

DATA SCIENCE (844)
SYLLABUS OF CLASS XII
SESSION: 2026-27

Theory : 50 Practical : 50

Date/Month	Unit	Chapter/Topics
6 th April to 10 th April	Unit-I DATA GOVERNANCE	Introduction to Data Governance, Ethical Guidelines, Data Privacy, GDPR, HIPAA, CCPA, COPRA, PDP.
13 th April to 17 th April	UNIT II – EXPLORATORY DATA ANALYSIS	Introduction to Exploratory Data Analysis (EDA), Univariate Analysis, Multivariate Analysis, Data Cleaning: Remove duplicate observation, Remove irrelevant observation, Remove unwanted outliers, Fix Data type issues, Handle Missing Data.
20 th April to 24 th April	EMPLOYABILITY SKILLS UNIT 1: COMMUNICATION SKILLS – IV	1. Importance of active listening at workplace 2. Steps to active listening 3. Writing skills to the following: • Sentence • Phrase • Kinds of Sentences • Parts of Sentence • Parts of Speech • Articles • Construction of a Paragraph
27 th April to 30 th April	EMPLOYABILITY SKILLS UNIT 2: SELF - MANAGEMENT SKILLS – IV	1. Finding and listing motives (needs and desires); 2. Finding sources of motivation and inspiration (music, books, activities); expansive thoughts; living fully in the present moment; dreaming big 3, Describe the meaning of personality 4. Describe how personality influence others 5. Describe basic personality traits 6. Describe common personality disorders- paranoid, antisocial, schizoid, borderline, narcissistic, avoidant, dependent and obsessive
4 th May to 8 th May	UNIT III – CLASSIFICATION ALGORITHMS-I	Introduction to Decision Trees, Application of Decision Trees, Creating Decision Tree.
10 th May to 22 nd May	UNIT IV – CLASSIFICATION ALGORITHMS-II	Introduction to K- Nearest Neighbors, Lazy Learning, Non-Parametric Learning, Pros and Cons of using K-NN, Simple and Intuitive, No Training Step, Good afor Multi-clas problems, Classification and Regression, No Assumptions, Slow and Memory inefficient, Problem with imbalanced Data, Sesitive to outliers, Curse of Dimensionality, Distance Measurements, Cross Validation,
25 th May to 29 th May	EMPLOYABILITY SKILLS UNIT 4: ENTREPRENEURIAL SKILLS- IV	1. Barriers to becoming entrepreneur 2. Behavioral and entrepreneurial competencies– adaptability/ decisiveness, initiative/perseverance, interpersonal skills, organizational skills, stress management, valuing service and diversity 3. Entrepreneurial competencies in particular: self -confidence, initiative, seeing and acting on opportunities, concern for quality, goal setting and risk taking, problem solving and creativity, systematic planning and efficiency, information seeking, persistence, influencing and negotiating, team building
29 th June to 10 th July	EMPLOYABILITY SKILLS UNIT 5: GREEN SKILLS – IV	1. Role of green jobs in toxin-free homes, 2. Green organic gardening, public transport and energy conservation, 3. Green jobs in water conservation 4. Green jobs in solar and wind power, waste reduction, reuse and recycling of wastes, 5. Green jobs in green tourism 6. Green jobs in building and construction 7. Green jobs in appropriate technology 8. Role of green jobs in Improving energy and raw materials use 9. Role of green jobs in limiting greenhouse gas emissions 10. Role of green jobs minimizing waste and pollution 11. Role of green jobs in protecting and restoring ecosystems 12. Role of green jobs in support adaptation to the effects of climate change

13th July to 24th July	EMPLOYABILITY SKILLS UNIT 3: INFORMATION AND COMMUNICATION TECHNOLOGY SKILLS – IV	1. Introduction to spreadsheet application 2. Spreadsheet applications 3. Creating a new worksheet 4. Opening workbook and entering text 5. Resizing fonts and styles 6. Copying and moving 7. Filter and sorting 8. Formulas and functions 9. Password protection. 10. Printing a spreadsheet. 11. Saving a spreadsheet in various formats. ----- 1. Introduction to presentation 2. Software packages for presentation 3. Creating a new presentation 4. Adding a slide 5. Deleting a slide 6. Entering and editing text 7. Formatting text 8. Inserting clipart and images 9. Slide layout 10. Saving a presentation 11. Printing a presentation document
27th July to 7th August	UNIT -V REGRESSION ALGORITHMS -I	Introduction to Linear Regression, Mean Absolute Error, Root Mean Square Deviation
10th August to 28th August	UNIT -VI REGRESSION ALGORITHMS -II	Introduction to Multiple Linear Regression, Non-Linear Regression
31st August to 18th September	UNIT VII- UNSUPERVISED LEARNING	Introduction to Unsupervised Learning, Real World Application of Unsupervised Learning, Recommendation Engines, Medical Imaging, Anomaly Detection, Customer Personas, News Sections, Introduction to Clustering, K-Means Clustering
21st September to 15th October		REVISION OF ALL UNITS