

T.Y. B.Sc. (IT) : Sem. VI
Geographic Information Systems
Prelim Question Paper



Time : 2½ Hrs.]

[Marks : 75

Please check whether you have got the right question paper.

- N.B.:
- (1) All questions are compulsory.
 - (2) Make suitable assumptions wherever necessary and state the assumptions made.
 - (3) Answer to the same question must be written together.
 - (4) Numbers to the right indicate marks.
 - (5) Draw neat labeled diagrams wherever necessary.
 - (6) Use of Non-programmable calculators is allowed.

1. Attempt any **TWO** question of the following : [10]
 - (a) List and explain components of GIS.
 - (b) Explain datum with a suitable example.
 - (c) Explain ESRI's Coverage Model
 - (d) State the topology rules associated with Geospatial Data.

2. Attempt any **TWO** question of the following : [10]
 - (a) Explain Metadata with all its categories.
 - (b) Write short notes on :
 - (i) US Geological Survey
 - (ii) Natural Resources Conservation Service
 - (c) Explain Affine Transformations with example.
 - (d) List and explain various resampling methods with suitable example.

3. Attempt any **TWO** question of the following : [10]
 - (a) Explain with example what is meant by Normalization.
 - (b) Explain the different types of maps in GIS.
 - (c) Explain the role of Typography in GIS
 - (d) Explain the various color schemes used in GIS.

4. Attempt any **TWO** question of the following : [10]
 - (a) Explain the various descriptive statistics used in GIS.
 - (b) Explain the concept of Attribute Data Query.
 - (c) Explain the concept of Spatial Data Query.
 - (d) How map comparison can be used for data exploration?

5. Attempt any **TWO** question of the following : [10]
 - (a) Explain the variations in buffering.
 - (b) List and explain various overlay operations.
 - (c) Explain local operations in Raster Data Management.
 - (d) Explain applications of Neighborhood operations.

6. Attempt any **TWO** question of the following : [10]
 - (a) What is spatial interpolation? List the types of spatial interpolations and explain any one.
 - (b) Explain Regression Models in Spatial interpolation.
 - (c) Write a short note on density estimation.
 - (d) Define : (i) Nugget (ii) Range (iii) Sill (iv) Partial Sill (v) Anisotrophy

7. Attempt any **THREE** question of the following : [15]
 - (a) Explain Quad Tree with a suitable example.
 - (b) Explain Conversion of Existing Data in GIS.
 - (c) Explain the process of Map Production.
 - (d) List the various types of graphs used in GIS and explain any two.
 - (e) List the various map manipulation techniques and explain any one.
 - (f) Explain the Inverse distance Weighted Interpolation Method.

Paper Discussion Schedule for TY B.Sc. (IT) Sem. VI

Date	Day	Timing	Centre
28 April 2018	Saturday	10.00 a.m. to 12.00 p.m.	Borivali
28 April 2018	Saturday	1.00 p.m. to 3.00 p.m.	Andheri
29 April 2018	Sunday	1.00 p.m. to 3.00 p.m.	Dadar
29 April 2018	Sunday	4.00 p.m. to 6.00 p.m.	Nerul
30 April 2018	Monday	9.00 a.m. to 11.00 a.m.	Ghatkopar
30 April 2018	Monday	12.00 p.m. to 2.00 p.m.	Thane
30 April 2018	Monday	3.00 p.m. to 5.00 p.m.	Dombivli