

P.T.V.A.'s
M.L.Dahanukar College of Commerce (Autonomous)

Teaching Plan: 2025 – 2026

Department: Information Technology

Class: M.Sc. (I.T.) (Part I) – Sem-I

Subject: DATA SCIENCE

Name of the Faculty: Supritha Bhandary

Month	Topics to be Covered	Internal Assessment	Number of Lectures
July	DataScience Technology stack: Rapid Information Factory, Ecosystem, Data Science Storage Tools, Data Lake, Data Vault. Layered Framework: Definition of DataScience Framework, Cross-Industry Standard Process for Data Mining (CRISP-DM), Business layer, Utility layer. Three Management Layers: Operational Management Layer, Processing-Stream Definition and Management, Audit, Balance, and Control Layer, Balance, Control, Yoke Solution, Cause-and-Effect, Analysis System.		20
August	Functional Layer, DataScience Process. Retrieve Superstep: Data Lakes, Data Swamps, Training the Trainer Model, Understanding the Business Dynamics of the Data Lake, Actionable Business Knowledge from Data Lakes, Engineering a Practical Retrieve Superstep, Connecting to Other Data Sources. Assess Superstep Assess Superstep, Errors, Analysis of Data, Practical Actions, Engineering a Practical Assess Superstep Process Superstep Data Vault, Time-Person-ObjectLocation-Event Data Vault.		18
September	Data Science Process, Data Science, Transform Superstep, Building a Data Warehouse, Transforming with Data Science, Hypothesis Testing, Overfitting and Underfitting, Precision-Recall, Cross-Validation Test. Transform Superstep: Univariate Analysis Computer Vision(CV)		18
October	Natural Language Processing(NLP), Neural Networks, TensorFlow. Organize and Report Supersteps Organize Superstep, Report Superstep, Graphics, Pictures, Showing the Difference.		04

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M.L. Dahanukar College of Commerce (Autonomous)

Teaching Plan: 2025 - 26

Department: I.T. Class: MSc.(I.T.) Part-I Semester: I

Subject: Soft Computing Techniques

Name of the Faculty: Ms. Rasika Sawant

Month	Topics to be Covered	Internal Assessment	Number of Lectures
July	Unit I a) Introduction of soft computing b) Artificial Neural Network c) Supervised Learning Network		16
August	Unit II a) Associative Memory Networks b) Special Networks c) Third Generation Neural Networks d) Unsupervised Learning Networks		12
September	Unit III a) Introduction to Fuzzy Logic, Classical Sets and Fuzzy sets b) Classical Relations and Fuzzy Relations c) Membership Function d) Defuzzification		16
October	e) Fuzzy Arithmetic and Fuzzy measures Unit IV a) Fuzzy Rule base and Approximate reasoning b) Genetic Algorithm		16

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M.L. Dahanukar College of Commerce (Autonomous)

Teaching Plan: 2025 - 26

Department: I.T.

Class: M.Sc.(I.T.) Part-I

Semester: I

Subject: Cloud Computing

Name of the Faculty: Ms. Sayali Parab

Month	Topics to be Covered	Internal Assessment	Number of Lectures
July	Introduction to Cloud Computing - Introduction, Historical Developments, Building Cloud Computing Environments, Principles of Parallel and Distributed Computing - Eras of Computing, Parallel v/s distributed computing, Elements of Parallel Computing		06
August	Principles of Parallel and Distributed Computing (cont): Elements of distributed computing, Technologies for distributed computing. Virtualization - Introduction, Characteristics of virtualized environments, Taxonomy of virtualization techniques, Virtualization and cloud computing, Pros and cons of virtualization, Technology examples. Logical Network Perimeter, Virtual Server, Cloud Storage Device, Cloud usage monitor, Resource replication, Ready-made environment.		10
September	Cloud Computing Architecture: Introduction, Fundamental concepts and models, Roles and boundaries, Cloud Characteristics, Cloud Delivery models, Cloud Deployment models, Economics of the cloud, Open challenges.		06
October	Fundamental Cloud Security: Basics, Threat agents, Cloud security threats, additional considerations. Industrial Platforms and New Developments: Amazon Web Services, Google App Engine, Microsoft Azure		08

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M.L. Dahanukar College of Commerce (Autonomous)

Teaching Plan: 2025 - 26

Department: I.T.

Class: M.Sc.(I.T.) Part-I

Semester: I

Subject: Research Methodology

Name of the Faculty: Mr. Chayan Bhattacharjee

Month	Topics to be Covered	Internal Assessment	Number of Lectures
July	Unit 1: a) Introduction: Role of Business Research, Information Systems and Knowledge Management, Theory Building, Organization ethics and Issues b) Beginning Stages of Research Process: Problem definition, Qualitative research tools, Secondary data research		16
August	Unit II: Research Methods and Data Collection: Survey research, communicating with respondents, Observation methods, Experimental research		12
September	Unit III: Measurement Concepts, Sampling and Field work: Levels of Scale measurement, attitude measurement, questionnaire design, sampling designs and procedures, determination of sample size		14
October	Unit IV: Data Analysis and Presentation: Editing and Coding, Basic Data Analysis, Univariate Statistical Analysis and Bivariate Statistical analysis and differences between two variables.		14
November	Unit IV: Data Analysis and Presentation (cont): Multivariate Statistical Analysis		04

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