

T.Y. B.Sc. (IT) : Sem. VI
Principles of Geographic Information Systems



Time : 2½ Hrs.]

Prelim Question Paper

[Marks : 75

- Instruction :** (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same questions must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.

1. Attempt any **THREE** question of the following : [15]
- (a) Define GIS.
 - (b) Explain the terms 'GISystems', 'GIScience' and 'GIS Application'
 - (c) Explain the term 'database'.
 - (d) Define Geographic phenomena.
 - (e) Explain the concept of geographic objects.
 - (f) Explain the concept of irregular tessellations.
2. Attempt any **THREE** question of the following : [15]
- (a) Explain the hardware and software trends in computers in the past few decades.
 - (b) Write a note on 'GIS Architecture and Functionality'.
 - (c) Define and explain the concept of Spatial Data Infrastructure (SDI).
 - (d) Explain the stage of Spatial Data Presentation.
 - (e) Explain the various reasons for using a DBMS.
 - (f) Explain Spatial Database Functionality.
3. Attempt any **THREE** question of the following : [15]
- (a) Explain how map projections are classified.
 - (b) Explain 2D Polar to 2D Cartesian Coordinate Transformations.
 - (c) Explain the concept of Satellite Based positioning.
 - (d) Explain how to obtain spatial data by 'Direct Capture'.
 - (e) Explain the need to combine spatial data from various sources.
 - (f) Describe the process of Point Data Transformation.
4. Attempt any **THREE** question of the following : [15]
- (a) Explain the classification of Analytical GIS Capabilities.
 - (b) Explain the various spatial selection queries.
 - (c) Explain the technique named 'Classification'.
 - (d) Explain Vector and Raster Overlay Functions.
 - (e) Explain arithmetic operators on raster data.
 - (f) Explain how errors propagate in spatial data processing.
5. Attempt any **THREE** question of the following : [15]
- (a) Explain the visualization process in brief.
 - (b) Describe the various visualization strategies.
 - (c) Explain the types of cartographic data that one can represent using cartographic symbols.
 - (d) Explain how to map various types of data.
 - (e) Explain the concept of Map Cosmetics.
 - (f) Explain the techniques for Map Dissemination.

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T.Y. B.Sc.IT Sem-VI: Paper Discussion Schedule

Date	Day	Timing	Centre
27 April 2019	Saturday	3 pm to 5 pm	Nerul
28 April 2019	Sunday	10 am to 12 pm	Borivali
28 April 2019	Sunday	1 pm to 3 pm	Andheri
29 April 2019	Monday	9 am 11 am	Ghatkopar
29 April 2019	Monday	12 pm to 2pm	Thane
29 April 2019	Monday	3 pm to 5 pm	Dombivali
1 May 2019	Wednesday	10 am to 12 pm	Dadar