

Seat No. : _____

AD-149

April-2019

4th Years Integrated M.Sc. (CA & IT), Sem.-VIII

Data Warehouse and Data Mining

Time : 2:30 Hours]

[Max. Marks : 70

1. Answer the following : (any **two**) **14**
 - (1) List the differences between operational database system and data-warehouse.
 - (2) List and explain the schemas for multidimensional data models.
 - (3) Explain Bitmap index and join index with example.

2. Attempt any **two** : **14**
 - (1) Explain following data reduction techniques.
 - (a) Wavelet transforms.
 - (b) Attribute subset selection
 - (2) Explain data mining application for retail telecommunication industries.
 - (3) Explain the term “Knowledge discovery from data”. List all steps of KDD.

3. Attempt any **two** : **14**
 - (1) Define following :
 - (a) Data Mart
 - (b) Data Warehouse
 - (c) Metadata Repository
 - (d) Virtual Warehouse
 - (e) Data Cube
 - (f) Fact table
 - (g) Dimension table
 - (2) List key features of data warehouse.
 - (3) List the basic clustering methods and give overview of each one.

4. 25 transactions are given below. Minimum support threshold is 50% and confidence is 70%. Apply association rule mining by using Apriori algorithm.

14

TID	Items
1	Biscuits, Bread, Cheese, Coffee, Yogurt
2	Bread, Cereal, Cheese, Coffee
3	Cheese, Chocolate, Donuts, Juice, Milk
4	Bread, Cheese, Coffee, Cereal, juice
5	Brea,Cereal, Chocolates, Donuts, Juice
6	Milk, Tea
7	Biscuits, Bread, Cheese, Coffee, milk
8	Eggs, Milk, Tea
9	Bread, Cereal, Cheese, Chocolates, Coffee
10	Bread, Cereal, Chocolates, Donuts, Juice
11	Bread, Cheese, Juice
12	Bread, Cheese, Coffee, Donuts, Juice
13	Biscuits, Bread, Cereal
14	Cereal, Cheese, Chocolates, Donuts, Juice
15	Chocolates, Coffee
16	Donuts
17	Donuts, eggs, juice
18	Biscuits, Bread, Cheese, Coffee
19	Bread, Cereal, Chocolates, Donuts, Juice
20	Cheese, Chocolates, Donuts, Juice
21	Milk, Tea, Yogurt
22	Bread, Cereal, Cheese, Coffee
23	Chocolates, Donuts, juice, Milk, Newspaper
24	Newspaper, Pastry, Rolls
25	Rolls, Sugar, Tea

5. Attempt any **two** :

14

- (1) List different types of outliers and explain each of them.
- (2) List types of outlier detection methods and explain each of them.
- (3) List types of attributes and explain each by giving suitable example.