H.N.G. University, Patan
M.Sc.(C.A. & I.T.) SEMESTER - VII
705 : Data Mining

Unit : 1 **[25%]**

Introduction: What motivated data mining? Why it is imp ortant? 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 min ing.

Data Processing: Why process the data? Descriptive data summarization, data cleansing, data integration and transformation, data reduction, data discreti zation 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 mi ning to correlation analysis, constraints based association mining.

Unit : 3 **[25%]**

Classification and prediction : what is classification ? what is p rediction? 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 th emes 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.