



Date: 22/02/2013

Time: 4.00 pm – 5.30 pm

Answer ALL questions.

QUESTION 01

- 1.1) Explain the difference between data and information.
- 1.2) State three (03) disadvantages of a manual file system.
- 1.3) Name and briefly describe three (03) characteristics of database management system.
- 1.4) State and briefly explain the main steps in database developing.
- 1.5) What are the five (05) major parts of a database system? Briefly explain them.

QUESTION 02

- 2.1) Classify database systems according to the no of users, location, expected type and extent of use.
- 2.2) What is the difference between Data Definition Language (DDL) and Data Manipulation Language (DML)?
- 2.3) Explain three (03) types of relationships that can exist in a relational database model. Give a proper example for each relationship type.
- 2.4) Name the two (02) categories of database models and briefly explain the main difference between them.
- 2.5) What is the main difference between the Hierarchical Data Model and Network Data Model?

QUESTION 03

Consider the following set of requirements for a company database that is used to keep track of branches, suppliers, parts, employees, departments and projects.

- * The company keeps track of each branch's code, name and location. Code identifies each branch uniquely. Some user applications need to refer to the city, province and country of the branch's location. A branch could have multiple departments.
- * A name, mobile number, office phone number and registration number describe each supplier. Both name and registration number have unique values for each supplier.
- * Each part has an id, description and unit price. The value of id is unique for each part. A single part is supplied by many suppliers and one supplier may supply multiple parts.
- * Each employee has an employee number, name, year of appointment and salary. The employee number along with the working department distinguishes each employee. Employees are allowed to work in a single project.
- * A number, an address and title describe each department.
- * Each project has a project code, title, budget and duration. Each project is owned by a particular department. Projects use parts for their work.

Draw an ER diagram to represent the above database.

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