

**H.N.G. University, Patan**  
**M.C.A(5 Years Integrated Programme) SEMESTER - VII**  
**705 : Data Mining**

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**Unit : 1**

[25%]

**Introduction:** What motivated data mining? Why it is important? Data Mining-one kind of data? Data mining functionalities? Are all patterns interesting? Classification of data mining, Data mining task primitive, integration of data mining system with a database or data warehouse system, major issues in data mining.

**Data Processing:** Why process the data? Descriptive data summarization, data cleansing, data integration and transformation, data reduction, data discretization and concept hierarchy generation.

**Unit : 2**

[25%]

**Data warehouse and OLAP Technology:** What is data warehouse? A multidimensional data model, data warehouse architecture, data warehouse implementation, from data warehousing to data mining.

**Data Generalization :** Attribute oriented Induction.

**Mining frequent patterns, Associations, and correlation :** Basic concepts and a road map, efficient and scalable frequent item-set mining method, mining various kind of association rule, from association mining to correlation analysis, constraints based association mining.

**Unit : 3**

[25%]

**Classification and prediction :** what is classification ? what is prediction? Issues regarding classification and prediction, classification by decision tree, rule based classification, prediction, accuracy and error measures, evaluating the accuracy of a classifier or predictor

**Cluster analysis :** is cluster analysis? Types of data in cluster analysis, a categorization of major clustering method, partitioning method, Hierarchical method.

**Unit-4**

[25%]

**Mining Object, Spatial, Multimedia, Text, and web data :** Spatial data mining, Multimedia data mining, Text mining, Mining the world wide web

**Application and Trends in Data Mining:** Data mining application, Data mining system products and research prototypes, additional themes on data mining, social impacts of data mining, Trends in data mining.

**Text Book:**

1. Data Mining, concept and techniques by Jiawei Han and Micheline Kamber.

**Reference Book:**

1. Data Mining by Reema Theraja.