1.a)   Describe data mining task primitives.
  b)   Explain any three numerosity reduction techniques.

2.a)   What is a data warehouse? How does it differ from a operational database system?
  b)   Explain the attribute oriented algorithm with an example.

3.a)   Explain Apriori algorithm and compare it with vertical data format approach.
  b)   How to mine quantitative multidimensional association rules from relational database? Give illustrations.

4.a)   Describe the steps in classification process.
  b)   Explain roughest approach for classification.
  c)   Discuss the measures for classification accuracy.

5.a)   Differentiate between AGNES and DIANA.
  b)   Discuss the merits and demerits of partition based clustering algorithms.
  c)   Explain OPTICS algorithm.

6.a)   What is sequential pattern mining? Explain any one algorithm.
  b)   List the characteristics exhibit by social network. Describe forest fire model.

7.   What kind of data is stored in spatial database? How is it stored? What data mining functionalities are applicable to spatial database? Explain.

8.   Write technical notes on the following:
       a) Ubiqutous data mining
       b) Data visualization
       c) Audio data mining.

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