

21-12/17

Roll No. ....  
Printed Pages : 3

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BT-3 / D-17

**DATA BASE MANAGEMENT SYSTEM**

**Paper-CSE-205N**

Time allowed : 3 hours]

[Maximum marks : 75

Note :- Attempt five questions in all by selecting atleast one question from each unit. All questions carry equal marks.

**Unit-I**

1. (a) What is the difference between Database user and Database administrator? Explain various functions of Database Administrator? 7+8=15
- (b) What do you mean by data independence? How three tier architecture helps in achieving data independence?
2. (a) Illustrate the various notations used in designing an ER diagram. What is the purpose of these notations? 7+8=15
- (b) Define:
  - (i) Super Key
  - (ii) Strong entity set
  - (iii) Multivalued Attributes

**Unit-II**

3. (a) Consider following schema and represent given statements in relation algebra form.  
T1 (Empno, Ename, Salary, Designation), T2 (Empno, Deptno.)

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[Turn over

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(1) Display all rows for salary greater than 5000.

(2) Display the deptno for the ename = 'syham'

(3) Display Empno, Ename, Deptno and Deptname.

(b) Differentiate between relational algebra and relational calculus. 7+8=15

4. Explain the following:

(a) Alter and Update Statement.

(b) Referential Integrity Constraint

(c) Before and Update operation with Triggers. 5+5+5=15

**Unit-III**

5. (a) Given relation R with attributes A, B, C, D, E, F and set of FDs as A -> BC, E-> CF, B->E and CD-> EF. Find out closure {A, B} + of the set of attributes.

(b) What do you mean by normal form? Why it is required? Discuss the normal form based on primary key with suitable examples. http://www.kuonline.in 7+8=15

6. (a) Explain working of two phase locking protocol.

(b) Explain immediate database modification log based recovery method. Also explain role of check point in log base.

(c) Write short note on query processing. 5+5+5=15

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Unit-IV

7. (a) Explain conflict serializability and view serializability.  
(b) What is deadlock? Explain deadlock detection and prevention policies. 7+8=15
8. (a) What do you understand by protecting against media failures?  
(b) How you can enforce Serializability by locking? Explain. 7+8=15