

**B.E./ B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2011**

**GEOINFORMATICS ENGINEERING BRANCH**

**THIRD SEMESTER**

2

**GI 9204 DATABASE SYSTEMS**

**(REGULATIONS: 2008)**

Time: 3 hrs

Max. Marks: 100

Draw neat sketches wherever necessary

Answer ALL Questions

**Part – A ( 10 x 2 = 20 mark)**

1. Differentiate data and information with example.
2. List the drawback of file system.
3. List the fundamental operations of the relational algebra.
4. List the reasons for using null values.
5. List the functions of Data Manipulation Language in SQL.
6. Give an example trigger using SQL statements.
7. What is shadowing with respect to database recovery?
8. List the reasons for variable length records.
9. What is property and event in VB?
10. Give an example for XML that describes a table.

**Part – B ( 5 x 16 = 80 mark)**

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|-----|---|----|
| 11. | Discuss different types of database failures and its recovery methods             | 10 |
|     | Explain about Spatial Data BASE   | 6  |
| 12. | a). i Discuss the various hardware and software requirements for DBMS             | 10 |
|     | .ii What is a normalization? Explain 2nd Normal Form with example                 | 6  |
|     | (OR)  |    |
|     | b).i Classify the Database Management Systems                                     | 10 |
|     | .ii Explain the roles of administrator, designer and end user of database System. | 6  |

- 13 a. i Explain how the Codd's rules will help to design RDBMS 12  
 .ii Discuss about the set operations in SQL 4

(OR)

- b.i Notown Records has decided to store information about musicians who perform on its albums(as well as other company data) in a database. 16

- a. Each musician who records at Notown has a SSN, a name, an address and a phone number. Poorly paid musicians often share the same address. No address has more than one phone.
- b. Each instrument that is used in songs recorded at Notown has a name (eg. Guitar, flute, etc..) and musical key (eg. C, B-flat, E-flat).
- c. Each album that is recorded on the Notown label has a title, a copy right, a format (eg. CD or DVD), and an album identifier
- d. Each song recorded at Notown has a title and an author.
- e. Each musician may play several instruments and a given instrument may be played by several musicians.
- f. Each album has a number of songs on it, but no song may appear on more than one album.
- g. Each song is performed by one or more musicians and a musician may perform a number of songs.
- h. Each album has exactly one musician who acts as its producer. A musician may produce several albums.

Design a conceptual schema for Notown and draw an ER diagram for the schema. Indicate all key and cardinality constraints and any assumption that you make. Identify any constraints that you are unable to capture in ER diagram and briefly explain why you could not express them

14. a).i Discuss the use of "with clause " and "sequence " in SQL 6  
 .ii Discuss about the database security 6  
 .iii How embedded SQL will help in DBMS 4

(OR)

- b).i Explain complex queries in SQL with examples 6  
 .ii Discuss about the triggers and its use with examples 6  
 .iii Define Functional dependency and state its use 4

- 15 a).i Explain Dot Net Frame work 8  
 .ii Discuss the various phases of database design process. 8

(OR)

- b).i Describe the ADO .net providers 8  
 .ii Explain ARIES recovery algorithm 8