

Program Name: Integrated M.Sc. (IT) Level: Post Graduate Branch: Information Technology Subject Code : 1BS104

Subject Name : Introduction to Programming

w. e. f. Academic Year:	2025-2026
Semester:	1
Category of the Course:	Major Course

Prerequisite:	NIL
Rationale:	This course covers basic knowledge of C programming

Course Outcome:

After Completion of the Course, the Student will able to:

No	Course Outcomes
01	Describe the basics information of programming language.
02	Develop logic using control structures like loops and conditionals.
03	Implement working with arrays, pointer, and strings in C.
04	Explore Structure and Unions in C.
05	Utilize functions, prototypes, and parameter passing in C.
06	Perform file I/O operations and handle errors in C.

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			C Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	Т	PR	С	Th	eory	Tutorial / I	Practical	
				SEE (TH)	IAT	CCE	SEE (P)	
2	0	4	4	70	30	20	30	150

Where SEE: Semester End Examination, IAT: Internal Assessment Test, CCE: Continuous and Comprehensive Evaluation

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
No.	UNIT 1: Introduction to Programming & Fundamentals of C 1.1 What is Programming? Concepts of Programming Language 1.1.1 Source Code, Object Code, and Executable Code 1.1.2 Flow Charts and Algorithms 1.1.2 Concepts of Machine level, Assembly level, and High-level Language 1.2 Features of C language 1.3 Concepts of Editor, Compiler and Interpreter 1.4 Structure of C program, comments, header files 1.5 Data Types, Variables 1.6 Tokens 1.6.1 Identifier 1.6.2 Keywords 1.6.3 Constants 1.6.4 Strings	4	Weightage 15
	1.6.5. Operators, Precedence and Associativity1.6.6. Special Characters1.7 Expressions, Evaluation of Expressions1.8 Type Conversion,1.9 Basic I/O functions		

2.	UNIT 2: Control Structures 2.1 Simple statements 2.2 Decision-making statements 2.3 Looping statements 2.4 Nesting of control structures 2.5 Switch case 2.6 Break and Continue Statement 2.7 Goto statement	4	15
3.	 UNIT 3: Array and Pointer 3.1 Concept of the array, One and Two-dimensional arrays 3.2 Declaration and initialization of arrays 3.3 Basics of pointers, pointer to pointer, pointer to the array, pointer to structure, array of pointer 3.4 Function returning a pointer 3.5 String functions 	7	20
4.	 UNIT 4: Structure and Union 4.1 Introduction to structure, structure members. 4.2 Dynamic memory allocation 4.3 Accessing structure members 4.4 Nested structures and Array of structures 4.5 Union 	7	20
5.	UNIT 5: Functions 5.1 Introduction to function 5.2 User-defined functions and prototype 5.3 Parameters and Parameter Passing 5.4 Calling a function	4	15
6.	UNIT 6: File Handling with C 6.1 Defining and Opening a File- Closing File 6.2 I/O Operations on Files 6.3 Error Handling during I/O Operations	4	15
	Total	30	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks(%)					
R Level U Level A Level N Level		E Level	C Level		
30	40	30	-	-	-

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

- 1. Programming In ANSI C by E. Balagurusamy published by Tata Mc Graw Hill
- 2. Let Us C: Authentic Guide to C Programming Language by Yashwant Kanetkar published by BPB Publications
- 3. C: How to Program, Deitel & Deitel PHI
- 4. Programming in C, Pradip Dey & Manas Ghosh Oxford
- 5. Programming for Problem Solving by Dr. S M. Shah and Dr. P. P. Kotak Mahajan Publishing House

(b) Open source software and website:

- 1. Learn C (learn-c.org)
- 2. spoken-tutorial.org

Suggested Course Practical List:

Sr.	Name of Practical
No.	
1	Write a C program to display "Hello World".
2	Write a C program to Calculate the Simple Interest.
3	Write a C Program to swap Two Numbers.
4	Write a C Program to print Prime Number from 1 to N (Number).
5	Write a C Program to find out the Factorial of a Number.
6	Write a C Program to Perform Addition, Multiplication, Division, and Subtraction
	on Given Two Numbers.
7	Write a C Program to Find out the Area of Circle.
8	Write a C Program to find the Greatest Number Among Three Numbers.
9	Write a C program to Check Whether a Number is Palindrome or not.
10	Write a C program to Check that Entered year is Leap year or not.
11	WAP to Check Whether a Character is a Vowel or Consonant. (Use Switch Case).
12	WAP to print the Half Pyramid.
13	WAP to print the Diamond Pattern.
14	WAP to print the following information of an employee using structure.
	Employee Details: (Display Minimum 5 Employee Details)
	Employee ID, Employee Name, Employee Address, Employee Salary
15	Create a function to print addition, subtraction, multiplication, division arithmetic
	operation of two inputted numbers.

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