



12523/E 230

Reg. No.

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**V Semester B.C.A. Degree Examination, October/November 2014**  
**(Repeaters – KUD Syllabus)**

**BCA 503 : DATABASE MANAGEMENT SYSTEM**

Time : 3 Hours]

[Max. Marks : 80

**Instructions :** 1) Answer **any five full** questions.

2) Draw neat labeled diagrams wherever necessary.

1. (a) Define Data and database.  
(b) Discuss actors on the scene.  
(c) Explain the advantages of using DBMS approach. **(2 + 6 + 8)**
2. (a) Define Schema. Give one example.  
(b) Discuss when not to use DBMS.  
(c) Enlist the characteristics of database approach and explain any three of them. **(2 + 6 + 8)**
3. (a) What do you mean by entity and attribute?  
(b) Differentiate between
  - (i) Single valued v/s Multivalued attribute
  - (ii) Stored attribute v/s Derived attribute
  - (iii) Simple attribute v/s Composite attribute  
(c) Explain the various E-R notations with their diagram. **(2 + 6 + 8)**
4. (a) What are unary and binary operators?  
(b) Discuss Insert, Delete and Update operation with one example each.  
(c) Explain the characteristics of relation in detail. **(2 + 6 + 8)**
5. (a) What is
  - (i) Latency
  - (ii) Rotational delay  
(b) Discuss any two storage devices.  
(c) Explain different operations on files. **(2 + 6 + 8)**



6. (a) Explain any two aggregate function in SQL.
- (b) State the queries for the following using relational algebra :
- (i) Find the name of all employees who work on all the projects controlled by department number 2.
- (ii) Retrieve the names and address of all employees who work in 'Research' department.
- (c) Write the syntax for **any four** commands :
- (i) INSERT
- (ii) DELETE
- (iii) UPDATE
- (iv) CREATE TABLE
- (v) DROP
- (vi) ALTER **(2 + 6 + 8)**
7. (a) What is transaction?
- (b) Explain the ACID properties with respect to transaction.
- (c) Explain the operations that a recovery manager should keep track of. Draw the state transition diagram illustrating the states for transaction execution and explain. **(2 + 6 + 8)**
8. Write short notes on **any four** : **(4 + 4 + 4 + 4)**
- (a) Role of DBA
- (b) End users
- (c) DDL and DML
- (d) Normalization
- (e) Locking techniques
- (f) SELECT and PROJECT operations.
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