NC-1425

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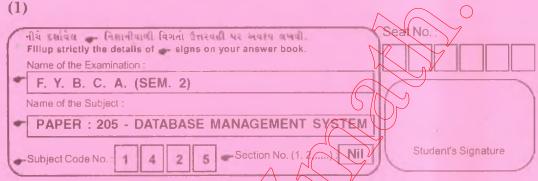# First Year B. C. A. (Sem. II) Examination
September / October – 2011
Paper : 205 - Database Management System

Time : 3 Hours]   [Total Marks : 70

Instructions :

(1)

નીચે દર્શાવેલ ➚ નિશાનીવાળી વિગતનં ઉત્તરપત્રી પર અવશ્ય લખવી.	Seat No.
Fillup strictly the details of ➚ signs on your answer book.	
Name of the Examination :	
➚ **F. Y. B. C. A. (SEM. 2)**	
Name of the Subject :	
➚ **PAPER : 205 - DATABASE MANAGEMENT SYSTEM**	
➚ Subject Code No. 1 4 2 5 ➚ Section No. (1, ...) : **Nil**	Student's Signature

(2)   Figures on the **right** indicate marks.

(3)   Take assumption whenever necessary.

1   Answer following : (any seven)   14
   (1)   Differentiate between 'Instances' and 'Schemas'.
   (2)   What is multi-valued dependency ?
   (3)   What are the disadvantages of normalization ?
          In which condition you need to de-normalize the database ?
   (4)   State difference between column level and row level
          constraints.
   (5)   List out rules derived from Armstong's axioms.
   (6)   Differentiate between partial key and primary key.
   (7)   What is the difference between physical and logical data
          independence ?
   (8)   What is referential integrity ? How you can achieve it ?

2   Answer the following : (any three)   18
   (a)   Draw an E-R diagram for student information system.
   (b)   What is sub-query ? Explain the execution of sub-query.
          Also explain IN operator.
   (c)   What is DBA ? Explain the responsibilities of DBA.
   (d)   What is the purpose of normalization ?
          Write a note on BCNF.

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3   Answer the following : (Any **two**)   14

   (a)   Differentiate between generalization and specialization. Explain generalization with example.

   (b)   Explain file processing system. Explain three major disadvantages of this system.

   (c)   What is purpose of mapping cardinality ? Explain it with example.

4   Answer the following : (any **two**)   14

   (a)   Write a note on various types of attributes.

   (b)   Differentiate between weak and strong entity set.

   (c)   Write a note on strong entity set. Discuss data control statements and their functionality.

5   Consider following relations.
    Player (PID, Name, Type)
    Bowling (PID, OverNo, BallNo, Run)

   (a)   Consider above tables and decide their normal form.   5
         Try to convert it into 4th normal formal (if possible).

   (b)   Using above tables solve following queries :   5

         (1)   Create PID as foreignkey in Bowling relation.

         (2)   Display total number of balls delivered by "Irfan"

         (3)   Display balls in descending order or run.

         (4)   Display OverNo that have more than 6 balls and delivered by "Nehra".

         (5)   Display the total Batsman available in player table.

         (6)   Display the name of player whose name's second letter is 'a' and name length is 10.

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