B. TECH.

THEORY EXAMINATION (SEM–VI) 2016-17

DATABASE MANAGEMENT SYSTEM, DATA MINING & WAREHOUSING

Time : 3 Hours   *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION-A

1   Explain the following :   (10×2=20)
   a)   What is a Weak Entity. Give Example.
   b)   How is Precedence Graph made to check Serializability
   c)   Explain Fragmentation and its types.
   d)   What do you mean by Multi valued dependency.
   e)   What is the use of Knowledge Base.
   f)   Differentiate between Hierarchal and Network Data Model.
   g)   What do you mean by confidence and support wrt Association Rule Mining.
   h)   How is Nominal variable different from Ordinal variable.
   i)   What is the use of Integration in KDD process.
   j)   How is box plot used in measuring dispersed data.

SECTION-B

2   **Attempt any five of the following :**   **(10×5=50)**
   a)   Describe Classification and Prediction. Also discuss a method regarding Classification.
   b)   Describe the following: i) Concept Hierarchy   ii). Data Mart
   c)   Discuss various types of OLAP Servers.
   d)   What is clustering? How is it different from Classification? Explain any one approach of clustering.
   e)   Explain specialization and generalization feature of ER diagram with example. Construct E-R diagram of the bank. It provides different kinds of bank accounts. And loans. It operates number of branches.
   f)   What is normalization? What is the need for normalization? Explain 3NF with example
   g)   What is non-loss decomposition in database? How it is useful in database? Explain evaluation of expression process in query optimization.
   h)   Explain ACID properties of transaction. Also explain Shadow Paging.

SECTION-C

Attempt any two of the following :   **(15×2=30)**

3   Explain the concept of Market basket Analysis. Describe the basic concepts of Association Rule mining. Also explain Apriori Algorithm.

4.   Explain the following:
      a) PAM
      b) Hierarchical Clustering
      c) Serializability of schedules
      d) Deadlock Handling
      e) Log based Recovery

5   Student (RollNo, Name,Father_Name,Branch)
     Book (ISBN, Title, Author, Publisher)
     SP(RollNo,ISBN,Bate_of_issue)
     Answer the following queries in SQL.

i.   List Roll Number and name of all students of the branch'CSE'.
ii.   Find the name of students who have issued a book published by 'ABC' publisher.
iii. List title of all books and their author issued by a student 'XYZ'.
iv.   List title of all books issued on or before Jan,1,2011.
v.   List all books published by publisher 'ABC'.