DATA MINING AND ITS APPLICATIONS

1. Introduction:

Data mining: Definitions, KDD v/s Data Mining, DBMS v/s Data Mining. DM techniques, Mining problems. Issues and Challenges in DM, DM Application areas.

2. Association Rules & Clustering Techniques:

Introduction, Various association algorithms like Apriori, Partition, Pineer search etc,. Generalized association rules. Clustering paradigms: Partitioning algorithms like K-Medioid, CLARA, CLARANS; Hierarchical clustering, DBSCAN, BIRCH, CURE; categorical clustering algorithms , STIRR, ROCK,CACTUS.

3.Other DM techniques and Web Mining:

Application of Neural Network, AI, Fuzzy Logic and Generic algorithm. Decision tree in DM. Web Mining. Web content mining ,Web structure Mining. Web usage Mining.

4.Temporal and Spatial DM:

Temporal association rules, Sequence mining, GSP, SPADE, SPIRIT, and WUM algorithms, Episode Discovery, Event prediction, Time series analysis. Spatial Mining ,Spatial Mining tasks. Spatial clustering , Spatial Trends.

5. Data Mining of Image and Video: A Case study.

Image and Video representation techniques, feature extraction, motion analysis, content based image and video retrieval, clustering and association paradigm, knowledge discovery.

Books suggested:

1. Data Mining Techniques :Arun K.Pujari : University Press.
2. Data Mining : Adriaans & Zantinge : Pearson education.
3. Mastering Data Mining: Berry Linoff : Wiley.
4. Data Mining : Dunham : Pearson education.