**70423/B 030**

Reg. No. | | | | | | | | |

## II Semester M.Sc.3 Degree Examination, June 2016

## Computer Science

## (Regular)

## DATABASE MANAGEMENT SYSTEM

Time : 3 Hours] [Max. Marks : 80

***Instructions*** : *1) Answer **any FIVE** full questions.*

*2) All questions carry **equal** marks.*

1. (a) What is Database Management System? Discuss the end users of the DBMS and their main activities performed by each of them.

   (b) What is Schema? Explain three levels of schemas with diagram.

2. (a) What is database model? Discuss the commonly used traditional database models with example.

   (b) Distinguish between :

   (i) primary and foreign key

   (ii) weak entity and strong entity

   (iii) functional dependency and multivalue dependency

   (iv) single value attribute and multivalue attribute

3. (a) Discuss the characteristics of a relation (table) with suitable example.

   (b) What is RAID? Explain the different levels of RAID technology.

4. (a) Explain the entity integrity and referential integrity rules with illustrative examples.

   (b) Explain the following relation algebra operations with examples for each.

   union, selection, theta-join and division

5. (a) What is the importance of file organization? Explain the techniques of ordered and unordered file organization with suitable example.

   (b) With relevant examples discuss the following in SQL :

   (i) Data Definition Language

   (ii) Views

6. (a) What is normalization? Explain 1NF and 3NF with relevant examples.

   (b) Define a transaction. Explain ACID properties of a transaction.

7. (a) Explain testing for serializability with respect to concurrency control schemes. How will you determine, whether a schedule is serializable or not?

   (b) Explain two phase locking protocol for concurrency control.

8. Write short notes on **any TWO** of the following :

   (a) File organization

   (b) Advantages and disadvantages of DBMS

   (c) Embedded SQL

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