

L. D. Arts College (Autonomous), Ahmedabad

Detailed Syllabus (w.e.f. 2026-27)

Curriculum Designed for: UG		Self-Finance Programme: B.S.
Semester: I	Course No.:115	Course Code: AEC Course Title: Basic of IT Tools and Spreadsheet
Credits: 02	(Theory 50% Practical 50%)	Course Category: Ability Enhancement Course

Course Objectives:

Number	Objective
Objective 1:	Develop digital literacy and IT skills.
Objective 2:	Enable preparation of professional documents.
Objective 3:	Introduce spreadsheet tools for data handling.
Objective 4:	Build data analysis and reporting ability.
Objective 5:	Promote ethical and responsible technology use.

Course Outcomes: On successful completion of the course, the learner will be able to

CO	COGNITIVE ABILITIES	COURSE OUTCOMES
CO1	REMEMBERING	Operate computer systems and manage files.
CO2	UNDERSTANDING	Prepare formal documents.
CO3	APPLYING	Use spreadsheets for data handling.
CO4	APPLYING	Apply formulas and functions.
CO5	ANALYSING	Generate charts and reports.
CO6	IMPLEMENTING	Communicate professionally with cyber safety awareness.

L. D. Arts College (Autonomous), Ahmedabad

Course Contents:

Unit No.	Unit Contents	Sessions Allotted
1	Digital Office Tools, Communication & Productivity • Digital Work Environment • Basics of computer systems, OS usage, MS Office/Google Workspace, cloud working • File Management & Cloud • Folder structure, file sharing, Google Drive/OneDrive, backup & access control • Word Processing • Letters, resume, formatting, tables, PDF export • Digital Communication • Email writing, cyber safety, phishing, data protection, ethics • AI Tools Basics • Spell check, AI drafting, formatting, voice typing, ethical AI use	15
2	Data & Spreadsheet Applications • Data Thinking • Data concept, types, applications, spreadsheet overview • Spreadsheet Basics • Workbook, worksheet, formatting, cell reference • Practical Sheets • Attendance, marks, budget sheet • Formulas • SUM, AVERAGE, COUNT, percentage • Charts & Tools • Sorting, filtering, charts, reports	15

REFERENCES:

1. Vermaat, Misty E. et al. Microsoft Office 365 & Office 2019 Introductory. Cengage Learning.
2. Shelly, Gary B. & Cashman, Thomas J. Discovering Computers. Cengage Learning.
3. Walkenbach, John. Excel Basics to Advanced. Wiley Publications.

Online Learning Resources:

Official Platforms: Microsoft Learn, Microsoft Support, Google Workspace Learning Center

MOOCs & Government: SWAYAM, NPTEL, DIKSHA Portal

Video Learning: Topic-based tutorials and faculty-curated content

Practice Resources: Sample datasets, templates, LMS / Google Classroom assignments

Collaborative Tools: Google Drive, OneDrive, Google Sheets, online forms

L. D. Arts College (Autonomous), Ahmedabad

Curriculum Designed for: UG		Self-Finance Programme: B.S.
Semester: II	Course No.:125	Course Code: AEC Course Title: Advanced Spreadsheet Tools
Credits: 02	(Theory 50% Practical 50%)	Course Category: Ability Enhancement Course

Course Objectives:

Number	Objective
Objective 1:	Develop advanced spreadsheet and data handling skills.
Objective 2:	Enable analysis and interpretation of structured datasets.
Objective 3:	Train students in MIS reporting and presentation.
Objective 4:	Build practical skills for workplace applications.
Objective 5:	Promote analytical and decision-making abilities.

Course Outcomes: On successful completion of the course, the learner will be able to

CO	COGNITIVE ABILITIES	COURSE OUTCOMES
CO1	REMEMBERING	Disciplinary Knowledge
CO2	UNDERSTANDING	Critical Thinking
CO3	APPLYING	Problem Solving
CO4	APPLYING	Communication Skills
CO5	ANALYSING	Digital Literacy
CO6	IMPLEMENTING	Ethics & Professional Responsibility

L. D. Arts College (Autonomous), Ahmedabad

Course Contents:

Unit No.	Unit Contents	Sessions Allotted
1	Advanced Spreadsheet Functions & Data Management • Logical Functions & Conditional Analysis • Concept and syntax of IF function; Nested IF for multi-condition evaluation; IFS (where applicable); IFERROR for handling formula errors; practical applications such as grading systems, eligibility criteria, and classification of data • Lookup & Reference Functions • VLOOKUP (exact and approximate match), limitations of VLOOKUP; introduction to XLOOKUP (latest approach); INDEX and MATCH combination for flexible lookup; referencing across worksheets; real-life applications such as record retrieval and database linking • Data Cleaning & Preparation Techniques • Text functions (LEFT, RIGHT, MID, CONCAT/TEXTJOIN); TRIM and CLEAN for removing inconsistencies; removing duplicates; handling missing/incorrect data; data validation (list, range, custom rules); preparing clean datasets for analysis • Conditional Formatting & Advanced Sorting • Highlight cell rules (greater than, top/bottom values); duplicate value identification; use of color scales and icon sets; multi-level sorting; custom sorting for report preparation and data interpretation • What-if Analysis & Decision Tools • Goal Seek for target-based calculations; Data Tables (one-variable); basic introduction to Solver (conceptual understanding); applications in budgeting, forecasting, and scenario analysis	15
2	MIS Reporting, Data Visualization & Dashboard Basics • Pivot Tables & Data Summarization • Creation of Pivot Tables; organizing large datasets; grouping data (date/category-wise); value field settings (sum, count, average); sorting and filtering within pivot; introduction to Pivot Charts; use of slicers for interactive filtering • MIS Report Preparation & Data Consolidation • Concept and importance of MIS in organizations; structure of daily, weekly, and monthly reports; consolidation of data from multiple sheets; linking worksheets; formatting reports for clarity and presentation; standardization of reporting formats • Data Visualization & Dashboard Design • Principles of data visualization; selection of appropriate charts (column, bar, pie, line); combining charts and tables; use of conditional formatting for visual indicators; designing simple dashboards with clarity and readability • Mini Project (Industry-Oriented Application)	15

L. D. Arts College (Autonomous), Ahmedabad

	• Preparation of a practical project using real-life dataset (e.g., survey data, student performance, NGO activity report, event budget, administrative records); includes data cleaning, analysis, visualization, and report preparation; submission with summary report	
--	---	--

REFERENCES:

1. Roman, Steven. Microsoft Excel Data Analysis and Business Modeling. PHI Learning.
2. Powell, Stephen G. & Baker, Kenneth R. Management Science: The Art of Modeling with Spreadsheets. Wiley.
3. Albright, S. Christian & Winston, Wayne L. Business Analytics: Data Analysis and Decision Making. Cengage Learning.

Online Learning Resources:

Microsoft Learn / Google Workspace
SWAYAM / NPTEL / DIKSHA
Video tutorials
LMS assignments
Cloud collaboration tools