

# 17631

**15162**

**3 Hours / 100 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Assume suitable data, if necessary.

**Marks**

- 1. Attempt any FIVE of the following:** **20**
- a) Define DBMS? State benefits of DBMS?
  - b) Explain different causes of failure of DBMS?
  - c) What are thread to database security.
  - d) What do you mean by Backup and Recovery in DBMS?
  - e) What is mobile database? State components of it?
  - f) State any four data mining techniques. Describe any one.
  - g) What do you mean by data mining and data warehousing?
- 2. Attempt any FOUR of the following:** **16**
- a) Explain recovery concepts in DBMS.
  - b) Explain any four advantages of DBMS.
  - c) Create a table space in Oracle using SQL plus? (Assume required data)
  - d) Explain the features that makes the mobile computing different?
  - e) Write program code in JSP to access database on the server.

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- 3. Attempt any FOUR of the following:** **16**
- a) Explain the Role-based authorization in SQL with a suitable example.
  - b) Explain the shadow paging technique used for the recovery of the DBMS?
  - c) Explain any four features of multimedia databases?
  - d) Explain four benefits of three-tier applications?
  - e) Explain the need of the distributed DBMS?
- 4. Attempt any TWO of the following:** **16**
- a) Draw and explain the architecture of DBMS showing detail components.
  - b) Explain the ARIES recovery algorithm with its details of three passes used in it?
  - c) Explain the specific characteristics of the Internet databases? Also state the advantages and disadvantages of web databases?
- 5. Attempt any TWO of the following:** **16**
- a) What do you mean by access control in DBMS security? Explain two approaches for the access control.
  - b) What is two-tier architecture? Explain with neat diagram. What are three-tier applications and its key considerations.
  - c) (i) Explain the technical need of the digital library.  
(ii) Explain deferred - update technique for recovery.
- 6. Attempt any FOUR of the following:** **16**
- a) Explain the Granting of Privileges by use of the 'GRANT' statement?
  - b) Explain the SGA and PGA used in DBMS?
  - c) What is meant by Database Administrator? State the responsibilities of DBA?
  - d) Explain four components of digital library?
  - e) Describe any four applications of Multimedia databases?
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