A-0872

Total Pages : 4 **Roll No. ----------**

MCS-401/DCA-101

Introduction to Programming Using C

(MSCIT/DCA)

1st Semester Examination 2024(Dec.)

Time: 2:00 hrs Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into Two (02) Section A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

P.T.O.

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.

[2x19=38]

Q.1. Write a C program to maintain a record of "n" student details using an array of structures with four fields (Roll number, Name, Marks, and Grade). Each field is of an appropriate data type. Print the marks of the student given student name as input.

Q.2. Write a C function is prime (num) that accepts an integer argument and returns 1 if the argument is prime, a 0 otherwise. Write a C program that invokes this function to generate prime numbers between the given ranges.

Q.3. Explain the two ways selection (if, if-else, nested if-else, cascaded if else) in C language with syntax.

Q.4. Design and develop a C program to read a year as an input and find whether it is leap year or not. Also consider end of the centuries.

Q.5. Explain the different types of loops in C with syntax and example.

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.

[4x8=32]

Q.1. What is a pointer? Explain how the pointer variable declared and initialized.

Q.2. What is dynamic memory allocation? Write and explain the different dynamic memory allocation functions in C.

P.T.O.

Q.3. Write a C program to read n unsorted numbers to an array of size n and pass the address of this array to a function to sort the numbers in ascending order using bubble sort technique.

Q.4. What is a file? Explain how the file open and file close functions handled in C.

Q.5. Explain the use of break and continue statement in loops with example.

Q.6. Classify all operators in C with its hierarchy.

Q.7. Write the program to swap values of two variables using call by reference.

Q.8. Explain typecast operators with example.

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