

2 years

R. U314

Part A : Introduction			
Program: P.G. Two-Year	Class: M.A. / M.Sc.	Semester: Second	Session
Subject : Statistics			
Course Code	MST-VAC-205		
Course Title	Programming with 'C' Language and M.S. Excel		
Core / Praericum/ Value-Added (CHM/EESC)	Value - Added		
Pre - requisite (If any)	To study this course, the student must have passed B.Sc. (Three-year) program with subject Statistics/ Mathematic as a Major/Minor/ Elective having background of 12 th with Mathematics.		
Course Learning Outcomes	After completing this course, the student will learn the C language and M.S. Excel The learners will be able to: (i) understand basic concepts of C language, (ii) have theoretical knowledge of language C as well as applications using various statistical tools. (iii) use M.S. Excel for database management as well as for data analysis		
6	Credit Value	Theory - 2	
7	Total Marks	100	

Part B - Content of the Course		
Total No. of Lectures - Tutorials - Practical (in hours per week) : L-T-P : 2-0-0		
Unit	Topics	No. of Lectures
1	Introductory Concepts 1.1 Introduction and importance of C language 1.1.1 Introduction to C 1.1.2 History of C 1.1.3 Importance of C 1.1.4 Sample C programs 1.1.5 Basic structure of C programs 1.1.6 Character set 1.1.7 C tokens 1.1.8 Keywords and identifiers 1.1.9 Constants 1.1.10 Variables 1.1.11 Data types 1.1.12 Declaration of variables 1.1.13 Assigning values to variable 1.2 Operators and Expressions 1.2.1 Introduction 1.2.2 Types of operators 1.2.3 Arithmetic expressions 1.2.4 Evaluation of expressions	15

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2.5 Mathematical functions

1.3 Managing input and output operators

1.3.1 Reading a character

1.3.2 Writing a character

1.3.3 Formatted input

1.3.4 Formatted output

Activities

1. Power point presentation on various topics covered in the unit.
2. Group discussion on various topics covered in the unit.

Decision making

2.1 Decision making and branching

2.1.1 Introduction

2.1.2 Decision making with IF statement

2.1.3 Simple IF statement

2.1.4 The IF-ELSE statement

2.1.5 Nesting of IF-ELSE statements

2.1.6 The ELSE-IF ladder

2.1.7 Switch statement

2.1.8 The GOTO statement

II 2.2 Decision making and Looping

2.2.1 Introduction

2.2.2 The WHILE statement

2.2.3 The DO statement

2.2.4 The FOR statement

2.2.5 Jumps in loops

Activities

1. Poster presentation on various topics covered in the unit.
2. Write and run programs using branching and looping discussed in the unit.

Arrays and Pointers

3.1 Arrays

3.1.1 Introduction to array

3.1.2 One-dimensional array

3.1.3 Two – dimensional array

3.1.4 Initializing two-dimensional arrays

3.1.5 Multidimensional arrays

3.2 Pointers

3.2.1 Introduction to pointers

3.2.2 Understanding pointers

3.2.3 Declaring and initializing pointers

3.2.4 Pointer expression

3.2.5 Pointer increments and scale factors

3.2.6 Pointer and arrays

3.2.7 Pointers and functions

3.2.8 Pointers and Structures

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	<p>Activities</p> <ol style="list-style-type: none"> 1. Group discussion on various topics covered in the unit. 2. Write and run programs using arrays and pointers. 	
IV	<p>User defined functions</p> <ol style="list-style-type: none"> 4.1 Introduction 4.2 Need for user defined functions 4.3 Return values and their types 4.4 Calling a function. 4.5 Category of functions 4.6 Nesting of functions 4.7 Recursion 4.8 Function with arrays 4.9 Scope and lifetime of variables in function <p>Activities</p> <ol style="list-style-type: none"> 1. Write and run programs using user defined functions. 2. Group discussion on various topics covered in the unit. 	15
V	<p>M.S. Excel</p> <ol style="list-style-type: none"> 5.1 Introduction. 5.2 Graphs and charts 5.3 Computation of measures of central tendencies 5.4 Computation of measures of dispersion 5.5 Correlation 5.6 Regression 5.7 t-test 5.8 Chi – square test 5.9 Independence of attributes 5.10 ANOVA in M.S. Excel <p>Activities</p> <ol style="list-style-type: none"> 1. Analyse the real-world data by applying the statistical methods using MS excel. 2. Group discussion on various topics covered in the unit. 	15

Part C – Learning Resources

Books Recommended

1. Byron's Gottfried : Programming with C. Tata vlc-Graw Hill.
2. Balaguruswamy, E. : Programming in ANSI C. Tata Mc – Graw Hill.
3. Kanetkar, Y : Let us 'C'.

Suggestive Digital Platforms Web Links

1. https://www.youtube.com/results?search_query=c+language+playlist

Part D – Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks : 100

Internal Assessment : 40

University Exam (UE) : 60

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Internal Assessment	Attendance-10 Class Test -10 Assignment-10 Activities-10	
External Assessment University Exam Session Time: 03:00 Hours	Section (A): Short Answer type Questions Section (B): Long Answer type Questions	$5 \times 4 = 20$ $5 \times 8 = 40$
Any Remarks / Suggestions:		

S. J. / 20/18/8