

67059

M.C.A. 2nd Semester CBCS
Scheme w.e.f. 2016-17

Examination-May, 2017

DATABASE MANAGEMENT SYSTEM

Paper-MCA-204(HC)

Time : 3 hours

Max. Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all. Question no. 1 is **compulsory**. In addition to compulsory question, attempt **four** more questions selecting **one** question from each unit. All questions carry equal marks.

1. **Compulsory Question:**

- (a) What does defining, manipulating and sharing of a database mean ?
- (b) What is recursive relationship type ?
Give an example.

- (d) relational calculus ?
- (e) How does SQL implement the referential integrity constraint of relation data model ?
- (f) Write the Armstrong's inference rules in their basic form.
- (g) When are latches used ?
- (h) How does a stored procedure created in PL/SQL ?

UNIT-I

2. (a) Explain the operations of two-tier client/server architecture. How three-tier client/server architecture is different from it ?
- (b) Describe two alternatives for specifying structural constraint on relationship types with an example.
3. (a) Discuss different types of user-friendly interfaces and database utilities and list the common functions that the utilities perform.

- (b) Why E-R model is considered as high level conceptual model ? Discuss the role of high level data model in database design process.

UNIT-II

4. (a) Discuss the DIVISION operation. How is it represented, and what are the requirements of the numerator and denominator relations ? Explain with an example.
- (b) What is view ? How is it different from table ? How views can be created, altered and destroyed ?
5. (a) Discuss different types of update operations on a relation with an example.
- (b) What are various types of inner join operations ? Why is theta join required ?

UNIT-III

6. (a) Describe conceptually how an SQL retrieval query will be executed by specifying the conceptual order of executing each of the six clauses.
- (b) Illustrate how the process of creating first normal form relations may lead to

multivalued dependencies ? How should the first normalization be done properly so that MVDs are avoided ?

7. (a) Discuss the design and implementation issues for active database.
- (b) Define join dependency and 5NF. Why is 5NF also called project-join normal form ? Illustrate.

UNIT-IV

8. (a) Differentiate between conflict and view serializability. How both of these are tested for a schedule ?
- (b) What is cursor ? Discuss its different types. Name the commands used to control the cursor with their syntax.
9. (a) Discuss the optimistic concurrency control technique. Name its phases. How is minimum overhead reached ?
- (b) Where do stored procedure and functions reside ? Also discuss the steps to execute a procedure or function.
-