



**UA-3720**

**First Year B. C. A. (Sem. - II) Examination**

**March/April – 2012**

**Paper - 205 : Database Management System**

Time : 3 Hours]

[Total Marks : 70

**Instructions :**

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fillup strictly the details of signs on your answer book.		Seat No. :
Name of the Examination :		<input type="text"/>
<input type="text" value="FIRST YEAR B. C. A. (SEM. - 2)"/>		<input type="text"/>
Name of the Subject :		<input type="text"/>
<input type="text" value="205 : DATABASE MANAGEMENT SYSTEM"/>		<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="7"/> <input type="text" value="2"/> <input type="text" value="0"/>		<div style="border: 1px solid black; border-radius: 15px; height: 80px; display: flex; align-items: center; justify-content: center;">Student's Signature</div>
Section No. (1, 2,.....) : <input type="text" value="NIL"/>		

(2) Figures on the right side indicate marks.

(3) Take assumption wherever necessary.

**1 Answer following : (any seven) 14**

- (1) What is a NULL value ?
- (2) Name any four Database Management System ?
- (3) What are disjoint and overlapping design constraints ?
- (4) What is candidate key ?
- (5) List the functions of file manager.
- (6) What is Query ?
- (7) How redundancy can be reduced ?
- (8) What is system R ?

**2 Answer in detail : (any three) 18**

- (1) Explain distinction among primary key, candidate key, super key, unique key and foreign key by giving example.
- (2) What is DBA ? How DBA can hide various level and kinds of complexity from database user ?
- (3) What is decomposition ? What are criteria for good decomposition ? Give an example of decomposition that is loss less but not dependency preserving.
- (4) Define DBMS. Explain structural architecture of DBMS.

- 3** Answer following : (any **four**) **12**
- (1) Explain trivial and non trivial dependencies ? Explain by providing appropriate example.
  - (2) Draw an E-R diagram for Banking System.
  - (3) What is the inconsistent values problem ? Include an example not used in the text.
  - (4) Explain the relationship between entity, entity class and entity instance.
  - (5) Name some DBMS applications and its working.
- 4** Answer following : (any **three**) **15**
- (1) Explain the concept of key and their significance.
  - (2) “Not Every BCNF Decomposition is dependency preservation” justify the statement.
  - (3) Explain DML and DDL statements.
  - (4) Explain Trivial and non-trivial dependencies. Write difference between them.
- 5** (a) Write SQL statement to create these tables : **3**
- Suppliers(sid : integer, sname : string, address : string)  
Parts(pid : integer, pname : string, color : string)  
Catalog(sid : integer, pid : integer, cost : real)
- (b) Solve the following queries : **8**
- (1) Find the names of suppliers who supply some red part.
  - (2) Find the most expensive parts supplied by suppliers named Mahesh.
  - (3) Find the parts supplied by every supplier at less than \$200.
  - (4) Find the supplier names of the suppliers who supply a red part that costs less than 100 dollars.
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