

COURSE TITLE	ADVANCED EXCEL PROGRAMME
COURSE CODE	10BH1607
COURSE CREDITS	3

Objective:

- 1 To provide a deep understanding of advanced Excel functionalities, including complex formulas, data analysis, and automation.
- 2 To equip students with the ability to analyze, organize, and present large datasets effectively using Excel.
- 3 To introduce Excel automation tools like Macros and VBA for efficient task management.
- 4 To develop proficiency in managing and securing data using advanced Excel features.

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

- 1 Apply advanced Excel functions and formulas to solve complex data-related tasks efficiently.
- 2 Create and analyze dynamic reports, charts, and pivot tables for effective data visualization and decision-making.
- 3 Automate repetitive tasks using Macros and basic VBA scripts to enhance productivity.
- 4 Demonstrate the ability to manage large datasets, perform what-if analysis, and implement security measures for data protection.

Pre-requisite of course:None

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	1	0	0	0	0	50	50

Contents : Unit	Topics	Contact Hours
1	Advanced Formulas and Functions Introduction to Complex Formulas, Key Advanced Functions Logical Functions: IF, AND, OR, IFERROR, and nested IF statements., Lookup Functions: VLOOKUP, HLOOKUP, INDEX, MATCH, and XLOOKUP., Text Functions: CONCATENATE, TEXT, LEFT, RIGHT, MID, and TRIM., Date and Time Functions: TODAY, NOW, YEAR, MONTH, DAY, and DATEDIF., Mathematical and Statistical Functions SUMIFS, COUNTIFS, AVERAGEIFS. SUMPRODUCT, RANK, LARGE, SMALL, MEDIAN., Array Formulas	8

Contents : Unit	Topics	Contact Hours
2	Data Analysis and Visualization Data Sorting and Filtering, Pivot Tables and Pivot Charts , Chart Customization, Dashboard Creation , Data Validation: Setting up custom validation rules, input restrictions, and error messages for data consistency., Conditional Formatting	7
3	Excel Automation using Macros Introduction to Macros, Recording and Running Macros, Introduction to VBA (Visual Basic for Applications), Debugging and Error Handling	7
4	Advanced Data Management and Security What-If Analysis Using Goal Seek, Scenario Manager, and Data Tables for forecasting and simulations, Sensitivity analysis for decision-making., Data Consolidation, Power Query and Power Pivot, Excel Security and Protection	8
Total Hours		30

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Issues related to Advanced Excel Programme Issues related to Advanced Excel Programme	15
Total Hours		15

Textbook :

- 1 Excel 2019 Bible, Alexander, M., Kusleika, R., & Walkenbach, J, Wiley, 2019
- 2 Excel: Quick start guide from beginner to expert, Fischer, W, Fischer, 2019
- 3 Microsoft Excel 2019 step by step, Frye, C., Microsoft Press, 2018
- 4 Advanced Excel: Practical approach, Shrivastava, S. S., Himalaya Publishing House, 2019
- 5 Mastering Excel., Gips, J., McGraw Hill Education., 2016

References:

- 1 Excel 2019 power programming with VBA, Excel 2019 power programming with VBA, Alexander, M., & Kusleika, R., Wiley., 2019
- 2 Data analysis using Microsoft Excel., Data analysis using Microsoft Excel., Sah, A. N., Excel Books India., 2011
- 3 Excel advanced skills for business, Excel advanced skills for business, Humphrey, M. L, Luminant Publications., 2019
- 4 Excel 2016 in depth, Excel 2016 in depth, Jelen, B, Que Publishing., 2016
- 5 Microsoft Excel 2019 data analysis and business modeling, Microsoft Excel 2019 data analysis and business modeling, Winston, W. , Microsoft Press., 2019

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
10.00	15.00	20.00	20.00	20.00	15.00