

**FACULTY OF INFORMATICS****B.E. IV/IV (IT) I SEMESTER (New) (Main) Examination, Nov./Dec., 2009  
DATA WAREHOUSING & DATA MINING (ELECTIVE – II)****Time : 3 Hours ]****[ Max. Marks : 75****Note :** Answer **all** questions from Part – A. Answer any **five** questions from Part – B.**PART – A****(Marks: 25)**

1. Define data mining and data warehouse. 2 M
2. Define the following OLAP operations : 2 M  
(a) Rollup (b) Drilldown
3. State the Bayes Theorem. 2 M
4. Define the following types of Data in Cluster Analysis : 2 M  
(a) Categorical variable (b) Ordinal variable
5. Define spatial mining and text mining. 2 M
6. Define the following terms : 3 M  
(a) Binning (b) Histogram Analysis
7. State the following terms : 3 M  
(a) Inter Quartile Range  
(b) Five-number Summary
8. Define following terms : 3 M  
(a) Time Series Data  
(b) Web Mining  
(c) Multimedia Data Mining
9. Given two objects represented by the tuples 3 M  
(22, 1, 42, 10) & (20, 0, 36, 8)  
Compute the Euclidean distance between the two objects.
10. Define any three Data Mining functionalities. 3 M

**PART – B****(Marks: 50)**

11. (a) Explain data mining as a step in the process of knowledge discovery with diagram. 5 M  
(b) Explain major issues in Data Mining. 5 M
12. (a) Write the differences between operational databases and data warehousing. 5 M  
(b) Explain normalization techniques in Data Transformation. 5 M

*(This paper contains 2 pages)*

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13. (a) How does the Naïve Bayesian classification work ? Explain. 5 M  
(b) Explain classifier accuracy. 5 M
14. (a) Explain about statistical-based outlier detection and deviation-based outlier detection. 6 M  
(b) Given two objects represented by the tuples 4 M  
(23, 4, 56, 6) and (30, 0, 26, 10)  
Compute the Minkowski distance between the two objects,  
using  $P = 3$ .
15. (a) Explain how to construct spatial Data Cube and spatial OLAP. 5 M  
(b) Explain Spatial Associations and co-location patterns. 5 M
16. Explain how to mine the frequent items using Apriori Algorithm with example. 10 M
17. (a) Write Algorithms for K-means and K-medoids. 5 M  
(b) Discuss about density based methods. 5 M
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