



**BONAM VENKATA CHALAMAYYA INSTITUTE OF
TECHNOLOGY AND SCIENCE (A) :: BATLAPALEM, Andhra
Pradesh, India**

**MCA Course Structure & Syllabus
(Applicable for batches admitted from 2025-2026)**

MCA II Semester
Course code : 25MC2E03

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DATAWAREHOUSING AND DATAMINING

Course Objectives:

Be familiar with mathematical foundations of data mining tools.

- Understand and implement classical models and algorithms in data
- warehouses and data mining Characterize the kinds of patterns that can be discovered by association rule
- mining, classification and clustering. Develop skill in selecting the appropriate data mining algorithm for solving practical problems.

UNIT-I:

Introduction to Data mining, types of Data, Data Quality, Data Processing, Measures of Similarity and Dissimilarity, Exploring Data: Data Set, Summary Statistics, Visualization, Data Warehouse, OLAP and multidimensional data analysis.

UNIT-II:

Classification: Basic Concepts, Decision Trees and model evaluation: General approach for solving a classification problem, Decision Tree induction, Model overfitting: due to presence of noise, due to lack of representation samples, Evaluating the performance of classifier. Nearest Neighbor classifier, Bayesian Classifier, Support vector Machines: Linear SVM, Separable and Non Separable case.

UNIT-III:

Association Analysis: Problem Definition, Frequent Item-set generation, rule generation, compact representation of frequent item sets, FP-Growth Algorithms. Handling Categorical, Continuous attributes, Concept hierarchy, Sequential, Subgraph patterns

UNIT-IV:

Clustering: Overview, K-means, Agglomerative Hierarchical clustering, DBSCAN, Cluster evaluation: overview, Unsupervised Cluster Evaluation using cohesion and separation, using proximity matrix, Scalable Clustering algorithm

UNIT-V:

Web data mining: Introduction, Web terminology and characteristics, Web content mining, Web usage mining, web structure mining, Search Engines: Characteristics, Functionality, Architecture, Ranking of Web Pages, Enterprise search

University Nominee Dr.Suneetha Eluri		Alumni Member Mr.HariSuresh Polisetti	
SubjectExpert:1 Dr. B Kezia Rani		Chairman Mr. AVS M Ganesh	
SubjectExpert:2 Dr.SuneelKumarDuvvuri		Member Mr. G L N V S Kumar	
Representative From Industry Mr.SaiKrishna Narima		Member	



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Text Books:

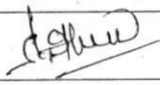
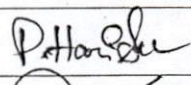
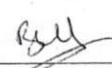
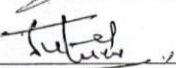
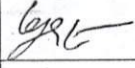
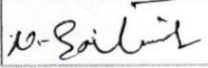
1. Introduction to Data Mining, Tan, Steinbach and Vipin Kumar, Pearson Education, 2016
2. Data Mining: Concepts and Techniques, 2nd Edition, Jiawei Han and Micheline Kamber, ELSEVIER
3. Data Mining, Vikram Pudi and P Radha Krishna, Oxford University Press

Reference Books:

1. Data Mining: The Textbook, Springer, May 2015, Charu C. Aggarwal.

Web resources:

1. <https://nptel.ac.in/courses/106/105/106105174/>
2. https://www.saedsayad.com/data_mining.htm
3. <https://ocw.mit.edu/courses/15-062-data-mining-spring-2003/pages/lecture-notes/>
4. <https://www2.cs.uh.edu/~arjun/courses/dm/>
5. <https://www.rdatamining.com/resources/online-documents-books-and-tutorials>
6. https://dataminingbook.info/book_html/

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