



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Computer Applications

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
CAPG101	GE	C Programming	2	0	2	3	60	20	20	30	20

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.

***Teacher Assessment** shall be based on following components:

Quiz/Assignment/Project/Participation in class (Given that no component shall be exceed 10 Marks)

Course Educational Objectives (CEOs):

- To familiarize the students with programming and to encourage them to develop their logic.
- To make students well versed with C language to solve problems efficiently.
- Using simple and well-drawn illustrations develop their programming skills using modular programming.
- To make the students well versed with the knowledge of pointer and structure.

Course Outcomes (COs): Student will be able to:

- Develop algorithms for problems.
- Apply the programming concepts to solve the given problems.
- Write the programs using modular programming.
- Write the programs using pointers and to manage memory.

Unit I:

Overview of C: Introduction to Procedural Programming Languages, Features of C, Structure of C program. C Tokens: C character set, identifiers and keywords, data types: primitive and user defined. Operators and Expressions, Type modifiers and type casting.

UNIT II:

Control Structures: Loops (for, while and do-while), Decision Control (if, if-else, if-else ladder), **Special Constructs:** break, continue, exit(), goto and labels, switch-case. **Input/ Output:** Unformatted and Formatted I/O functions in C.

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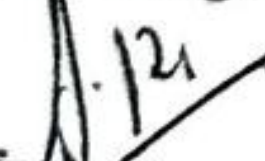
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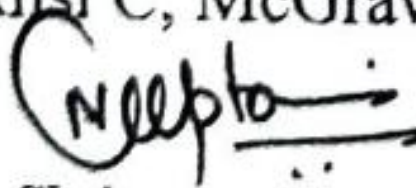
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4. WAP a C program to reserve an input number.
5. Draw a flow chart to find prime number from 1 to 100.
6. Write a C program to obtain the sum of first n terms of the following series: $X - X^3/3! + X^5/5! - X^7/7! + \dots$
7. WAP to calculate factorial of a number using different loops.
8. WAP to calculate factorial of a number using recursion.
9. WAP in C to generate Fibonacci series.
10. WAP in C to generate Pascal triangle.
11. WAP in C to swap value and address of two variables.
12. WAP in C to search a given element in an array using linear and binary search.
13. WAP to sort an integer array in ascending and descending order according to user's choice.
14. Write a menu driven program to perform matrix addition, subtraction and multiplication.
15. Write a program to sum diagonal elements of two matrices.
16. WAP a C program to reverse a string by recursion.
17. WAP using structure in C to generate student mark-sheet for 3 students with student details name, course, and semester and with marks in 5 subjects, assume max mark in each subject as 100 and passing marks as 35.


Text Books:

1. Kanitkar Yashwant, Let us C, Edition 16th 2017, BPB, New-Delhi.
2. Balaguruswami, Ansi C, McGraw Hill Education; Eighth edition 2019, TMH, New-Delhi.


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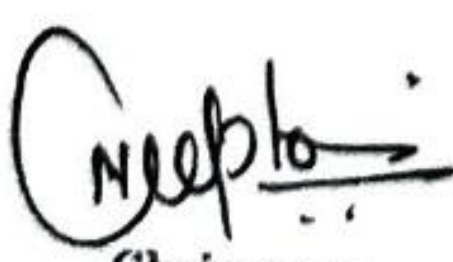



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3. Kerningham & Ritchie "The C programming language", Pearson Education India; 2 edition (2015), PHI.
4. Schildt "C: The Complete reference" McGraw Hill Education; 4th ed TMH, 2017.
5. Byron S. Gottfried, "Programming with C", Schaum's Outline Series McGraw-Hill, II-Ed.
6. Concepts of Programming Languages Robert .W. Sebesta 8/e, Pearson Education, 2008.
7. Programming Language Design Concepts, D. A. Watt, Wiley dreamtech, rp-2007.


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