(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 121651   Roll No.

B.TECH.

Theory Examination (Semester-VI) 2015-16

Database Management System & Data Warehousing Mining

Time : 3 Hours   *Max. Marks : 100*

Section-A

1. **Attempt all parts :**   (10×2=20)

    (a) What are the advantage of DBMS? What are the disadvantages in File Processing System?

    (b) Describe the three levels of data abstraction.

    (c) Define the íntegrity rules

    (d) What is extension and intension?

    (e) Logical Data Independence is more difficult to achieve. Why? Support your answer with example.

    (f) What is a Relation Schema? What is degree of a Relation?

    (g) How data warehouse is different from data mining? Explain.
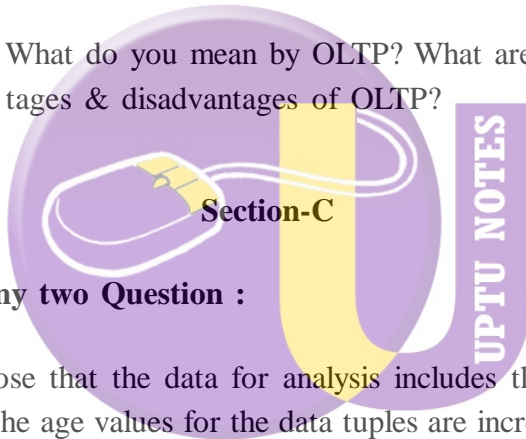
(h)   Explain how Feed Forward propagation is different from Feed Backward Back propagation?

(i)   Define Hierarchical clustering.

(j)   What do you mean by AGNES OR DIANA?

Section-B

2.   Attempt any five parts :   (10×5=50)

(a)   Given two objects represents by the following tuples: (22; 1; 42; 10), and (20; 0; 36; 8),

(i) Compute the Euclidean distance between the two objects.

(ii) Compute the Manhattan distance between the two objects.

(b)   What would happen if there is no rollback mechanism (undo mechanism) in databases? Explain with an example?

(c)   Define each of the following data mining functionalities: characterization, discrimination, association, classification, prediction, clustering, and evolution and deviation analysis. Give examples of each data mining functionality, using a real-life database that you are familiar with.

1   (2)   P.T.O.

(d) Differentiate between :

  i. DBMS Vs RDBMS

  ii. Data Warehousing Vs Data Mining

(e) Write the twelve CODDS Rule given by Dr. E.F.CoDD.

(f) What is the difference between Correlated Vs Non Correlated explain.

(g) What do you mean by OLTP? What are the advantages & disadvantages of OLTP?

Section-C

Attempt any two Question :   (**15×2=30**)

3. Suppose that the data for analysis includes the attributes age, the age values for the data tuples are increasing order

   13 16 16 23 23 25 25 25 25 30 30 30 30 35 35 35 40 40 45 45 45 70

   (i) How might you determine the outliers in the data?

   (ii) What other methods are there for data smoothing?

1   (3)   P.T.O.

4. Write the SQL Query for the following :

    (i)   How can you create an empty table from an existing table?

    (ii) How to fetch common records from two tables?

    (iii) How to fetch alternate records from a table?

5. Suppose that a data warehouse consists of the four dimensions, date, spectator, location, and game, and the two measures: count, and charge, where charge is the fare that a spectator pays when watching a game on a given date.

    (i)   Draw a star scheme diagram for the data warehouse.

    (ii) Starting with the base cuboids [date, spectator, location; game], what specific OLAP operations should one perform in order to list the total charge paid by Big-University spectators at GM Place in 1999?

    (iii) Bitmap indexing is useful in data warehousing. Taking this cube as an example, briefly discuss advantages and problems of using a bitmap index structure.

1   (4)   P.T.O.