1804N233

Candidate's Seat No :_____

M.Sc Semester-2 Examination
GIN: 408
Spatial Database and Modeling

Time: 2.30 Hrs.

Total Marks: 70

Q1 a) Define Geospatial database. Explain how point, line and polygon are represented in raster and vector data model with diagram.

(7 marks)

b) Explain and enlist in order each of the keywords/language elements of SQL used for viewing records.

(7 Marks)

OR

(a) Define geographic information system. What are advantages of using SQL?

(7 marks)

(b) Explain the following SQL commands:

    (i)   ROLLBACK:
    (ii)   GRANT
    (iii)   REVOKE
    (iv)   DROP
    (v)   DELETE
    (vi)   TRUNCATE

(7 marks)

Q2(a) Elaborate upon three types of data languages used in SQL. Give example of theSQL with SYNTAXfor each of the three types.

(7 marks)

(b) What is the difference between Database schema and Database instance?

(7 marks)

OR

(a)What is the difference between raster and vector data model?

(7 marks)

(b) (i)What is Data model? Explain with diagram.
    (ii) Briefly enlist the responsibilities of an administrator in managing a database.**(7 marks)**

Q3(a) Explain how integrity constraints is implemented in database using SQL?

(7 marks)

(b) Explain with example how foreign key constraint is implemented on column level and on table in DBMS.

(7 marks)

OR

(a) (i)Elaborate upon the four types of Join operations implemented in DBMS.
    (ii)Explain with example how inner join is applied in Geo-database.

(7 marks)

(b) (i) Explain briefly database Normalization (1 NF,2NF,3NF).

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(ii) What are three characteristics of Geographic data? How is Geospatial database different fromRelational database? **(7 marks)**

Q4 (a)What is the difference between File system and Database? **(7 marks)**

(b) (i)Define four types of measurement used in representation of spatial data
(ii)Define three types of errors observed in geospatial database.

(7 marks)

OR

(a) What is the difference between Hierarchical,Network and Relational Data models?

(7 marks)

(b) Explain the following terms: **(7 marks)**

(i) Accuracy
(ii) Precision
(iii) Lineage
(iv) Logical consistency
(v) Completeness
(vi) Attribute accuracy
(vii) Composite Key

MCQ: (Any Seven out of Twelve) **(7 marks)**

1. Different databases can have same table names (True/False)
2. _____ are used to establish relationships among records physically in Hierarchical model.
3. An attribute table can be created for floating point raster file (True/False)
4. In a Relational database model, Cardinality of the table is defined as the number of columns(True/False).
5. Vector model represents _____features whereas raster model represents _____features.
6. Network data model uses _____ graphs instead of the tree-structure.
7. Give any two examples of geographic information systems.
8. Logical consistency in GIS data refers to _____.
9. Completeness concerning data quality in GIS relates to _____.
10. Attribute accuracy in GIS data is assessed through _____.
11. Errors in attribute accuracy within GIS data often result from _____.
12. The objective of normalization within GIS is to _____