

C 3137

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Sixth Semester

Computer Science and Engineering

CS 1004 — DATA WAREHOUSING AND MINING

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define data cube. Give an example.
2. What is data mart? Which schema is suitable for data mart?
3. Write the role of data mining in data warehousing.
4. What is meant by concept description?
5. Define (a) Frequent itemset (b) Association rule.
6. Write the use of conditional pattern base in FP-Tree.
7. Distinguish between clustering and classification.
8. Why is naïve Bayesian classification is called 'naïve'?
9. Write short notes on text mining.
10. What kind of association can be mined from multimedia data?

PART B — (5 × 16 = 80 marks)

11. (a) (i) With a neat sketch discuss the data warehouse architecture. (10)
(ii) Discuss the various types of metadata. (6)

Or

- (b) (i) Differentiate OLTP with OLAP system. (8)
(ii) Explain the operations performed on data warehouse with examples. (8)

12. (a) Explain the need and steps involved in data preprocessing. (16)

Or

- (b) (i) List out and describe the primitives for specifying a data mining task. (10)
(ii) Describe how concept hierarchies are useful in data mining. (6)

13. (a) Write an algorithm for FP-Tree construction and explain how frequent itemsets are generated from FP-Tree. (16)

Or

- (b) Discuss Apriori algorithm with a suitable example and explain how its efficiency can be improved. (16)

14. (a) (i) Briefly outline the major steps of decision tree classification. (10)
(ii) What are the advantages and disadvantages of decision tree over other classification techniques? (6)

Or

- (b) (i) Discuss the different types of clustering methods. (8)
(ii) Describe the working of PAM (Partitioning Around Medoids) algorithm. (8)

15. (a) Explain the mining of spatial databases. (16)

Or

- (b) (i) Explain the role of data mining in financial data analysis. (10)
(ii) Discuss about various data mining tools. (6)