

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE – 27  
M.SC BDA – I SEMESTER  
MID-SEMESTER TEST – AUGUST 2016  
BDA 1516: Database Management

Time: 1 1/2hrs

Max marks:35

Answer any five questions of the following

1. Define the following terms (1 X 7 Marks)
  - a. Data
  - b. Database
  - c. Database management system
  - d. Schema
  - e. Weak entity
  - f. Cardinality ratio
2. Explain the components of database management system and their interactions with the help of a diagram (7 Marks)
3. Define entity and attributes. Explain different types of attributes that occur in the ER model, with an example (7 Marks)
4. Design an E-R diagram for keeping track of the exploits of your favorite sports team. You should store the matches played, the scores in each match, the players in each match and individual player statistics for each match. Summary statistics should be modeled as derived attributes. (7 Marks)
5. Identify all entity types, attributes, relationship types and their degrees in the following case. An organization makes many models of cars, where a model is characterized by a name and a suffix (such as GL or XL which indicates the degree of luxury) and an engine size. Each model is made up from many parts and each part may be used in the manufacture of more than one model. Each part has a description and an id code. Each model of car is produced at just one of the firm's factories, which are located in London, Birmingham, Bristol and Manchester - one in each city. A factory produces many models of car and many types of part although each type of part is produced at one factory only. (7 Marks)
6. List and explain the SQL statements with suitable example (7 Marks)
7.
  - a) Find the names, street address, and cities of residence for all employees who work for 'First Bank Corporation' and earn more than \$10,000. (2 Marks)
  - b) Find the names of all employees in the database who live in the same cities and on the same streets as do their managers. (2 Marks)
  - c) Assume that the companies may be located in several cities. Find all companies located in every city in which 'Small Bank Corporation' is located. (3 Marks)