



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

GEOINFORMATICS ENGINEERING BRANCH

THIRD SEMESTER - (REGULATIONS: 2004)

GI 274 - INFORMATICS - I

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.
2. What is a database management system (DBMS)?
3. What is a data model and list the data models?
4. What is meant by column filter and row filter in relational algebra?
5. List the reasons for the variable length records.
6. List the different types of joins.
7. Write the SQL statements to create a user who can then be able to connect and use the resources of oracle server.
8. Write the SQL statements to create and store data in a table with an example.
9. What is ODBC and where we need to use it?
10. What is the different between property and event in Visual Basic? Give Example.

Part – B (5 x 16 = 80 mark)

11. Discuss about different types of classification of database based on model, tools, usage, and server configuration.
12. a. How the normalization will help in database design? Discuss with examples on different normalization levels.
OR
b. Explain different type of file organizations with necessary examples.
13. a. Discuss fundamental and additional operations of relational algebra. Write necessary examples.
OR
b. Consider the following information about university database.
 - Professors have an SSN, a name, an age, an rank and a research specialty
 - Projects have project number, a sponsor name, s starting date, an ending date and a budget.
 - Graduate students have an SSN, an age and a degree program
 - Each project is managed by one professor (known as the project's principal

- investigator)
- Each project is worked on by one or more professors (known as the project's co-investigator)
 - Professors can manage and/or work on multiple projects
 - Each project is worked on by one or more graduate students (known as project's research assistants).
 - When graduate students work on a project, a professor must supervise their work on the project. Graduate students can work on multiple projects, in which case they will have a (potentially different) supervisor for each one,
 - Department have a department number, department name, and a main office.
 - Department have a professor (know as the chairman) who runs the department.
 - Professors work in one or more departments, and for each department that they work in, a time percentage is associated with their job.
 - Graduate students have one major department in which they are working on their degree.
 - Each graduate student has another, more senior graduate students (known as a student advisor) who advise him or her on what course to take

Design and draw ER diagram using basic ER model with entities, relationships and attributes. Indicate any key and participation constraints

14. a. Compare the hierarchical, network and relational data models with examples.

OR

- b. List the different types of database failures, recovery types and explain any one recovery algorithm.

15. a. (i) Explain with examples to create views, sequences and assign privileges in Oracle using SQL. (8)
 (ii) Explain about Visual Basic development environment. (8)

OR

- b. (i). Explain the procedure with Visual Basic code how to connect to oracle server using ODBC. (8)

(ii). Explain the structure of SQL query and writes example SQL query statements using aggregate functions. Assume necessary suitable data. (8)