

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 10 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. A query that combines Rows from one or more tables is called_____.

- (A) Union (B) Join
(C) Query (D) None of the above

b. Temporary table given along with a table name in FORM clause is called _____.

- (A) Sub Query (B) Natural Join
(C) Table Alias (D) None of the above

c. What is the degree of a table with 1000 rows and 10 columns?

- (A) 10 (B) 100
(C) 1000 (D) None of the above

d. The Join in which table are compared for equality is called_____.

- (A) Equi Join (B) Self Join
(C) Outer Join (D) None of the above

e. Basic unit of storage in RDBMS is_____.

- (A) Index (B) Query
(C) Table (D) None of the above

f. Which of the following commands is used to get all the columns in a table?

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

g. A_____ is a unique series of number that can be used to generate Primary Key.

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

- h. Which of the following is used to evaluate a query execution strategy?
- (A) Query tree (B) Access plan
(C) Database catalog (D) None of the above
- i. What is the alternate name for a database table ?
- (A) Synonym (B) Index
(C) Virtual (D) None of the above
- j. _____ are the files that keep track of location of each row or group of rows in a table.
- (A) View (B) Object
(C) Index (D) Synonym

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

- Q.2** a. Explain the Advantages of DBMS? (8)
- b. Explain the three schemas Architecture with the help of diagram? (8)
- Q.3** a. Explain the following with the help of suitable example:- (16)
- (i) Primary Key (ii) Insert command
(iii) Alternate Key (iv) Foreign Key
(v) Referential Integrity (vi) Logical Operators
(vii) Order by clause (viii) Natural Join
- Q.4** a. what is normalization? Explain Boyce-codd normal form with the help of suitable example? (8)
- b. What are the difference between functional, Multivalued and Join Dependencies? (8)
- Q.5** a. What do you mean by hashing? Explain the hashing techniques. (6)
- b. What do you mean by indexing? Explain the types of indexing. (6)
- c. What do you mean by B trees and B⁺ trees? (4)
- Q.6** a. Describe the guidelines for relation schemas. (8)
- b. Differentiate 2nd and 3rd normal forms with example. (8)
- Q.7** a. What is rollback? Why it is performed? Write the various commands for Performing the rollback operation in SQL. (10)

- b. What do you mean by View? Justify your answer with the help of command. (6)

Q.8 Consider the following table:

WORKS (Pname, Cname, Salary)
LIVES (Pname, Street, City)
LOCATED-IN (Cname, City)
MANAGER (Pname, Mgrname)

Write the SQL for the following:

- (i) List the names of the people who work for the company Wipro along with the cities they live in.
- (ii) Find the people who work for the company 'Infosys' with a salary more than Rs.50,000/-. List the names of the people, along with the street and city addresses.
- (iii) Find the names of the persons who live and work in the same city.
- (iv) Find the names of the persons who do not work for 'Infosys'.
- (v) Find the persons whose salaries are more than that of all of the 'Oracle' employees.
- (vi) Find the names of the companies that are located in every city where the company 'Infosys' is located. (16)

- Q.9**
- a. What do you mean by Synonyms? Explain the type of Synonyms. (6)
 - b. Differentiate between Char and Varchar data types. (4)
 - c. What do you mean by Entity Relationship model? Also explain the types of relationships. (6)