

MAKE-UP EXAM



BPOPS103/203

First/Second Semester B.E./B.Tech. Degree Examination, Nov./Dec. 2023

Principles of Programming using C

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.

2. M : Marks , L: Bloom's level , C: Course outcomes.

| Module – 1 | | | M | L | C |
|------------|----|--|----|----|-----|
| Q.1 | a. | Compare the generation of computers. | 10 | L2 | CO1 |
| | b. | Describe any two input devices. | 05 | L2 | CO1 |
| | c. | Design an algorithm and program to find area of a circle. | 05 | L3 | CO2 |
| OR | | | | | |
| Q.2 | a. | Explain the various rules for forming identifier names. Give an example for valid and invalid identifier. | 08 | L2 | CO2 |
| | b. | Compare between primary memory and secondary memory along with examples. | 06 | L3 | CO2 |
| | c. | Design a flowchart to calculate the sum of first 10 natural numbers. | 06 | L3 | CO2 |
| Module – 2 | | | | | |
| Q.3 | a. | Develop a C program that takes 3 coefficients (a, b and c) of a quadratic equation $ax^2 + bx + c$ as I/P and compute all the possible roots and print then with appropriate messages. | 08 | L3 | CO5 |
| | b. | Distinguish between the break and continue statement. | 06 | L2 | CO2 |
| | c. | Describe any 4 types of operators in C with example. | 06 | L2 | CO2 |
| OR | | | | | |
| Q.4 | a. | Develop a simple calculator program in C language to do simple operations like addition, subtraction, multiplication and division. Use switch statements in your program. | 08 | L3 | CO2 |
| | b. | Comparison between typecasting and type conversion with an example. | 06 | L2 | CO2 |
| | c. | Explain while loop along with syntax and example program. | 06 | L2 | CO2 |
| Module – 3 | | | | | |
| Q.5 | a. | Implement matrix multiplication and validate the rules of multiplication. | 10 | L3 | CO3 |
| | b. | Summarize the recursive function concept with suitable example. | 05 | L2 | CO3 |
| | c. | Explain declaration and initialization of 1D and 2D Array with an example for each. | 05 | L2 | CO3 |
| OR | | | | | |
| Q.6 | a. | Explain the syntax of function declaration, function call and function definition with an example C program. | 06 | L2 | CO4 |
| | b. | Describe the different types of storage classes with an example. | 08 | L2 | CO3 |
| | c. | Write a C program to sort the array elements in ascending order. | 06 | L2 | CO3 |
| Module – 4 | | | | | |
| Q.7 | a. | Develop a C program to compare 2 strings without using built in function. | 06 | L2 | CO4 |
| | b. | Comparison between print() and puts() functions. | 04 | L2 | CO4 |
| | c. | Define String. Explain any 4 string manipulation function with an example. | 10 | L2 | CO4 |
| OR | | | | | |
| Q.8 | a. | Define a pointer. Summarize the arithmetic operations performed on pointers. | 06 | L2 | CO3 |
| | b. | Develop a C program using pointer to compute the sum, mean and standard deviation of all elements stored in any array of N real numbers. | 08 | L3 | CO3 |
| | c. | Differentiate between NULL pointer and void pointer with suitable example. | 06 | L2 | CO3 |

Module – 5

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|-----------|----|---|----|----|-----|
| Q.9 | a. | What is a structure? Explain C syntax of structure declaration with an example. | 06 | L2 | CO3 |
| | b. | Implement structures to read, write and compute average marks of the students, list the students scoring above and below the average marks for a class of N students. | 08 | L3 | CO5 |
| | c. | Differentiate structures and unions with syntax and example. | 06 | L2 | CO3 |
| OR | | | | | |
| Q.10 | a. | Discuss the different modes of operations on files with suitable example. | 08 | L3 | CO4 |
| | b. | Write a C program to copy a text file to another, read both the input file name and target file name. | 06 | L3 | CO4 |
| | c. | Differentiate between putc() and fputc() function. | 06 | L2 | CO4 |
