Subject : DMBV Module 1:Introduction to Data Mining • data mining with one application Major Issues in Data Mining • data, information and knowledge Explain Data mining and which kind of pattern to be mined • Architecture of data mining KDD process detailed with diagram **Module 2: Data Exploration and Data Preprocessing** Nominal and Ordinal attributes Binary and Numeric attributes • Different types of Attributes with examples • Proximity measure for nominal attribute • Proximity measure for binary attribute Define Data Visualization • Normalization and it's methods • List Five number summary and explain with example • Discuss Histogram & Binning • Analyze Mean, Median, Mode • Analyze why data preprocessing is required • Mean , Median, Mode, Five point summary, Boxplot – Problem Central Tendency **Module 3: Frequent Pattern Mining** • Market Basket Analysis with example • Different applications of association rule mining Frequent Item set in Frequent Pattern Mining with example • Apriori advantage and Disadvantage • The property and applications of Apriori algorithm Support and confidence with example • Apriori Algorithm -Problem

• FP Growth Tree with example

Module 4: Classification

- Confusion Matrix with example
- Measure Precision and Recall with example
- Performance measures in classification techniques
- Differentiate between Classification and Clustering.
- classification and its importance
- Naïve Bayes Classifier and importance of it
- Naïve Bayes Classifier-Problem
- Decision Tree with example

Module 5: Clustering

- Outlier and its detection methods
- Types of Outlier ,Challenges
- K-Mean explanation with example
- K-Medoid explanation with example
- K- Mean --Problem
- Differentiate K-Mean and K-Medoid.
- Hierarchical Clustering : Agglomerative , BIRCH

Module 6: Business Intelligence

- Decision support system
- Business Intelligence Issues
- Business Intelligence & Why is it required
- Business Intelligence Architecture
- Application of Business Intelligence with example.
- The phases in the development of BI system in details.
- Benefits and Issues of Business Intelligence System.
- The main components of Business Intelligence System.