

GEOGRAPHIC INFORMATION SYSTEM

QUESTION BANK**UNIT-1****PART A**

S. No.	Question
1	What is datum?
2	Define GIS.
3	Describe the key components of a GIS
4	What is data model?
5	State the characteristics of GIS.
6	What is geographic coordinate system?
7	Summarize the main characteristics of spatial data.
8	Define topology.
9	Evaluate the outcome of map projection and define what Map projections is.
10	Pointout the difference between data and information.
11	Illustrate the azimuthal Projection.
12	Compose how GIS handles the attribute data.
13	Illustrate with example the Commercial and Free and Open Source GIS Packages.
14	Examine the commonly Used Map Projections.
15	Generalize Datum Accuracy.
16	Differentiate between plan and map.
17	Differentiate raster and vector data.
18	Explain the difference between the spatial and non spatial data.
19	Tabulate few applications of GIS.
20	Discuss the difference between the georelational data model and the object-based data model.

Part B

1	i) Define map Projection. Discuss the various types of map projection. (7)
	ii) Describe in detail the various components of GIS. (6)
2	i) Briefly discuss about the geographic coordinate systems.(7)
	ii) Describe about datum and datum accuracy. (6)
3	i) Illustrate with an example the spatial and attribute data type.(7)
	ii) Examine the influence of maps on the character of spatial.(6)
4	Differentiate NAD27 and NAD83(13)
5	i) Describe in detail the various application of GIS. (7)
	ii) Describe in detail the history of GIS.(6)
6	Discuss the elements of GIS. (13)
7	Illustrate with example : i) Transverse Mercator. (7)
	ii) Lambert Conformal Conic.(6)
8	Analyze the following i) Albers Equal-Area Conic.(7)
	ii) Web Mercator.(6)
9	i) Define BLOB. (7)
	ii) Identify the various types of attribute data.(6)
10	Develop a projected coordinate systems.(13)
11	Explain in detail about Projection File and Predefined coordinate Systems with an example.(13)
12	Analyze the following (i) Scale(5)
	(ii) Lines (4)
13	(iii) Areas (4)
	i) Examine how to Measure Distances on the Earth's Surface.(7)
14	ii) Describe On-the-Fly Projection. (6)
	Explain the various levels of measurement in gis. (13)

Part-C

1	Pointout how the data sets are analyzed by the TIGER/Line file with an example.(15)
2	Compose the application of coordinate that covers the projection and reprojection .(15)
3	Summarize an example from your discipline in which a GIS can provide useful tools for building a model.(15)
4	(i) Generalize any two examples of vector data analysis.(8) (ii) Generalize any two examples of raster data analysis. (7)

UNIT-2

PART A

S. No.	Question
1	Define Spatial Data Model.
2	Define georelational data model.
3	Discriminate the three basic topological relationships of georelational data models.
4	What is Digital Raster Graphics?
5	Define object-based data model.
6	Compare the raster and vector data structures.
7	Pointout how objects are managed in GIS.
8	Define Entity.
9	Discuss raster data compression.
10	Differentiate the three methods of raster data structures.
11	Show the regional quad tree method that divides raster into a hierarchy of quadrants.
12	Develop the data structure for the line and point coverage.
13	Illustrate surface entity.
14	Show the topological structuring of complex areas.
15	Compose the elements of the raster Data model.
16	Discuss how the data structures are classified based on the data.
17	Distinguish georelational data model and the object-based data Model.
18	Summarize raster data model.
19	Describe Digital Orthophotos.
20	Discuss how all the geographical phenomenon can be represented by three main entities.

Part B

1	i)Describe the georelational data model.(7)
	ii)Describe the datastructure for representing the data model such as geodatabase (6)
2	i)Explain the object oriented data model(7)
	ii)Explain how the software developers organize classes.(6)
3	i)Examine how the raster data are divided.(7)
	ii)Illustrate with an example the elements of the rasterData model.(6)
4	Summarize the various digital elevation models(13)
5	i)Define and describe the triangulated irregular network (TIN).(7)
	ii)Examine how TIN is constructed.(6)
6	Describe the following raster data structure (i) Cell-by-Cell Encoding (5) (ii) Run-Length Encoding(4) (iii)Quadtree(4)
7	Summarize raster data compression.(13)
8	Compare the advantages and disadvantages of the raster data model versus the vector data model..(13)
9	i)Examine the GIs data standards.(7)
10	ii)Describe the GML proposed by OGC.(6)
11	Demonstrate the GRID model of GIS with necessary diagram.(13)
12	Explain how the spatial entities are used to create a data model.(13)
13	Describe the following (i)Block Coding.(7) (ii)Chain coding . (6)
14	Discuss the methods for identifying surface significant points.(13)
15	Design the diagram of how geodatabase organizes vector data sets.(13)

PART-C

1	Infer the steps of the application of raster data model. (15)
2	(i) Create a data structure of a region subclass .(8) (ii) Create a data structure of a route subclass. (7)
3	Deduce the steps of the application of vector data model. (15)
4	Generalize how the raster and vector approaches are used to construct point, line and area entities for representation in the computer. (15)

UNIT - 3

PART A

S. No.	Question
1	Define scanning.
2	Describe the advantages of scanning using scanner
3	Summarize the few possible encoding methods for different data sources.
4	Examine the term topology.
5	Classify the topology in spatial data.
6	Analyze the thematic data of spatial data.
7	Pointout the traditional methods of surveying techniques.
8	What is topological errors?
9	Differentiate the point and stream mode digitizing
10	Analyze the classified vector data input.
11	Show how the spatial and attribute data is linked in Gis.
12	Generalize common raster formats.
13	Examine why the scanning method for digitizing involves both rasterization and vectorization.?
14	Illustrate pseudonode.
15	Compose the raster data input.
16	Differentiate Bezier curves and splines.
17	Discuss the Criteria for Choosing Modes of Input.

18	Explain Dangling nodes.
19	Define ODBC.
20	Describe the difference between on-screen digitizing and tablet digitizing.

Part B

1	Define ODBC .How applications are connected to the database through odbc(13)
2	i)Explain in detail the various methods of data input(7)
	ii)Explain the possible encoding methods for different data sources.(6)
3	i)Illustrate what is a scanner(3)
	ii)Illustrate with example the three different types of scanner.(10)
4	Discuss in detail (i)Topology(4) (ii)Adjacency(3) (iii)Containment(3) (iv)Connectivity(3)
5	i)Describe in detail the thematic characteristics of spatial data.(7)
	ii)Describe the scale of measurement with respect to spatial data(6)
6	Describe how data are collected using satellite navigation system or GPS. (13)
7	Give the standards of for spatial data with example.(13)
8	i) Point out the topological consistency rules.(7) ii) Explain the Criteria for Choosing Modes of Input.(6)
9	Describe the three basic steps in using a topology rule(13)
10	Explain how the spatial and attribute data are linked (13)
11	i)Analyze how GPS is used to collect Geospatial data(7)
	ii)Explain with an example GPS based mapping.(6)
12	i)Describe how to represent data using raster model and vector model(7)
	ii)Examine the File Formats for Raster Spatial Data(6)
13	i>Show the Rasterization of Digitized Data(7)
	ii) Demonstrate the File Formats of Vector Spatial data(6)

14	Develop Vectorization of Scanned Images(13)
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PART-C

1	Explain how to reproject a raster data.(15)
2	Summarize how to project a geographic data to a projected coordinate system.(15)
3	Generalize ArcGIS 8 Database Environment(15)
4	Develop ArcGIS Raster File Formats(15)

UNIT - 4
PART A

S. No.	Question
1	List the tools for vector data analysis.
2	Examine how buffering creates area.
3	Summarize few applications of Buffering.
4	List out the overlay methods.
5	Tabulate the difference between the point-in-polygon overlay and line-in-polygon overlay.
6	Pointout what is vector data analysis.
7	Discuss the four basic rules followed in overlay.
8	Describe the three variations in buffering
9	Analyze the nearest neighbor in point pattern analysis.
10	Explain what is silver.
11	Illustrate the buffer zone.
12	Compose Spatial Autocorrelation.
13	Demonstrate Ripley's K-function.
14	Show with an example about least-cost path analysis and shortest path analysis
15	Design network and network analysis
16	Compare and Contrast the Dissolve,clip and eliminate.
17	Discuss the Applications of Pattern Analysis
18	Explain the update and erase in feature manipulation.
19	Define the three types of inlays
20	give the restrictions in network analysis?

Part B

1	Briefly describe the following i) Buffering.(7) ii) Vector overlay(6)
2	i) Explain the error propagation in overlay(7)
	ii) Explain the application of Overlay(6)
3	Illustrate with an example the following (i) Distance measurement(7) ii)pattern analysis.(6)
4	i) Analysis Random and and Nonrandom Patterns(7) ii) Analyze about the 3D views of terrain(6)
5	Give in detail about an application that uses basic tools of vector data analysis including Buffer, Overlay, and Select.(13)
6	Describe in detail Moran's I for Measuring Spatial Autocorrelation(13)
7	i) Discuss the G-Statistic for Measuring the High/Low Clustering.(7)
	ii) Express thefeature manipulation.(6)
8	State and discover how to inlay the information directly within the page. (13)
9	Analyze the following (i)shortest path problem(7) (ii)Travelling salesperson problem(6)
10	Describe the following i)vehicle Routing Problem(7) ii) Closest Facility(6)
11	Develop the Allocation and Location–Allocation in network analysis(13)
12	Describe in detail about digital education model(13)
13	i)Mention and analyze the 3d data collection(7) ii) Explain what is 3D draping,show how DEMS and TINs provide surface for 3D views and 3D draping.(6)
14	Describe in detail about 3d utilization.(13)

Part C

1	Analyze a scenario in which Intersect is preferred over Union for an overlay operation.(15)
2	Both Moran's I and the G-statistic have the global (general) and local versions. How do these two versions differ in terms of pattern analysis? Conclude your answer (15)
3	The objective is to find the shortest route between two cities in <i>uscities.shp</i> on the interstate network. The shortest route is

	defined by the link impedance of travel time. The speed limit for calculating the travel time is 65 miles/hour. Helena, Montana, and Raleigh, North Carol. Design the shortest route (15)
4	Create a Geodatabase Network Dataset (15)

UNIT - 5

PART A

S. No.	Question
1	Tabulate the three categories of GIS applications.
2	Describe the business application of GIS.
3	Assess Location-Based Services.
4	Define GIS application.
5	What are the four trends in marketing?
6	Analyze how to create route.
7	Point out How did we navigate before using GPS.
8	Give the four types of route.
9	Express how we navigate using GPS.
10	point out few Current problems in natural resource management
11	Illustrate the software needed for tracking vehicle.
12	Develop how GIS infiltrates the areas of IT.
13	Demonstrate how does GIS fit into natural resource management?
14	Discover how Tracking system technology was made possible by the integration of three new technologies.
15	Develop corporate GIS.
16	Express Few applications of GIS.
17	Discuss multi-department GIS.
18	Summarize the market predictions.
19	Give a diagram for the development of GIS application.
20	Describe NAVSTAR.

Part B

1	Briefly describe the business application of GIS(13)
2	Describe the following i) Simple route(7) ii) Combined route(6)
3	i) Describe about the marketing application(7) ii) Discuss the four trends in marketing(6)
4	i) Illustrate how gis type functionality is useful in navigation(7) ii) Demonstrate an example of GIS.(6)
5	Analyze in detail about natural resource management.(13)
6	i) Summarize the Current problems in natural resource management(7) ii) Explain why do institutions need an AVL and/or Dispatch system(6)
7	i) Analyze who needs AVL .(7) ii) Explain how dynamic segmentation is used to manage the data in fleet management.(6)
8	i) Describe in detail about Dispatching.(7) ii) Describe an example of how market production exist.(6)
9	i) Generalize Secondary Menu.(7) ii) Develop the components of modern AVL system(6)
10	Describe the following i) Split route(7) ii) Looping route(6)
11	i) Discuss how gis is useful in tracking the vehicle.(7) ii) Discuss real time example of traffic map(6)
12	Infer the various market predications.(13)
13	Tabulate Navistar in geographic information system.(13)
14	Explain and illustrate how GPS is useful in navigation and tracking devices. .(13)

PART-C

1	Develop a case study for the business applications. What was the most important for the success of an application.(15)
2	Summarise in detail about the application of GIS in Waste Collection & Municipal Operations.(15)
3	Develop AVL for Courier Operations at Aramex .(15)

