

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA (Integrated) – SEMESTER – II • EXAMINATION – SUMMER - 2018**

**Subject Code: 2527107****Date: 06/06/2018****Subject Name: Database Management System (DBMS)****Time: 02:30 PM To 05:30 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Short Questions.(any seven) 07**
1. Define Data and Information.
  2. What do you mean by instances and schemas?
  3. What is data dictionary?
  4. Write functionality of DESC command in SQL.
  5. Explain IN and BETWEEN Operator.
  6. Explain limit clause of select statement.
  7. Differentiate DROP and TRUNCATE Command.
  8. \_\_\_\_\_ can be used to retrieve data from multiple tables.  
 A. Embedded SQL.      B. Dynamic SQL.  
 C. Joins.                      D. Views.
  9. Define how AND & OR operator can be used with select statement.
- (b) Explain Database Management System (DBMS) architecture with proper diagram. 07**
- Q.2 (a) Attempt following :**
1. Define Tuples **01**
  2. Explain various mapping cardinality with suitable example. **02**
  3. Explain 2-Tier, 3-Tier Architecture of Dbms. **04**
- (b) Explain Relational Model, Network Model and Hierarchical Model with neat diagram and suitable example. 07**
- OR**
- (b) Explain Codd's 12 Rules in detail. 07**
- Q.3 (a) Explain different types of Relationships. With suitable E-R Diagram And Example. 07**
- (b) Attempt following :**
1. What is Normalization? Explain 1NF, 2NF with suitable example(s). **03**
  2. Explain BCNF with suitable example. **04**
- OR**
- Q.3 (a) What is an entity? what is entity set? Explain ER Modeling with the help of database for a student management system 07**
- (b) Attempt following :**
1. Explain Entity Integrity, Referential Integrity, User – defined Integrity. **03**
  2. differentiate between Specialization and Generalization **04**
- Q.4 (a) Explain attributes and discuss types of attributes. 03**
- What is a constraint in database? Explain types of constraints with a suitable example. **04**
- (b) Specify E-R Symbols and their use. 07**

**OR**

- Q.4** (a) Differentiate between strong and weak entity set. **03**  
Discuss aggregate functions with example(s). **04**  
(b) Draw E-R Diagram for the situation given below: **07**  
A university consists of a number of departments. Each department offers several courses. A number of modules make up each course. Students enrol in a particular course and take modules towards the completion of that course. Each module is taught by a lecturer from the appropriate department, and each lecturer tutors a group of students.

- Q.5** (a) **Attempt following :**  
1. State the differences between COMMIT and ROLLBACK commands. **03**  
2. Write a note on two phase locking protocol. **04**  
(b) Enlist SQL commands for DML. **07**  
Consider following relations and write SQL queries for given statements. Assume suitable constrains.  
job(job-id, job-title, minimum-salary, maximum-salary)  
employee(emp-no, emp-name, emp-salary,dept-no)  
deposit(acc-no, cust-name, branch-name, amount, account-date)  
borrow(loan-no, cust-name, branch-name, amount)  
department (dept-no, dept-name)  
1. Give name of depositors whose branch name starts from 'D'.  
2. Give employee name(s) whose salary is between Rs. 20000 to 30000 and department name is Finance.  
3. Delete borrower details whose amount is less than 25000.

**OR**

- Q.5** (a) **Attempt following :**  
1. Describe GRANT and REVOKE commands. **03**  
2. Explain ACID properties of transaction. **04**  
(b) Enlist SQL commands for DDL. **07**  
Consider following relations and write SQL queries for given statements. Assume suitable constrains.  
Vehicle (v\_id, name, color, price, company)  
Customer (c\_id, name, address, phoneno, email)  
Sell (v\_id, c\_id, sell\_date, and amount)  
1. Add new column tax in vehicle table..  
2. Display vehicle details whose name starts with 'H'..  
3. Display customer detail sell with amount greater then 25000.

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