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B.E./ B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOVEMBER 2011

GEOINFORMATICS ENGINEERING BRANCH

THIRD SEMESTER

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. List the advantages of DBMS.
2. What is data model?
3. List the extended operations of the relational algebra.
4. At what conditions we need to use Null? Give examples
5. List the aggregate functions in SQL. Give any one example.
6. What is the basic structure of a SQL query? Give example.
7. Give an example for EER.
8. What is shadowing with respect to database recovery?
9. Draw the ADO .Net object model diagram
10. Give an example for XML that describes a table.

Part – B (5 x 16 = 80 mark)

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|-----|------|----------------------------------------------------------------------------------|----|
| 11. | i. | List types of database failures and explain Deferred update and Immediate update | 10 |
| | ii. | Explain about spatial topology | 6 |
| 12. | a).i | Discuss the various hardware and software requirements for DBMS | 10 |
| | .ii | What is Functional dependency? Explain 3 rd Normal Form with example | 6 |
| | | (OR) | |
| | b).i | Classify the Database Management Systems | 10 |
| | .ii | Discuss about users and administrators of database System. | 6 |

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- 13 a. i List Codd's rules and discuss its roles in database design. 12
.ii Give the SQL statements for user creation on ORACLE environment that enable the user to connect and use the resources of the database. Explain each statement. 4

(OR)

- b.i Sailors (sid:integer, sname:string, rating:integer, age:float) 16
Reserves (sid:integer, bid:integer, day:date)
Boats(bid:integer, bname:string, colour:string)

Using the above write the following queries in relational algebra

- Find the names of sailors who have reserved boat 103
- Find the names of sailors who have reserved a red boat or a green boat
- Find the colors of boats reserved by Lubber
- Find the names of sailors who have reserved at least one boat
- Find the names of sailors who have reserved Clipper boat
- Find the names of sailors who have reserved a red and a green boat
- Find the names of sailors who have reserved all boats
- Find the names of sailors who have reserved all boats called Interlake

14. a).i Explain ARIES recovery algorithm 6
.ii Discuss about the database security 6
.iii How embedded SQL will help in DBMS 4

(OR)

- b).i Explain write ahead logging and its protocol 6
.ii Discuss about the triggers and its use with examples 6
.iii Discuss about web forms 4

- 15 a).i Explain about Dot Net Frame work and its working process 8
.ii Discuss about evolution of ADO .Net and compare ADO with ADO .Net 8

(OR)

- b).i Draw the ADO .net Architecture and explain its each part in detail 16