**B.Sc. (Hons.) Computer Science (w.e.f. 2011)**

**CSHT 616 (IV) Data Mining Guidelines**

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| **Sr. No.** | **Units** | **Topics** | **Chapter** | **Reference** | **No. of Lectures** |
|  | Introduction | 1.1 – Why Data Mining? 1.2 – What is Data Mining? 1.4 – What Kinds of Patterns Can Be Mined? | 1 | 1 | 2 |
|  | Data PreProcessing | 2.1 – Data Objects And Attributes Types; 2.2 – Basic Statistical Descriptions of Data (upto page 51) | 2 | 1 | 2 |
|  | 2.2 – Data Quality; 2.3 – Data Preprocessing | 2 | 2 | 6 |
|  | Association Analysis | 6.1 – Basic concepts; 6.2 – Frequent Itemset Mining Methods (upto page 259 ) | 6 | 1 | 12 |
|  | Classification Analysis | 4.1 – Preliminaries; 4.2 – General Approach to Solving a Classification Problem; 4.3 – Decision Tree Induction (till page 165); 4.5 – Evaluating the Performance of a Classifier | 4 | 2 | 7 |
|  | 5.1 – Rule Based Classifier (upto page 212); 5.2 – Nearest Neighbor Classifiers; 5.3 – Bayesian Classifiers (Complete for discrete data and only introduction of Bayes Classifier for continuous attributes) till page 233; 5.7.1 – Alternative Metrics | 5 | 2 | 8 |
|  | Cluster Analysis | 10.1 – Cluster Analysis; 10.2 – Partition Methods; 10.3 – Hierarchical Methods (upto page 462);10.4 – Density Based Methods (upto page 473) | 10 | 1 | 11 |

**Course Books:**

1. Data Mining: Concepts and Techniques, 3rd Edition, Jiawei Han and MichelineKamber
2. Introduction to Data Mining, Pang-Ning Tan,Michael Steinbach, Vipin Kumar, Pearson Education.

**References:**

1. Data Mining: A Tutorial Based Primer, Richard Roiger, Michael Geatz, Pearson Education 2003
2. Introduction to Data Mining with Case Studies, G.K. Gupta, PHI 2006
3. Insight into Data Mining: Theory and Practice, Soman K.P., DiwakarShyam, Ajay V., PHI 2006