

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MCA - SEMESTER-V • EXAMINATION – SUMMER • 2015**

**Subject Code: 2650013****Date: 11-05-2015****Subject Name: Geographical Information System (GIS)****Time: 02:30 pm to 05:00 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 do you mean by Map Projection? Explain different types with example. **07**  
(b) Explain different file structure for data storage. **07**
- Q.2** (a) What is Error in Digitizing Process? Explain Errors for Raster and Vector. **07**  
Also explain the Rubber Sheeting.  
(b) Explain the Input subsystem. **07**
- OR**
- (b) Explain vector models. **07**
- Q.3** (a) How to calculate Perimeter and Length of Polygons? **07**  
(b) Explain high pass filter and low pass filter. **07**
- OR**
- Q.3** (a) What is the significance of higher level point objects? Explain various methods of **07**  
computing centroid.  
(b) Write a detail note on measuring Polygon Shape. **07**
- Q.4** (a) Explain alpha index and beta index. Explain Gravity Model. **07**  
(b) Define Automatic Overlay Process in Raster data structure. **07**
- OR**
- Q.4** (a) Give the example of cartographic model implementation and verification. **07**  
(b) Describe Point, line, Polygon overlay on Polygon in both Raster and Vector System. **07**
- Q.5** (a) Write short note on map design control in GIS output. **07**  
(b) Explain Logical Data Modeling and Physical Data Modeling. **07**
- OR**
- Q.5** (a) Explain Cartographic Output in detail. **07**  
(b) Explain geographic information system coordinate transformation. **07**

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