

GBCS SCHEME

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18CPS13/23

First/Second Semester B.E. Degree Examination, Dec.2023/Jan.2024

C Programming for Problem Solving

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the structure of computer and its functional units with neat diagram. (12 Marks)
- b. Give the definition for computer networks. Explain Network hardware in detail. (08 Marks)

OR

- 2 a. Give the basic structure of C program and explain briefly about each section. (08 Marks)
- b. What is an Identifier? State the rules to define identifier with syntax and example. (06 Marks)
- c. Analyze the use of relational operators in C with example. (06 Marks)

Module-2

- 3 a. Explain If, If... else and else.if ladder statements with syntax and example. (08 Marks)
- b. Write a C program to convert a decimal number to binary form. (08 Marks)
- c. Distinguish between break and continue with suitable example. (04 Marks)

OR

- 4 a. Write a C program to find the roots of the quadratic equation. (08 Marks)
- b. Analyze the difference between while....do loop and do....while loop with syntax and example. (08 Marks)
- c. Explain switch control statement with syntax and suitable example. (04 Marks)

Module-3

- 5 a. What is an array? How can you declare and initialize a one-dimensional array? (06 Marks)
- b. Define string. Enumerate different string handling functions and their use. (06 Marks)
- c. Write a C program to search a given integer 'K' in the array of 'N' elements using binary search algorithm. (08 Marks)

OR

- 6 a. Write a C program to collect 'N' integer numbers from the user and sort the numbers in ascending order using bubble sort. (08 Marks)
- b. Write a C program to add two matrices. (06 Marks)
- c. Write a C program to accept a string as input and check whether the given string is palindrome (or) not. (06 Marks)

Module-4

- 7 a. Explain function declaration, function definition and function call with suitable example. (08 Marks)
- b. Write a C program to find the n^{th} term of Fibonacci series using recursion. (08 Marks)
- c. Explain Call by value with an example. (04 Marks)

OR

- 8 a. What is recursion? Explain recursion with an example program. (06 Marks)
- b. Write a recursive program to find the factorial of a given integer number. (08 Marks)
- c. Write a recursive C program to compute the GCD of three integer numbers. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. What is a structure? Give its syntax. How to declare a structure. (06 Marks)
b. Write a C program using structures, to collect the input data Accession no., title of the book, Author name, Publisher, Volume no. and price. Display the above collected information in the computer screen. (08 Marks)
c. What are pre-processor directives? Analyze the advantages. (06 Marks)

OR

- 10 a. What is a pointer variable? How to declare and initialize pointer variable? Explain with syntax and suitable example. (06 Marks)
b. Write a C program which copies the contents of a string into another string using pointer as function parameter. Display the copied string in the screen. (08 Marks)
c. Write a C program which can use a single pointer 'P' to point three variables a, b and c respectively. Display the values of a, b and c through single pointer P. (06 Marks)
