

Roll No.

67174

MCA 4th Semester (Non CBCS Scheme) Examination – May, 2019

ADVANCED DATABASE SYSTEMS

Paper : MCA-404

Time : Three Hours] [Maximum 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 examination.

Note : Attempt *five* questions in all, selecting at least *one* questions from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) What is object identity ? Explain with example.
- (b) What do you mean by persistent programming language ? Explain.
- (c) What are nested relations ? Give example
- (d) State and explain any *two* query equivalence rules.
- (e) Explain semi-join operation in brief.

- (f) Describe vertical data fragmentation with example.
- (g) What is a trigger ? What its types ?
- (h) Why we need XML ? 16

UNIT – I

2. List the various data abstraction concepts and the corresponding modeling concepts in the EER model. 16
3. Explain the following with examples : 16
 - (i) Participation Constraints
 - (ii) Encapsulation of operations
 - (iii) Type hierarchies
 - (iv) Type constructors

UNIT – II

4. What is semantic query optimization ? Explain in detail. 16
5. (a) Describe the main components of information retrieval system. 8
- (b) Describe Applications of Decision Support Systems in detail. 8

UNIT – III

6. Describe the architecture of parallel databases in detail. 16

7. Describe 3 phase commit protocol in context of recovery mechanism in Distributed DBMS. 16

UNIT – IV

8. Describe Semi-structured data model and various issues related to it. 16
9. Write short notes on : 16
- (a) Multimedia database
- (b) Spatial Database

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