



**First/Second Semester B.E. Degree Examination, July/August 2021**  
**Programming in C and Data Structures**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1
  - a. What is Variable? What is the purpose of Variable? What are the rules of Variables? (07 Marks)
  - b. What is Operator? Explain any four Operator with an example. (09 Marks)
  - c. Define (i) Keyword (ii) Constants (iii) Datatype (iv) Delimiters. (04 Marks)
- 2
  - a. Explain the formatted and unformatted I/O function in C language. Give example for each. (10 Marks)
  - b. Write a C program to find the largest of three numbers. (04 Marks)
  - c. What is execution character? What are the different escape sequence character in C language? (06 Marks)
- 3
  - a. What is Branching? Explain if, if...else and switch with syntax and example. (10 Marks)
  - b. Write a C program to generate N prime numbers. (06 Marks)
  - c. Explain the significance of goto statement in a C program. (04 Marks)
- 4
  - a. What is the difference between break and continue statements? Explain with example. (06 Marks)
  - b. Write a C program to find the GCD and LCM of two integer numbers. (07 Marks)
  - c. What is Loop? List and explain the different type of Loops. (07 Marks)
- 5
  - a. What is an Array? Explain the declaration and initialization of two dimensional arrays with example. (06 Marks)
  - b. Write a C-program to sort the given numbers in ascending order using bubble sort technique. (06 Marks)
  - c. Explain any four String Manipulation library functions with examples. (08 Marks)
- 6
  - a. What is a Function? Explain the different types of Functions. (06 Marks)
  - b. Write a recursive program to find the factorial of a given number. (10 Marks)
  - c. Explain different parameter passing techniques used in C functions. (04 Marks)
- 7
  - a. What is a Structure? Explain the syntax of structure declaration with an example. (06 Marks)
  - b. Write a C program to maintain an employee information consisting of three fields (empid, name, salary) using array of structures. (10 Marks)
  - c. Explain with an example how fscanf( ) and fprintf( ) function is used with the file. (04 Marks)
- 8
  - a. Write a program to copy the content of one file to other file. (08 Marks)
  - b. What is a File? Explain the different modes in which the file can be opened. (06 Marks)
  - c. What are Command Line Arguments? Explain its parameters. (06 Marks)
- 9
  - a. Explain the four Library routines called Memory Management function in C. (06 Marks)
  - b. Explain commonly used preprocessor directives and their functions. (10 Marks)
  - c. Explain the code Demonstrating the use of pointers to pointer. (04 Marks)
- 10
  - a. What are Stack and Queues? Explain them with a neat diagram. (06 Marks)
  - b. Write a C program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of n natural/real numbers. (10 Marks)
  - c. Explain Prefix and Postfix expression using example. (04 Marks)

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