

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

<b>Title of the Course</b>		<b>BASIC DATA ANALYSIS USING EXCEL</b>					
<b>Paper Number</b>		<b>SKILL ENHANCEMENT COURSE II</b>					
<b>Category</b>	SEC	<b>Year</b>	I	<b>Credits</b>	2	<b>Course Code</b>	134S2A
		<b>Semester</b>	II				
<b>Instructional Hours per week</b>		<b>Lecture</b>	<b>Tutorial</b>	<b>Lab Practice</b>	<b>Total</b>		
		2	--	--	2		
<b>Pre-requisite</b>		12 <sup>th</sup> Standard Mathematics					
<b>Objectives of the Course</b>		<ul style="list-style-type: none"> <li>• Understand the basic features of Microsoft Excel</li> <li>• Understand basic data analysis using Excel</li> <li>• Learn Basic Excel functions and formulas</li> </ul>					
<b>Course Outline</b>		<p><b>Unit I: Introduction to Excel:</b> Spreadsheet window pane, Title Bar, Menu Bar, Standard toolbar, Formatting toolbar, the ribbon, file tab and backstage view, Formula bar, Workbook window, Status bar, Task pane, workbook and sheets, columns and rows, selecting rows and columns, changing column width and row height, auto fitting rows and columns, hiding/unhiding columns and rows, inserting and deleting rows and columns, cell address of a cell, components of a cell, format value, formula, use of paste and paste special. <b>Hours: 6</b></p>					
		<p><b>Unit II:</b> Creating formula, using formula, formula function, sum, average, if, count, max, min, proper, upper, lower, using Autosum, Advance formulas – concatenate, Vlookup, Hlookup, Match, Countif, Text, Trim Functions. <b>Hours:6</b></p>					
		<p><b>Unit III:</b> Data Handling Wizards, Sort, Filter, Text to Columns, Remove Duplicates, Consolidate, Data validation. <b>Hours: 6</b></p>					
		<p><b>Unit IV:</b> Creating pivot tables, manipulating a pivot table, using the pivot table toolbar, changing data field, properties, displaying a pivot chart, setting pivot table options, adding subtotals to pivot tables. <b>Hours: 6</b></p>					
		<p><b>Unit V:</b> Creating charts, different types of charts, formatting chart objects, changing chart types, showing and hiding the legend, showing and hiding the data table. <b>Hours: 6</b></p>					
		<b>Total Hours: 30</b>					

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<b>Extended Professional Component (is a part of internal component only, Not to be included in the External Examination question paper)</b>	Questions related to the above topics, from various competitive examinations UPSC / TNPSC / others to be solved (To be discussed during the Tutorial Hour)
<b>Skills acquired from this course</b>	Knowledge, Problem Solving, Analytical Ability, Professional Competency, Professional Communication and Transferrable Skill
<b>Recommended Text</b>	Data Analysis with Excel – Manish Nigam, BPB Publications
<b>Reference Books</b>	1. Excel 2022 Bible by John Walkenbach 2. Excel 2022 All-in-one for Dummies by Greg Harvey
<b>Website and e- Learning source</b>	1. <a href="https://support.microsoft.com/en-us/excel">https://support.microsoft.com/en-us/excel</a> Exceljet: <a href="https://exceljet.net/">https://exceljet.net/</a> 2. <a href="https://www.excel-easy.com">https://www.excel-easy.com</a>

**Course Learning Outcome (for Mapping with POs and PSOs)**

Students will be able to

**CLO 1:** Develop an understanding of numerical methods for solving mathematical problems

**CLO 2:** Acquire knowledge of programming concepts and the basics of scilab language

**CLO 3:** Apply numerical algorithms to solve mathematical problems using scilab

**CLO 4:** Implement and test numerical algorithms using scilab

**CLO 5:** Analyse and interpret the results of numerical differentiation and integration.

	POs						PSOs		
	1	2	3	4	5	6	1	2	3
CLO 1	3	3	1	3	1	-	3	1	1
CLO 2	3	3	1	3	1	-	3	1	1
CLO 3	3	3	1	3	1	-	3	1	1
CLO 4	3	3	1	3	1	-	3	1	1
CLO 5	3	3	1	3	1	-	3	1	1