

COURSE TITLE	ADVANCED SPREADSHEET TOOLS
COURSE CODE	04GB0208
COURSE CREDITS	2

Course Outcomes: After completion of this course, student will be able to:

- 1 Make meaningful representations of data in the form of charts and pivot tables.
- 2 Draw analysis on data using spreadsheets and use interpretation to make decisions.
- 3 Manage data for generating queries, forms and reports in a database.

Pre-requisite of course:N/A

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	Excel Advanced Techniques Templates, Efficiency, and Risk (Standard Deviation, Variance, and Coefficient of Variation), Data Validation; Functions and Power functions, Array Formulae (Frequency Distribution, mode.mult, mode.sngl), Tables, Advanced Range Names, What-if-analysis: Goal-seek, Data tables, and Scenario Manager , Histogram, Covariance, correlation, and Regression analysis (only for projection), solver add-in. Problem Solving using Solver (optimal product mix, workforce scheduling, transportation, capital budgeting, financial planning), Integrating excel with other tools, Data analysis ToolPak: Descriptive Statistics, Moving averages	15
2	Excel Interactivity and Automation Index and Match, Offset, Dynamic Charting, Database functions, Text functions, Error functions: If Error, Is Error, Aggregate, Circular Reference, Formula Auditing, Floating-Point Errors, Form Controls (Button, Combo, Check box, Spinner, List, Option), Visual Basic (only basic). Recording Macros, Absolute and relative macros, editing macros, Working with External Data, Advanced Uses of PivotTables, PowerPivot, Reporting with PowerPivot, Power query, Dashboard, Creating a spreadsheet in the area of: Loan and Lease statement; Ratio Analysis; Payroll Accounting; Capital Budgeting (NPV & IRR), Portfolio Management	15
Total Hours		30

Textbook :

- 1 Excel Power Programming with VBA, Michael Alexander, Dick Kusleika, Wiley, 2022
- 2 Financial Analysis and Modeling Using Excel and VBA, Chandan Sengupta, Wiley, 2022

References:

- 1 Microsoft Excel Practical Formulae: From Basic Data Analysis to Advanced Formulae, Microsoft Excel Practical Formulae: From Basic Data Analysis to Advanced Formulae, Wayne L. Winston, Microsoft Press, 2021

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
20.00	30.00	25.00	15.00	10.00	0.00