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Total No. of Pages : 02

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**M.Tech. (CSE Engg.) Big Data (PIT) (Sem.-3)**  
**INFORMATION RETRIEVAL AND DATA MINING**

Subject Code : CSBE-215

Paper ID : [75065]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWELVE marks.

1.
  - a) What are the different applications of data mining? How data mining can be interfaced with business process?
  - b) What is a snowflake schema? Can it be used for decreasing the dimensionality of the schema? Explain with example
2.
  - a) Explain why mining Descriptive statistical measures in large databases are needed.
  - b) How ROLAP model is different from MOLAP model? Explain with example.
3.
  - a) Explain Bayesian classification. How it help in data classification?
  - b) What is Cluster Analysis? Briefly discuss about types of Data in Cluster Analysis.
4.
  - a. What is a recommender system? How memory based approach is used in recommender system? Explain with example,
  - b) Explain Mining single Dimensional Boolean Association Rules from Transactional Data bases with an illustration.
5. What is data mining? In your answer, address the following :
  - a) Is it another hype?
  - b) Is it a simple transformation of technology developed from databases, statistics, and machine learning?
  - c) Explain how the evolution of database technology led to data mining.
  - d) Describe the steps involved in data mining when viewed as a process of knowledge discovery.

6.
  - a) Data quality can be assessed in terms of accuracy, completeness, and consistency. Propose two other dimensions of data quality,
  - b) In real-world data, tuples with missing values for some attributes are a common occurrence. Describe various methods for handling this problem.
7. Design a data warehouse for a regional weather bureau. The weather bureau has about 1000 probes, which are scattered throughout various land and ocean locations in the region to collect basic weather data, including air pressure, temperature, and precipitation at each hour. All data are sent to the central station, which has collected such data for over 10 years. Your design should facilitate efficient querying and on-line analytical processing, and derive general weather patterns in multidimensional space.
8. Write short notes on :
  - a) Retrieval Models
  - b) Cluster Analysis

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