

Govt. Polytechnic Hamirpur (H.P.)

Lecture Planing (theory)

Branch: **Computer Engg**

Semester: 3rd

Subject: **Computer Programming Using C**

Session : **Aug-Dec, 2024**

Teacher: **Sunil Kumar**

Classroom : **CB LH-02/Smart Class Room**

Sr. No	No. of Lectures	Chapter/Unit Description	Detail of Contents	Reference/Resource	Remarks
1	1-8	Unit 1: Introduction to Programming	Program Design Tools - Algorithm, Flowchart, Pseudocode; Evolution of Programming Languages, Programming Terminology - Program, Compiler, Interpreter, Linker, Source Code, Libraries, Syntax and Semantic Errors, Bugs.	R1,R2,R3	
2	9-18	Unit 2: Introduction to C Language	Brief History of C Language, Features of C Language, Character Set, Identifier, Keywords, Literals, Variables, Constants, Structure of a 'C' Program, Comments, Preprocessor Directives, Data Types, Type Casting, Storage Classes	R1,R2,R3	
3	19-26	Unit 3: Input/Output	Standard Input, Standard Output, Standard Error, I/O Redirection, Unformatted I/O Functions - getchar(), putchar(), gets(), puts(); Formatted I/O Functions - printf(), scanf(), Format Specifier	R1,R2,R3	
4	27-36	Unit 4: Operators	Arithmetic Operators, Relational Operators, Logical Operators, Bitwise Operators, Assignment Operators, Conditional Operator, Special Operators, Expressions, Associativity and Order of Precedence of Operators	R1,R2,R3	
5	37-48	Unit 5: Flow Control Statements	Selection Statements: if, if...else, Nested if, if...else if Ladder, switch...case; Loops - while, do...while, for; Jump Statements - goto, break, continue, return; Nested Loops, Infinite Loops	R1,R2,R3	
6	49-58	Unit 6: Arrays, Structures, Unions and Pointers	Array, Memory Representation, One-Dimensional Arrays and Two-Dimensional Arrays: Declaration and Initialization; Enumeration, Strings, String Constants, Escape Sequences, Standard String Functions - strlen(), strcmp(), strcpy(), strcat(); Structures, Unions, Pointer - Declaration, Initialization, Assignment; Dynamic Memory Allocation: malloc(), calloc(), free()	R1,R2,R3	
7	59-64	Unit 7: Functions	Definition of Function, Function Prototype, Formal and Actual Parameters, Function Call, Call by Value and Call by Reference, Arrays as Function Arguments, Recursion	R1,R2,R3	

References:

R1 : Self made Power Point Presentation (animated)

R2 : Programming in ANSI C, E. Balagurusamy, Tata McGraw-Hill,

R3: Self made Lab Manual, Outline of Programming with C, Byron Gottfried, Schaum, McGraw-Hill

Course outcome :

CO-1. Understand the basic terminology of computer programming.

CO-2. Write algorithms and draw flowcharts for simple computational problems.

CO-3. Write, edit, compile, debug, run simple programs in 'C'.

CO-4. Make use of flow control structures in programs.

CO-5. Organize complex programs around a set of functions.

Signature of teacher with date

01/07/2024
Sunil Kumar

Sunil
HOD

Govt. Polytechnic Hamirpur (H.P.)
Lecture Planing (Practical)

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Subject: **Computer Programming Using C**

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Session : **Aug-Dec, 2024**

Lab Name : **OSL**

Sr. No.	No. of Practical Hours planned	Aim of Practical	Reference for procedure/writeup	Remarks
1	04	To set up and get familiar with the programming environment (Editor, Compiler, Linker)	R1,R2,R3	
2	04	To declare, initialize and use variables of various data types in 'C'	R1,R2,R3	
3	04	To demonstrate printf() and scanf() functions with different format specifiers.	R1,R2,R3	
4	04	To demonstrate various arithmetic operators and arithmetic expressions.	R1,R2,R3	
5	02	To demonstrate various bitwise operators.	R1,R2,R3	
6	04	To use if...else statement to check whether a given year is a leap year	R1,R2,R3	
7	04	To use switch...case statement to print the numbers entered by the user (1-10) in words.	R1,R2,R3	
8	04	To use while statement to reverse the digits of a given number.	R1,R2,R3	
9	04	To use for statement to print the multiplication table of a given number.	R1,R2,R3	
10	04	To implement a menu driven arithmetic calculator using do while loop	R1,R2,R3	
11	04	To read the marks of 10 students in an array and calculate their average	R1,R2,R3	
12	04	To read two matrices and compute their sum using 2-Dimensional arrays.	R1,R2,R3	
13	02	To reverse the characters of a given string	R1,R2,R3	
14	04	To demonstrate strlen(), strcat(), strcmp() functions	R1,R2,R3	
15	04	To swap values of two variables using a function.	R1,R2,R3	
16	04	To compute the factorial of a given number using recursion	R1,R2,R3	
17	04	To read the data of a student in a structure and print it.	R1,R2,R3	
18	04	To count the number of vowels in a given string using a pointer	R1,R2,R3	

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R2 : Programming in ANSI C. E. Balagurusamy, Tata McGraw-Hill,

R3: Self made Lab Manual, Outline of Programming with C, Byron Gottfried, Schaum, McGraw-Hill

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