

**M. SC. (COMPUTER SCIENCE) SEM – III (CHOICE BASED  
CREDIT & GRADE SYSTEM) : WINTER - 2017**  
**SUBJECT: ELECTIVE: b) ADVANCED DATABASE MANAGEMENT SYSTEMS**

Day: **Friday**  
Date: **10/11/2017**

**W-2017-0832**

Time: **03.00 PM TO 06.00 PM**  
Max Marks: **60**

**N.B:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the **RIGHT** indicate **FULL** marks.
  - 3) Draw neat diagrams, **WHEREVER** necessary.
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**Q.1** Elaborate the architecture of distributed DBMS in detail with the help of a diagram. **(15)**

**OR**

Explain the purpose of mobile databases and multimedia databases.

**Q.2 A)** Answer any **ONE**: **(08)**

- i) Distinguish between homogenous and heterogeneous systems.
- ii) Discuss various types of constructors available in OODBMS.

**B)** Answer any **ONE**: **(07)**

- i) Describe horizontal fragmentation with example.
- ii) What is network partitioning? Explain in detail.

**Q.3** Answer any **THREE**: **(15)**

- a) How redundancy elimination in a query is achieved? Explain with example.
- b) Explain Query optimization in detail.
- c) How parallel data processing is done?
- d) Define- encapsulation & polymorphism.
- e) What are the advantages of using distributed DBMS reliability measures?

**Q.4** Write short notes on ( **Any THREE**) **(15)**

- a) Scalar operators in temporal database
- b) Query parallelism
- c) Local reliability protocols
- d) DBMS standardization
- e) OODBMS advantages

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