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13MCA442

**Fourth Semester MCA Degree Examination, Dec.2016/Jan.2017**  
**Data Warehousing and Data Mining**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1
  - a. Briefly explain data warehousing. Also explain the different data warehouse models. (10 Marks)
  - b. What is OLAP? List and explain different OLAP server architecture. (10 Marks)
- 2
  - a. What is Data Mining? Explain the different data mining tasks and different types of attributes. (10 Marks)
  - b. With a neat diagram, explain the process of knowledge discovery in databases. Also explain the motivating challenges. (10 Marks)
- 3
  - a. Explain data pre – processing along with its different approaches. (10 Marks)
  - b. Discuss frequent item set generation by means of Apriori principle. (10 Marks)
- 4
  - a. Explain rule based classification technique. Also calculate different impurities measures for the node N using the data given below : (10 Marks)
 

Node N	Count
Class = 0	03
Class = 1	03
  - b. What is Decision tree? Illustrate the Hunts Algorithm for a decision tree induction using a training set. (10 Marks)
- 5
  - a. Briefly explain Nearest Neighbour classifier giving its algorithm and characteristics. (10 Marks)
  - b. What are Bayesian classifiers? Explain how Bayes theorem can be used for classification. (10 Marks)
- 6
  - a. Briefly explain the various data mining applications. (10 Marks)
  - b. With neat diagram, briefly explain alternative methods for generating frequent item sets in Association analysis. (10 Marks)
- 7
  - a. What is Cluster analysis? With an algorithm, explain density based clustering technique. (10 Marks)
  - b. Explain various outlier detection methods. (10 Marks)
- 8 Write short notes on :
  - a. Data cube.
  - b. Origin of data mining.
  - c. Association rule.
  - d. Different types of cluster. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.