

**S.D.E.**  
**M.C.A. Sem -II : WINTER - 2018**  
**SUBJECT : DATA BASE MANAGEMENT THEORY**

Day : Friday  
Date : 30/11/2018

**W-2018-4798**

Time : 02.00 PM TO 05.00 PM  
Max. Marks : 80

**N.B.**

- 1) Attempt any **FIVE** questions from Section – I.
- 2) Attempt any **TWO** questions from Section – II.
- 3) Figures to the right indicate **FULL** marks.
- 4) Answers to both the sections should be written in **SAME** answer book.

**SECTION – I**

- Q.1** Explain characteristics of Database Management System in detail. **(10)**
- Q.2** Explain 3-tier architecture of DBMS with the help of a diagram. **(10)**
- Q.3** What is a data model? Explain different types of data models in detail. **(10)**
- Q.4** Explain the various concepts of Object Oriented Databases. **(10)**
- Q.5** What is a transaction? Explain the different states of transaction. **(10)**
- Q.6** Explain the need for recovery in databases. What are the different recovery techniques? **(10)**
- Q.7** Write short notes on (Any 2): **(10)**
- a) Data Independence
  - b) Sub Queries
  - c) Foreign Key

**SECTION – II**

- Q.8** Draw an Entity Relationship Diagram for Online Railway Reservation System. **(15)**
- Q.9** What is Normalization? Explain its advantages and disadvantages in detail. **(15)**
- Q.10** Explain the following SQL commands with examples: **(15)**
- a) INSERT INTO
  - b) UPDATE
  - c) Aggregate functions

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