

S-711

Total Pages : 5

Roll No. -----

MCA-03/MSCIT-03

Computer Programming using C

(MCA/PGDCA/MSCIT)

1st Semester, Examination 2022(Dec.)

Time: 2 Hours

Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section – A

(Long Answer – type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

[2 x 19 = 38]

P.T.O.

Q.1. Discuss the following in detail along with the examples and diagrams of each: (Marks are mentioned against each question)

- a. Write a calculator program in C language to do simple operation like addition, subtraction, multiplication and division. Use switch statement in your program. (10 Marks)
- b. What is an array? How a single dimension and two dimension arrays are declared and initialized. (9 Marks)

Q.2. Discuss the following sorting strategies in detail with algorithm and examples of each: (Marks are mentioned against each question)

- a. Write a program to find that any number is prime number or not. (10 Marks)
- b. Write a program to display all prime numbers up to 100. (9 Marks)

Q.3. Discuss the following in detail: (Marks are mentioned against each question)

- a. Write a program to calculate the simple interest and print it, taking input at the runtime from the user using the while loop for 5 different set of values. (9.5 Marks)

- b. Write the algorithm for the above-mentioned program. Write the flowchart for the above-mentioned program. (9.5 Marks)

Q.4. Discuss the following in detail: (Marks are mentioned against each question)

- a. What is a pointer? Explain how the pointer variable declared and initialized. (5 Marks)
- b. Write a program in C to find the sum and mean of all elements in an array using pointers. (7 Marks)
- c. Explain structure with an example. (7 Marks)

Q.5. Discuss the following in detail along with examples of each: (4.75 Marks each, $4.75 \times 4 = 19$)

- a. Call by value
- b. for loop
- c. while loop
- d. break statement

P.T.O.

Section – B

(Short-answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4 x 8 = 32]

- Q.1. Write a program in C using functions to swap two numbers using global variables concept and call by reference concept.
- Q.2. Write a C-program using functions to check whether the given string is palindrome.
- Q.3. What is function? Explain different classification of user defined functions based on parameter passing and return type with examples.
- Q.4. Discuss the following in detail with examples: (Marks are mentioned against each question)
- a. Constant (2 Marks)
 - b. Variable (2 Marks)
 - c. Keywords (2 Marks)
 - d. Comments (2 Marks)

- Q.5. If a five-digit number is input through the keyboard, write a program to reverse the number.
- Q.6. Lengths of three sides of a triangle are input through the keyboard, write a program to find the area of the triangle.
- Q.7. Explain if, if-else, nested if-else and cascaded if-else with examples and syntax.
- Q.8. Write an algorithm and develop a C program to search an integer from N numbers in ascending order using binary searching technique.
