



CBCS SCHEME

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15PCD13/23

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

Programming in C and Data Structure

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. What is an algorithm? Write an algorithm to find largest of three numbers. (08 Marks)
b. List all the restriction on variable names in C. (08 Marks)

OR

- 2 a. Explain scanf() and print() functions in C language with syntax and example. (08 Marks)
b. Explain any five operators used in C language. (08 Marks)

Module-2

- 3 a. Explain switch statement with an example. (08 Marks)
b. Show how break and continue statements are used in C program with example. (08 Marks)

OR

- 4 a. List differences between while loop and do while loop with syntax, flowchart and example. (08 Marks)
b. Write a C program to find GCD of two non zero integer numbers. If the first number is less than second number than the program must exchange the two numbers before computing GCD. (08 Marks)

Module-3

- 5 a. List and explain the different types of initialization of single dimensional array. (08 Marks)
b. How is string declared and initialized? Explain any four string manipulation function with examples. (08 Marks)

OR

- 6 a. Define the following with examples :
i) Actual parameter
ii) Formal parameter
iii) Global variables
iv) Local variables. (08 Marks)
b. What is function? Write a C program to find square of a number using function. (04 Marks)
Write a C program to check a number is a prime number or not. (04 Marks)

Module-4

- 7 a. What is file? Explain any five file manipulation functions with example. (08 Marks)
b. Write a C program to create a structure using typedef and input the "N" student details like (USN : string Name : String average floctt) Print the names of students with their average $> = 60\%$. (08 Marks)

OR

- 8 a. What is structure? Explain the syntax of structure declaration with an example. (05 Marks)
b. Write a C program to pass structure variable as function argument. (07 Marks)
c. Explain fopen() and fclose() functions. (04 Marks)

Module-5

- 9 a. What is a pointer? Write a C program to swap two numbers using pointers. (08 Marks)
b. What is stack? Explain various stack operations. (08 Marks)

OR

- 10 a. Explain various preprocessor directives. (08 Marks)
b. What is dynamic memory allocation? Explain the four function used of memory management during execution. (08 Marks)

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