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18CS641

Sixth Semester B.E. Degree Examination, July/August 2022
Data Mining and Data Warehousing

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a.   With a neat diagram, explain a Three – Tier Data Warehouse.   **(10 Marks)**
    b.   List and explain Data Warehouse Models.   **(10 Marks)**

OR

2   a.   With suitable example, explain Star schema , Snow Flake schema , Fact Constellation schema for Multidimensional database.   **(10 Marks)**
    b.   Explain OLAP Operations with example.   **(10 Marks)**

Module-2

3   a.   Explain OLAP Data indexing for Bitmap Index and Join index.   **(10 Marks)**
    b.   Differentiate ROLAP , MOLAP and HOLAP Servers.   **(10 Marks)**

OR

4   a.   Explain Data – preprocessing steps and the challenges faced in Data Mining.   **(10 Marks)**
    b.   Briefly explain Similarity and Dissimilarity between the objects. Find the SMC and Jacquard coefficient of Two binary vectors.
      $X = (1, 0, 0, 0, 0, 0, 0, 0, 0, 0)$ $Y = (0, 0, 0, 0, 0, 0, 0, 0, 0, 1)$ **(10 Marks)**

Module-3

5   a.   Explain the rule generation in Apriori Algorithm with example.   **(10 Marks)**
    b.   Explain the Alternative method for generating frequent itemset.   **(10 Marks)**

OR

6   a.   Briefly explain FP growth algorithm.   **(10 Marks)**
    b.   Explain the objective measure of Interestingness for evaluating association patterns.   **(10 Marks)**

Module-4

7   a.   With a neat block diagram, explain general approach to solve classification problems with application.   **(10 Marks)**
    b.   Explain with example, how to build decision tree using Hunt's algorithm.   **(10 Marks)**

OR

8   a.   Explain different method for comparing classifier.   **(10 Marks)**
    b.   Explain the rule based classifier with example.   **(10 Marks)**

Module-5

9   a.   Describe K – means clustering algorithm. What are its limitations?   **(10 Marks)**
    b.   With example, explain Agglomerative Hierarchical clustering with example.   **(10 Marks)**

OR

10   a.   With Time and Space complexity, explain DBSCAN Clustering Algorithm.   **(10 Marks)**
     b.   Explain the BRICH Scalable Algorithm.   **(10 Marks)**

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