

DSE (stream): Modern Office Management

Advanced Spreadsheet applications

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Advanced Spreadsheet applications	4	1	0	3	Pass in Class XII	NIL

Learning Objectives-

This course is designed to enable students understand and utilize the powerful spreadsheet tools to handle and manipulate huge amounts of data generated through business transactions, use spreadsheet utilities to take business decisions and present complex information in a professional manner.

Learning Outcomes:

After completion of the course, learners will be able to:

1. Handle large data generated through business transactions using advanced spreadsheet tools.
2. Summarize and present data using tables, pivot tables, pivot charts and dashboards.
3. Solve complex business problems using various functions.
4. Use excel add-ins for constraint optimization, summarization and forecasting.
5. Create advanced spreadsheets in various real life business problems.

Course Contents:

Unit 1: Spreadsheet basics (3 Hours)

Spreadsheet concepts, managing worksheets; Formatting cells, conditional formatting, Entering data; Editing, Printing and Protecting worksheets; Handling operators in formula, Project involving multiple spreadsheets; Working with Multiple worksheets; controlling worksheet views; Cell Referencing and Naming of cells and cell ranges.

Unit 2: Data handling (3 Hours)

Sorting, multilayer sorting; data validation; find and replace; paste special; identifying missing values, Filter and advanced filter; Conditional Formatting; Tabulation; flash-fill; Formatting as table.

Unit 3: Spreadsheet Functions and Data Analysis using Spreadsheet (6 Hours)

Formulae vs functions; Cell formulae vs Array formulae; Mathematical functions; Statistical functions; Financial functions; Logical functions; text functions; Date and Time functions; Lookup and reference functions: Hlookup, and Vlookup. Graphical Representation of data using various charts, Organizing

Charts and graphs, advanced Charting Tools; what-if-analysis: Goal-seek, Data tables and Scenario manager; pivot tables, pivot charts and dynamic dashboards.

Unit 4: Real life projects (3 Hours)

EMI calculation and Loan repayment schedule; Payroll statements; Frequency distribution and its statistical parameters; small projects using power functions (sumif, countif, averageif, etc.), evaluating investment projects with equal and unequal cash flows using financial functions, analysing exam results for a college and other similar projects.

Note:

1. The General-Purpose Software referred in this course will be notified by the University Departments every three years. If the specific features, referred to in the detailed course above, is not available in that software, to that extent it will be deemed to have been modified.

Practical exercises (90 Hours)

The learners are required to do the following practical exercises.

- By taking secondary data from a company's income statements and balance sheets for five to ten years, the learners are required to conduct the Ratio Analysis and forecast values for different items of these statements for the next five to ten years.
- Collect data related to different departments, no of employees and different financial indicators of the companies operating in an industry and analyse the collected data using pivot table and dashboards.
- Using logical, mathematical, financial and statistical functions of spreadsheets, the learners are required to analyse the corporate results and rank the firms based on various parameters.
- Collect result data of students of a section in any semester. Perform different calculations such as total, percentage, standard deviation, maximum marks, minimum marks of paper etc. Rank the students using different excel functions.
- Collect data from Sales volume and Price data form any Apparel Store and do the following:
 - Make a chart of monthly sales volume and price data.
 - Make charts showing linear and non-linear demand curves.
 - Analyze the impact of weekends and festive season on the sales volume.
 - Evaluate the impact of different marketing strategies adopted by the store on its sales volume.
 - Make recommendations based on your analysis.

Suggestive Readings:

- Jain, H. C. & Tiwari, H. N. (2021) "Computer Applications in Business" Taxmann, Delhi.
- Madan, S. (2020) "Computer Applications in Business" Scholar Tech Press, Delhi.
- Mathur, S. & Jain, P. Company. "Computer Applications in Business" Galgotia Publishing
- Sharma, S.K. & Bansal, M. (2022) "Computer Applications in Business" Taxmann, Delhi.
- Walkenbach, J. "MS Excel 2016, Bible". John Wiley & Sons, USA.
- Winston, W. L. "MS Excel 2013, Data Analysis & Business Modeling" Microsoft Press, USA.

Additional Sources:

- Benninga, S. "Financial Modelling" The MIT Press, USA.

Note: Suggested readings will be updated by the Department of Commerce and uploaded on Department's website.