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06CS755

Seventh Semester B.E. Degree Examination, Dec. 2014/Jan. 2015
Data Mining

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. What is data mining? Explain the process of knowledge discovery in databases (KDD) with a neat diagram. (08 Marks)
b. Explain the different challenges that motivated the development of data mining technologies. (08 Marks)
c. Define and give examples for : i) Data set ii) Attribute. (04 Marks)
- 2 a. What is data pre – processing? List and explain different steps involved in data pre – processing. (10 Marks)
b. What is similarity and dissimilarity? Explain similarity and dissimilarity measures between simple attributes based on different types of attributers. (10 Marks)
- 3 a. Define classification. Explain general approach for solving a classification problem. (08 Marks)
b. Explain how the decision tree works, with an example. (06 Marks)
c. Explain k – nearest neighbor classification algorithm. (06 Marks)
- 4 a. State and explain different ways to reduce the computational complexity of frequent itemset generation. (06 Marks)
b. List and explain factors affecting the complexity of apriori algorithm. (08 Marks)
c. Explain Brute – Force method for candidate pruning. (06 Marks)

PART – B

- 5 a. Explain different properties of objective measures. (06 Marks)
b. Explain how the FP tree is represented. (08 Marks)
c. Comprehend the Simpson's paradox. (06 Marks)
- 6 a. What is cluster analysis? List and explain different types of clusters. (06 Marks)
b. Write and explain Basic – k – means algorithm. (08 Marks)
c. Explain agglomerative hierarchical clustering. (06 Marks)
- 7 a. Explain descriptive mining of complex data objects. (08 Marks)
b. Explain the following :
i) Spatial data mining ii) Text mining. (12 Marks)
- 8 a. Name any five commercial data mining systems. (05 Marks)
b. Explain the social impact of data mining. (08 Marks)
c. Write a note on data mining trends. (07 Marks)

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