

11. What is the approximate flattening of the earth?
 - a. 1:300
 - b. 1:198
 - c. 1:288
 - d. 1:498
12. To which category does the UTM Projection system belong?
 - a. Geographic
 - b. 3-D
 - c. Projected Planar
 - d. Non-geographic
13. Which one the following data source is appropriate for flood mapping?
 - a. LISS-III
 - b. LISS-IV
 - c. RADAR
 - d. LiDAR
14. To which category does TIN data structure belong?
 - a. Vector
 - b. Raster
 - c. Polygon Area Node
 - d. Grids
15. Which of the following extension modules of ArcGIS helps in watershed analysis?
 - a. 3-D Analyst
 - b. Geostatistical Analyst
 - c. Network Analyst
 - d. 3-D, Spatial Analyst and ArcHydro
16. What is the science that deals with shape and size of the earth?
 - a. Geography
 - b. Earth Science
 - c. Cartography
 - d. Geodesy
17. What is RMS error in georeferencing?
 - a. Error of displacement of map coordinates.
 - b. Error of displacement of GCP.
 - c. Error of displacement of map coordinates and GCP.
 - d. Error in digitization.
18. What is the advantage of topological spatial data?
 - a. Geometry is maintained nicely.
 - b. Area is maintained.
 - c. Direction is maintained by the objects.
 - d. Linkage is maintained even after deformation.
19. There 1000 pixels of 10 m spatial resolution in an image. What is the area covered by the image?
 - a. 100 hectares
 - b. 10 hectares
 - c. 1 hectares
 - d. 10,000 sq m
20. In which aspect Network Analysis in GIS will help us?
 - a. To find out direction of movement.
 - b. To find the shortest path of movement.
 - c. To estimate least cost of transportation.
 - d. All of the above.

[PART-B : Descriptive]

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Discuss the advantages of a DEM/DTM. 10
2. a. Define photogrammetry. What are the generations of photogrammetry? 5+5=10
 b. What are the sources of distortions and displacement? Write a brief about relief displacement.
3. a. What is digital image classification? Differentiate between different types of classification. 7+3=10
 b. Why accuracy assessment is done on classified images.
4. a. What is digital image processing? Why it is done? 4+6=10
 b. What is radiometric and geometric correction? Write a short note on types of image enhancement technique.
5. a. What is geoid? How does it differ from an ellipsoid? 2+3+5=10
 b. Define flattening of the earth. Derive an expression for it.
6. a. What are the various kinds of errors in GIS? 3+3+4=10
 b. Can you create a perfect map in GIS? Justify your answer.
7. a. What are the application areas of GIS? 4+6=10
 b. Discuss an application area of GIS with reference to data base requirements and societal benefits.
8. Write a short note on: (*any two*) 5+5=10
 - a. LIDAR technology and its components.
 - b. Spatial data.
 - c. Cartographic capability of GIS.

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