Roll No. .....

# 67174

## M.C.A. 4th Semester
## (with new notes)

## Examination–May, 2015

### Advanced Database Systems (New)

**Paper-MCA-404**

***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 :** Question No. **1** is **compulsory**. Attempt any **four** questions from the remaining four units, selecting at least **one** question from each unit. All questions carry equal marks.

**1.** Write notes on the following :

(a) Define object-oriented database. What are its characteristics?



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(b) What do you mean by data fragmentation? Explain.

(c) Differentiate between Active Databases and Spatial Databases.

(d) What do you mean by data Replication? Explain.

(e) What do you mean by Query processing? Explain.

(f) What do you mean by data mining ?

(g) What do you mean by weak and strong entity type ?

(h) What do you mean by XML? Explain its two applications.

## UNIT-I

2. (a) What do you mean by Extended Entity Relationship Model? Explain it with the help of a suitable example.

(b) Differentiate between RDBMS, OODBMS, ORDBMS.



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3. Explain the following :

(a) Database schema design for OODBMS

(b) Transactions and Concurrency control

## UNIT-II

4. (a) What do you mean by query processing and optimization? Explain with examples.

(b) Write a note on Information Retrieval Systems, Data Analysis and OLAP.

5. (a) Explain the concept of Information Retrieval Decision Support Systems in detail with an example.

(b) What is data mining? List some major applications of data mining.

## UNIT-III

6. (a) What do you mean by distributed database and parallel database system? What are their advantages and disadvantages ? Explain.



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(b) What is client server architecture ? With a neat diagram, explain the Three-tier client server architecture.

**7.** Explain the following :

(a) Query processing in distributed databases.

(b) Concurrency control and recovery in distributed databases.

## UNIT-IV

**8.** (a) What do you mean by semi structured data model? Explain in detail.

(b) What do you mean by Geographic Information Systems? Explain in detail.

**9.** Explain the following in detail :

(a) Spatial databases

(b) Multimedia databases

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