

**B.Tech. - VIEP - COMPUTER SCIENCE AND  
ENGINEERING (BTCSVI)****Term-End Examination****December, 2015****BICS-020 : DATA WAREHOUSING AND MINING***Time : 3 hours**Maximum Marks : 70*

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**Note :** Answer any *seven* questions. Assume suitable missing data, if any.

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1. (a) Why are concept hierarchies useful in data mining ? Explain. 5
- (b) What is KDD (Knowledge Discovery in Database) ? What are the steps involved in KDD process ? 5
  
2. (a) Define data mining. Give some alternative terms for it. 5
- (b) How is a database design represented in OLAP systems ? Explain. 5

3. What do you mean by cluster analysis ? What are the different types of data used for it and what are the typical requirements of clustering in data mining ? 10
4. (a) What are multi-dimensional association rules ? 5  
(b) Mention few approaches to mining Multi-level Association Rules. 5
5. (a) What is data mart ? When is data mart appropriate ? 5  
(b) What is meant by pattern ? Explain. 5
6. (a) What is ETL (Extraction Transformation Loading) process ? 5  
(b) List any four primitives for specifying a data mining task. Describe any three. 5
7. (a) Discuss spatial data mining. 5  
(b) What is metadata ? Explain. 5
8. Describe the following terms : 10  
(a) Snowflake Schema  
(b) Data Cube  
(c) Smoothing  
(d) Operational Database  
(e) Facts

9. (a) Differentiate between the 'Star schema' and the 'Snowflake schema'. Which is popular in data warehouse design ? 5
- (b) Why is preprocessing of data needed ? Explain. 5
10. Write short notes on any *two* of the following : 2×5=10
- (a) Data Mining Techniques
- (b) Hyper Cubes
- (c) Data Warehouse Architecture
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