimeter	**07**
		OR	
Q.4	**(a)**	Explain importance of tiling and edge matching with respect GIS data storage	**07**
	(b)	Explain difference between CAD type overlay and topological vector overlay	**07**
Q.5	**(a)**	Explain high pass and low pass filter	**07**
	(b)	Explain linear and non-linear interpolation for sampled point data	**07**
		OR	
Q.5	**(a)**	Explain GIS inductive and deductive modeling	**07**
	(b)	Explain cartographic and non-cartographic output	**07**

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