MAR AUGUSTHINOSE COLLEGE
RAMAPURAM

DEPARTMENT OF COMPUTER SCIENCE

Scheme and Syllabus of
Value Added Course

MAVAC004 Introduction to Data Analytics Using EXCEL

BOARD OF STUDIES (BoS)

Chairman-   **Mr. Prakash Joseph**(Head, Department of Computer Science)

Members-   **Dr. Ojus Thomas Lee** (HOD, Dept. of CS, College of Engineering, Kidangoor)

              Mr. Sunil K. Joseph (Asst. Prof. Department of Computer Science)

              Mr. Arun K. Abraham (Asst. Prof. Department of Computer Science)

INTRODUCTION

The Value-Added Courses aims to provide additional learner centric graded skill oriented technical training, with the primary objective of improving the employability skills of students

AIM OF THE PROGRAMME

The aim of the course Introduction to Data Analytics Using Excel is to equip learners with foundational skills in data analysis, enabling them to effectively organize, analyze, and visualize data using Excel's powerful tools and functions.

ELIGIBILITYFORADMISSIONS

All UG and PG students from various departments of the college. The number of intakes to the course is limited. The course can be offered only if there are at least 5 students opting for it.

MEDIUM OF INSTRUCTION: English.

DURATIONOFTHECOURSE

The duration of value-added course is 30 hours (including the hours of final examination) of which 15hrs theory and 15hrs for laboratory/demonstration/experimental activities and the course can have a maximum of three hours a day.

The value-added course will be a blend of theory classes / experimental learning / project-based learning / assignments / activity-based learning.

COURSEOBJECTIVES

- To familiarize students with the Excel interface and essential functions for managing and analyzing data.
- To develop proficiency in cleaning, formatting, and preparing data for analysis using Excel tools.
- To enable students to apply basic statistical and logical functions for data analysis.
- To introduce techniques for visualizing data through charts, graphs, and conditional formatting in Excel.

- To empower students to use advanced Excel features, such as pivot tables and data validation, for in-depth data insights.

COURSE OUT COMES(Cos)

Upon successful completion of the course Introduction to Data Analytics Using Excel, students will be able to:

- Demonstrate proficiency in Excel's interface and essential features for data management and analysis.

- Clean, organize, and format data to prepare datasets for effective analysis.

- Apply fundamental Excel functions and formulas to calculate, summarize, and manipulate data.

- Visualize data using charts and graphs to identify patterns, trends, and insights.

- Use advanced Excel tools such as conditional formatting, pivot tables, and macros to perform comprehensive data analysis tasks.

EVALUATION

1. The value-added courses shall be evaluated through an examination at the end of the course.
2. The duration of examination is two hours.
3. Thetotalmarksoftheexaminationshallbe100

Components of Evaluation	Marks
Attendance	10
Assignment/Seminar	10
Project & Viva	30 (20+10)
External Examination	50
Total	100

Pattern of questions Paper

Sl.No.	Pattern	Marks	Choice of questions	Total marks
1	Short Answer/problem type	2	5/7	10
2	Short essay/problem	5	4/6	20
3	Essay/problem	10	2/4	20
Total				50

4. A committee consisting of the Head of the Department, the course coordinator and a senior faculty member nominated by the Head of the department shall monitor the evaluation process.
5. The list of students along with the marks and the grades earned may be forwarded to the Principal/Chief Superintendent of Examinations.

6. The Dept. course coordinator is responsible for maintaining and processing the record with regard to the course, assessment marks and results.
7. Certificates will be issued to those students with 75% attendance, timely submission of assignment and project and a minimum of 40% marks in the qualifying examination.

Grading Pattern

Grades are given **on a 7-point scale** based on the total percentage of marks, *(ISA+ESA)* as given below: -

Percentage of Marks	Grade
95 and above	**S** Outstanding
85 to below 95	**A$^+$** Excellent
75 to below 85	**A** Very Good
65 to below 75	**B$^+$** Good
55 to below 65	**B** Above Average
45 to below 55	**C** Satisfactory
35 to below 45	**D** Pass
below35	**F** Failure
Absent	**Ab**

SYLLABUS

MAVAC004 Introduction to Data Analytics Using EXCEL

Total hours of instruction: 30Hours

Module I – 8 Hours: Introduction to MS Excel

Introduction to Excel interface

Structure of Excel workbook

Data Cleaning

- Formatting
- Number formatting
- Wrap text
- merge cells
- text direction
- Clear formatting
- Vertical & Horizontal Alignment
- Inserting, deleting cells/columns/rows
- Borders
- Column& Row height adjustment
- Common Excel Shortcuts
- Working with Numeric, Date, Text Values
- Working with cell references
- Relative V/s Absolute references
- Find & Replace
- Merge & Wrap text
- Conditional Formatting

Module 2- 4 Hours: Working with Data

Freeze Panes

Sort

Filters

Advanced filters

Remove duplicate

Data validation

Text to column

Module 3- 8 Hours Excel Functions

Sum, Average, Power

Max, Min

Count, Countif

Round, Roundup, Rounddown
Joining cells
Date & Now
If
Trim
Len
Left, Right, Mid
Upper, lower, proper
Today, now
Hour, Minute, Second
Dated
Vlookup
Hlookup
Xlookup
Index and Match
Sumif and sumifs

Module 4- 5 Hours Pivot Table & Charts
Creating Excel Chart
Formatting and Modifying Excel Charts
Create pivot table
Modify pivot table
Grouping pivot table data
Filtering pivot table data
Filtering with slicer tools
Refreshing pivot table
Pivot charts

Module 5- 5 Hours: Advanced tools in Excel
Hide and unhide Rows, columns and worksheets
Edit Quick Access Tollbar
Trace Precedents and dependents
Show formula
Error Checking
Evaluate formula
Watch window
Protect workbook and sheet
Allow edit ranges
Office Script
Power Query
Macro