Printed Pages : 2 **Roll No.** | | | | | | | | | | | **CS402**

B.TECH.

THEORY EXAMINATION (SEM–IV) 2016-17

DATABASE MANAGEMENT SYSTEM

Time : 3 Hours ***Max. Marks : 100***

Note : *Be precise in your answer.*

SECTION – A

1. Attempt the following: **10 x 2 = 20**

(a) Explain Specialization.
(b) Write Advantages of Database.
(c) Define DML.
(d) Explain Logical data Independence.
(e) Explain Entity Integrity Constraints.
(f) Define 2 NF.
(g) Explain I in ACID Property.
(h) Define schedule.
(i) Define Exclusive Lock.
(j) Define replication in distributed database.

SECTION – B

2. Attempt any five of the following questions: **5 x 10 = 50**

(a) Discuss the role of database administrator.
(b) Explain the Primary Key, Super Key, Foreign Key and Candidate key with example.
(c) Draw an ER diagram of Hospital or Bank with showing the Specialization, Aggregation, and Generalization. Also convert it in to relational schemas and SQL DDL.
(d) Discuss Join and Types with suitable example.
(e) What is Trigger? Explain different trigger with example
(f) Short Notes on the Following**-**
(i) MVD or JD (ii) Normalization with advantages
(iii) BCNF Vs 3NF
(g) What is Log? How is it maintained? Discuss the features of deferred database modification and immediate database modification in brief.
(h) What is Two phase Locking (2PL)? Describe with the help of example.

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**

3. What do you mean by serializability? Discuss the conflict and view serializability with example. Discuss the testing of serializability also.

4. What are multi version schemes of concurrency control? Describe with the help of an example. Discuss the various Time stamping protocols for concurrency control also.

5. Consider the following relation. The Primary key is Roll No, ISBN –Student (Roll No, Name, Branch), Book (ISBN, Title, Author, Publisher), Issue (Roll No, ISBN, Date_of_issue)
Write the query in Relational algebra and SQL of the following-
(i) List the Roll Number and Name of All CSE Branch Student.

https://quescol.com | Free PYQs, Solutions, Syllabus, Notes etc

(ii) Find the name of students who have issued a book of publication 'BPB'.

(iii) List the title and author of all books which are issued by a student name started with a.

(iv) List the title of all books issued on or before 20/09/2012.

(v) List the name of student who will read the book of author named 'Sanjeev'.

quescol.com