DipIETE – CS (OLD SCHEME)

Code: DC10 **Subject: DATABASE MANAGEMENT SYSTEMS**
Time: 3 Hours **Max. Marks: 100**

DECEMBER 2010

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after half an hour of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 **Choose the correct or the best alternative in the following:** **(2×10)**

a. What is the basic unit of storage in RDBMS?

(A) Index **(B)** Query
(C) Table **(D)** Data base

b. Which of the following symbol is used in SQL command to get all the columns in a table?

(A) # **(B)** %
(C) @ **(D)** *

c. Which of the following is used to make changes permanent?

(A) Rollback **(B)** Grant
(C) Commit **(D)** Revoke

d. Which of the statement is true for Rollback:-

(A) Command permanently saves the changes made during the transaction execution.
(B) Command undoes the changes made during the transaction execution.
(C) Command deletes all the data in a table keeping the table definition.
(D) None of above.

e. Which of the following is a unique series of number that can be used to generate Primary Key?

(A) Sequence **(B)** Index
(C) View **(D)** Synonym

f. Which of the following refers to a query statement the appears inside another SQL statement.

(A) Subquery **(B)** Grant
(C) Commit **(D)** Revoke

g. A _____ occurs when two schemas use different names to describe the same concept.

  (A) Synonym   **(B)** Index
  (C) Virtual   **(D)** None of the above

h. What is DDL stands for

  (A) Data Definition Language   **(B)** Database Define Language
  (C) Deductive Database Language **(D)** None of the above

i. What is a table called, if it does not have neither Cluster nor Non-cluster Index?

  (A) Sorted table   **(B)** Heap table
  (C) Index table   **(D)** None of the above

j. Which command is used for grant privileges?

  (A) Revoke   **(B)** Grant
  (C) Drop   **(D)** Synonym

**Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.**

Q.2 a. What do you mean by database Approach? Explain with the help of example? **(8)**

  b. What do you understand by conceptual schema? Explain with the help of an example. **(8)**

Q.3   Differentiate between:
  (i)   Constraints and Schema
  (ii) WHERE and HAVING clause in SQL
  (iii) Strong Entity set and Weak entity set
  (iv) Heap File and Sorted File **(16)**

Q.4 a Explain the operations used in Relational Algebra with the help of example? **(8)**

  b. Explain any **FOUR** with the help of examples:
  (i) Primary Key   (ii) Candidate Key
  (iii) Super Key   (iv) Alternate Key
  (v) Foreign Key **(8)**

Q.5 a. What do you mean by Dataware housing? Explain with the help of suitable example? **(8)**

  b Explain the following terms with respect to Network Model.
  (i)   DBTG Set.
  (ii) Implementation of the Network data model. **(8)**

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Q.6 What do you mean by ER Diagram?
Construct an ER diagram of the following and also Identify the entities and the relationships among them.
A book shop has millions of books available and therefore requires a database to track its sales. For each book that is available online ,they store a title , an author , count of the no. Of pages , a regular price , a sale price , information about its availability and a ISBN number. To help customer find the book they require that each book is assigned to categories such as Literature and Fiction or Computing. Each customer who purchases books through the system must open an account, customer's name , mailing address , credit card details and previous purchase are all stored. **(16)**

Q.7 Consider the following relation:
Customer(name,address,state,zip,phone, remarks)
Parts(partnum, description, price)
Orders(orderedon,name,partnum,quantity, remarks)
Write the SQL queries for the following:-
(i) Find out Cartesian product of order and parts.
(ii) What will be the equijoin of tables orders and parts?
(iii) Determine the total order amount for part 'Road bike'.
(iv) Find out details (customers name, date of orderedon, totalvalue) of those customers whose order value is more than the average order value.
(v) Find the list of customer name and their phone numbers.
(vi) Find the total quantity ordered by a customer name "RITESH".
(vii) Determine the total number of parts ordered.
(viii)Find the name of the customer who ordered part number = 500. **(16)**

Q.8 a. Describe the basic structure of the Oracle Database Management Systems. **(8)**

b. What are different data types that can be defined in Oracle database? **(8)**

Q.9 a. What is RDBMS? Write the advantages and disadvantages of a DBMS. When you should not use a DBMS? **(8)**

b. What is Hashing technique? Explain the technique for allowing a hash file to expand and shrink dynamically. What are its advantages? **(8)**