

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER– V • EXAMINATION – SUMMER - 2017

Subject Code:650013

Date:08/06/2017

Subject Name: Geographical Information System

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)** List and explain GIS subsystems. **07**
(b) Explain spatial measurement levels. Explain point distribution patterns. **07**
- Q.2 (a)** What is map projection? Explain three families of map projections. **07**
(b) Explain UTM and UPS. **07**
- OR**
- (b)** Explain grid-based and polygon-based methods for representing Point, Line and Area data in GIS. **07**
- Q.3 (a)** Explain higher level point and higher level line objects in detail. **07**
(b) Explain measurement of linear objects for raster as well as vector data. **07**
- OR**
- Q.3 (a)** Explain friction surfaces and barriers in context of functional distance. **07**
(b) 'Classification in GIS is re-classification and relative.' Justify the validity of this statement. **07**
- Q.4 (a)** How is reclassification based on position done in GIS? Write a detailed note on Buffer in GIS. **07**
(b) What is difference between Area and Surface in GIS? Explain the usage of term 'Statistical Surface' in context of GIS. **07**
- OR**
- Q.4 (a)** What is difference between Linear and Non-linear Interpolation? Explain types of Non-linear Interpolation in detail. **07**
(b) Explain usage of gamma index and alpha index for calculating connectivity. **07**
- Q.5 (a)** Explain the terms: ITU, LCGU, Exclusionary Variables Overlay, Mathematical Variables Overlay, Selective Overlay, Identity Overlay and Boolean Overlay. **07**
(b) Explain the map design controls. **07**
- OR**
- Q.5 (a)** Explain any seven applications of GIS. **07**
(b) Explain the map design process. Explain non-traditional output and non-cartographic output. **07**
