





- (ii) Compare and contrast OLTP and OLAP systems. (7)

**(OR)**

- b) (i) What is a Multidimensional data model? Explain the various schemas for implementation of a Data Warehouse. (10)

- (ii) Analyze the various types of Meta Data. (4)

22. a) (i) 'Data Mining as a step in the process of KDD' – Explain with a neat diagram. (7)

- (ii) Explain the various Data Mining Functionalities. (7)

**(OR)**

- b) Explain the need and steps involved in Data Preprocessing with relevant examples.

23. a) (i) Discuss about the process of improving the efficiency of Apriori with an example. (6)

- (ii) (8)

<b>TID</b>	<b>List of Item _ IDS</b>
T <sub>100</sub>	I <sub>1</sub> , I <sub>2</sub> , I <sub>5</sub>
T <sub>200</sub>	I <sub>2</sub> , I <sub>4</sub>
T <sub>300</sub>	I <sub>2</sub> , I <sub>3</sub>
T <sub>400</sub>	I <sub>1</sub> , I <sub>2</sub> , I <sub>4</sub>
T <sub>500</sub>	I <sub>1</sub> , I <sub>3</sub>
T <sub>600</sub>	I <sub>2</sub> , I <sub>3</sub>
T <sub>700</sub>	I <sub>1</sub> , I <sub>3</sub>
T <sub>800</sub>	I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub> , I <sub>5</sub>
T <sub>900</sub>	I <sub>1</sub> , I <sub>2</sub> , I <sub>3</sub>

Find all frequent item sets using Apriori Algorithm.

**(OR)**

- b) The following table shows the mid term and final exam grades obtained by students in a database course.

X	Y
Mid term	Final Exam
72	84
50	63
81	77
74	88
94	90
86	75
59	49
83	79

65	77
33	52
88	74
81	90

- a) Plot the data. Do X and Y seem to have a Linear relationship?
- b) Use the method of least squares to find an equation for the prediction of a student's final exam grade based on the student's mid term grade in the course.
- c) Predict the final exam grade of a student who received 86 in the mid term exam

24. a) (i) List and discuss the various categories of clustering methods. (5)  
(ii) Explain K-means algorithm with a suitable example. (9)

**(OR)**

- b) (i) Discuss about 'Mining Data Streams' with relevant examples. (7)  
(ii) How to apply Sequential pattern Mining in Transactional Databases? (7)

25. a) (i) Explain about Mining Spatial Databases. (7)  
(ii) Discuss about Multimedia Data Mining. (7)

**(OR)**

- b) (i) Discuss about Data Mining applications and various trends in data mining. (7)  
(ii) Write short notes on 'Web Mining'. (7)

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