

B.C.A. (2010 COURSE SEM- II : WINTER - 2017
SUBJECT: DATABASE MANAGEMENT THEORY

Day: **Thursday**
Date: **09/11/2017**

Time: **10.00 AM TO 01.00 PM**
Max. Marks: **70**

W-2017-1631

N.B:

- 1) **Question 1** is Compulsory.
 - 2) Attempt any **4** from **Q.2** to **Q.7**
 - 3) Figures to the right indicate **FULL** marks.
-

- Q.1** The Railway Reservation System functions as follows: **(14)**
The passenger is required to fill in a reservation form giving details of his journey. The counter clerk ensures whether the place is available. If so, entries are made in the register, tickets are prepared, amount is computed and cash is accepted. A booking statement is prepared in a triplicate from the reservation register. One copy of it is retained as office copy, the other is pasted on the compartment and the third is passed on to the train conductor. Besides booking statements, cash statements is prepared at the end of each shift.
Draw an Entity Relationship Diagram.
- Q.2** Define Data Model. Explain the different types of data models with relevant examples. **(14)**
- Q.3** What is Functional Dependency? Explain the role of functional dependency in the process of Normalization. **(14)**
- Q.4** What is deadlock? Explain how deadlocks can be handled using Time Stamp method. **(14)**
- Q.5** What is shadow page recovery scheme? Compare it with log-based recovery. **(14)**
- Q.6** With relevant examples discuss Data Definition Language and Data Manipulation Language in SQL. **(14)**
- Q.7** Write short notes on **ANY TWO** of the following: **(14)**
- a) Data Mining applications
 - b) ACID properties of Transactions
 - c) Client-Server database

* * *