

B.C.A. SEM-I (2014 COURSE) CBCS : SUMMER - 2018

SUBJECT: DATABASE MANAGEMENT THEORY

Day: **Saturday**
Date: **28/04/2018**

S-2018-1695

Time: **02.00 PM TO 05.00 PM**
Max. Marks: 100

N.B.:

- 1) Attempt any **FOUR** questions from Section –I. Each question carries **15** marks.
 - 2) Attempt any **TWO** questions from Section –II. Each question carries **20** marks.
 - 3) Answers to both the sections should be written in **SAME** answer book.
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SECTION-I

- Q.1** Define database. Explain advantages of database over traditional file processing systems.
- Q.2** Explain CODD's rules in detail.
- Q.3** Explain different symbols used in the construction of Entity Relationship Diagrams.
- Q.4** What are the various security measures that can be implemented in Database system?
- Q.5** What is a Transaction? Discuss ACID properties and states of transactions.
- Q.6** Explain the need for recovery in database systems. Discuss shadow paging recovery scheme in detail.
- Q.7** Write short notes on the following:
- a) Data Independence
 - b) DBMS Interfaces
 - c) Mapping Cardinalities

SECTION-II

- Q.8** Construct an ER diagram for College Management System.
- Q.9** Normalize the following data upto 3NF:
E_No, E_Name, E_Address, E_Phone, Dept_No, Dept_Name,
Dept_Location, Project_No, Project_Name, Project_Location.
- Q.10** What is Relational Algebra? Explain the various relational algebra operators with example.

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