ECHELON INSTITUTE OF TECHNOLOGY

Department of Computer Science & Engineering

Title of Assignment: Data Warehouse And Data Mining

Course: BCA (DS), 3rd semester **Session:** July 2023 - Dec. 2023
Date of Issue: 11 August, 2023 **Date of Submission:** 14 August 2023.
Course Unit included: 1 **Max. Marks:** 30 **Assignment Number:** 1st

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Learning Outcomes:

LO1: Understand the basic concepts of data warehouse and architecture .
LO2: Understand multidimensional database schemas.
LO3: Understand basic differences in OLAP and OLTP and type of OLAP .

Question No.1

I. What do you mean by data warehouse ? Why do we need data warehouse ?
II. Explain 3-tier data warehouse architecture with diagram ?

Question No.2

I. What is data marts and metadata?
II. Explain different type of multidimensional database schemas ?

Question No.3

I. What is OLAP and explain different type of OLAP servers ?
II. Difference between OLAP and OLTP ?
III. Difference between DBMA and Data Warehouse ?

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Department of Computer Science & Engineering

Title of Assignment: Data Warehouse And Data Mining

Course: BCA (DS), 3rd semester
Session: July 2023 - Dec. 2023
Date of Issue: 15 August, 2023
Date of Submission: 18 August 2023.
Course Unit included: 2
Max. Marks: 30
Assignment Number: 2nd

Learning Outcomes:

LO1: Understand the basic concepts of data mining and architecture .
LO2: Understand implementation of data warehouse .
LO3: Understand data mining techniques and application .

Question No.1

I. What do you mean by data mining ? Explain data mining techniques ?
II. What are the application areas of data Mining?

Question No.2

I. Explain data warehouse implementation ?
II. What is tuning and testing of data warehouse ?

Question No.3

I. Explain the differences between Knowledge discovery and data mining. ?
II. What is the relation between data warehousing and data mining?

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Assignment No– 3 : Odd/Even Semester 2023-24

Course/Branch : BCA (DS) **Semester : 3rd**
Subject Name : Data Warehouse and Mining **Max. Marks : 20**
Subject Code : BCA-DS-204

CO-3 : *On completion of this course, the student will be able to solve the latest trends of prediction based problems in machine learning.*

Q.1 : Attempt all the questions (Short Answer Type). (2 x 4 = 8 Marks)

a) What is meant by concept hierarchy ?
b) Explain data mining query language ?
c) What is Rough Sets ?
d) Explain Fuzzy Techniques with examples ?

Q.2: What is Clustering? What are different types of clustering ? [4]

Q.3.: What are Decision trees ? How they assist in classifying data ? Explain with the help of suitable example ? [4]

Q4 : You are given the transaction data shown in the Table below from a fast food restaurant. There are 9 distinct transactions (order: 1 – order: 9) and each transaction involves between 2 and 4 meal items. There are a total of 5 meal items that are involved in the transactions. For simplicity we assign the meal items short names (M1 – M5) . Let **min_sup = 2 and min_conf =60% :**

Meal Item	List Of Items
Order :1	M1, M2, M5
Order :2	M2,M4
Order :3	M2,M3
Order :4	M1,M2,M4
Order :5	M1,M3
Order :6	M2,M3
Order :7	M1,M3
Order :8	M1,M2,M3,M5
Order :9	M1,M2,M3

Find all the frequent itemsets using Apriori Algorithm and F – P Growth Algorithm. [4]

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Assignment No– 4 : Odd/Even Semester 2023-24

Course/Branch	**: BCA (DS)**	**Semester**	**: 3rd**
Subject Name	**: Data Warehouse and Mining**	**Max. Marks**	**: 20**
Subject Code	**: BCA-DS-204**		

CO-3 ***:*** *On completion of this course, the student will be able to solve the latest trends of prediction based problems in machine learning.*

Q.1 : Attempt all the questions (Short Answer Type). (2 x 4 = 8 Marks)

a) What is the difference between supervised and unsupervised learning ?
b) Explain Sequence data mining ?
c) What is Multimedia database ?
d) Explain Word Wide Web ?

Q.2 : How genetic algorithm approach assists in the process of classification ? [4]

Q.3 : Explain Support Vector Machines Techniques with examples ? [4]

Q4 : Write short note on the following : [4]

a). Mining spatial database
b). Time-Series Data Mining