

**UNIVERSITY OF MADRAS**  
**B.Sc. DEGREE PROGRAMME IN COMPUTER SCIENCE**  
 SYLLABUS WITH EFFECT FROM 2023-2024

**Year: III**

**Semester: VI**

<b>Advanced Excel Practical</b>	<b>325S61</b>
Common for B.Sc.-SA , B.Sc.-CSc	
<b>Credits 2</b>	<b>Lecture Hours: 2 per week</b>
<p><b>Learning Objectives:</b> (for teachers: what they have to do in the class/lab/field)          The objective of this course is to help the students learn the advanced features of Excel, to summarise, analyse, explore, and present visualisations of data in the form of charts, graphs.</p>	
<p><b>Course Outcomes:</b> (for students: To know what they are going to learn)          CO1: Handle large amounts of data          CO2: Aggregate numeric data and summarise into categories and subcategories          CO3: Filtering, sorting, and grouping data or subsets of data          CO4: Create pivot tables to consolidate data from multiple files          CO5: Presenting data in the form of charts and graphs</p>	

<b>Units</b>	<b>Contents</b>
<b>I</b>	Basics of Excel-Customizing common options-Absolute and relative cells-Protecting and un-protecting worksheets and cells- Working with Functions - Writing conditional expressions -logical functions -lookup and reference functions-VlookUP with Exact Match, Approximate Match-Nested VlookUP with Exact Match-VlookUP with Tables, Dynamic Ranges-Nested VlookUP with Exact Match-Using VLookUP to consolidate Data from Multiple Sheets
<b>II</b>	Data Validations - Specifying a valid range of values -Specifying a list of valid values-Specifying custom validations based on formula - Working with TemplatesDesigning the structure of a template-templates for standardization of worksheets - Sorting and Filtering Data -Sorting tables-multiple-level sorting-custom sorting-Filtering data for selected view -advanced filter options- Working with ReportsCreating subtotals-Multiple-level subtotal.
<b>III</b>	Creating Pivot tablesFormatting and customizing Pivot tables-advanced options of Pivot tables-Pivot charts-Consolidating data from multiple sheets and files using Pivot tables-external data sources-data consolidation feature to consolidate data-Show Value As % of Row, % of Column, Running Total, Compare with Specific Field-Viewing Subtotal under Pivot-Creating Slicers.
<b>IV</b>	More FunctionsDate and time functions-Text functions-Database functions-Power Functions - FormattingUsing auto formatting option for worksheets-Using conditional formatting option for rows, columns and cells-WhatIf Analysis - Goal Seek-Data Tables-Scenario Manager
<b>V</b>	Charts -Formatting Charts-3D Graphs-Bar and Line Chart together-Secondary Axis in Graphs-Sharing Charts with PowerPoint / MS Word, Dynamically- New Features Of Excel Sparklines, Inline Charts, data Charts- Overview of all the new features.

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**Learning Resources:**

**Recommended Text**

Excel 2019 All-in-One For Dummies – 2018- Greg Harvey

**Reference Books**

Microsoft Excel 2019 Pivot Table Data Crunching-2019, Bill Jelen and Michael Alexander

**Web resources:** Web resources from NDL Library, E-content from open source libraries