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Printed Pages: 1 **Sub Code: RCA 401**

Paper Id: | 2 | 1 | 4 | 4 | 2 | 1 | **Roll No.** | | | | | | | | | | |

MCA

(SEM IV) THEORY EXAMINATION 2017-18

DATABASE MANAGEMENT SYSTEMS

Time: 3 Hours ***Total Marks: 70***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a. What do you mean by DBMS?
b. How entity sets converted to relations?
c. Define joins in relations
d. Write the ways to declare key constraints.
e. Define secondary index.
f. What do you mean by query plan?
g. How compilation of queries is done?

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a. Describe evolution of database systems.
b. Write down the basics for relational model. How E/R diagrams can be converted to relation designs?
c. Discuss simple queries and queries involving more than one relation.
d. Explain various indexes on sequential files.
e. Discuss various issues and models for resilient operations.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a) Discuss various elements of E/R model.
(b) Explain modeling of constraints in E/R model.

4. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write short note on design of relation database schemas.
(b) Discuss extended operators of relational algebra.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a) Discuss relation schema, view and database modifications.
(b) Explain keys, foreign keys and constraints on attributes and tuples.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a) Discuss compressed bitmaps and managing bitmap indexes.
(b) Explain scanning tables and parameters for measuring costs.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a) What do you mean by serial and serializable schedules? Explain conflict serializability.
(b) Discuss concurrency control by timestamps.

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