

<i>Trans ID</i>	<i>Items Purchased Sold</i>
10	I1, I2, I4
20	I1, I7
30	I7, I5
40	I1, I2, I5
50	I6, I4
60	I6
70	I6, I7
80	I1, I2, I3, I4
90	I3, I5
00	I1, I2

- (c) Define the Association rule mining. How market basket analysis forms the association rules? Discuss basic concepts.

3 Attempt any **four** : **4×5=20**

- (a) What are classification rules and how are decision trees related to them ?
- (b) What is data classification? How it is differ than prediction ?
- (c) Describe the **ID3** algorithm of the decision tree construction. Why is it unsuitable for data mining applications?
- (d) How hypothesis testing and refinement task can be done in datamining using gentic algorithm.
- (e) Describe neural networks techniques for data mining. What are the main difficulties in using these techniques ?
- (f) What is Bayesian classification ? How it classifies the Input data ?

- 4** Attempt any **two** parts : **2×10=20**
- (a) How does clustering differ from classification?
 - (b) What is supervised and unsupervised learning ? Why clustering is known as unsupervised learning ?
 - (c) Describe the genetic algorithms as data mining techniques. What are the main difficulties in using these techniques ?
- 5** Attempt any **two** parts : **2×10=20**
- (a) What is backpropagation Neural Network topology? How it is used in classification?
 - (b) Compare hierarchical clustering and non hierarchical clustering algorithm. Explain the advantages and disadvantages over each other.
 - (c) Write differences between the Nearest Neighbour Data Mining Techniques and Clustering.
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