

B. Sc. (Hons.) Semester I Examination 2024-25 (NEP)
Computer Science
CSCMJ11/CSCMN11: Introduction to Programming using C

Time : 2:30 Hours

Max. Marks : 70

(Write your Roll No. at the top immediately on the receipt of this question paper)

Note: Answer any *five* questions, including question no. 1, which is *compulsory*.

1. Attempt any nine. (2x9=18)

- a. Differentiate between *int* and *float* data types.
- b. List the *rules* for naming a *variable* ?
- c. What is the role of *continue* keyword in C programming?
- d. Is it possible to rename a data type in C ? If yes, then how?
- e. What is the use of *sizeof()* in C programming?
- f. What is the difference between *scanf()* and *fscanf()* functions?
- g. Write syntax and usage of *ternary operator* in C.
- h. Write the *syntax* of *main()* function while using *command line arguments*.
- i. What will be the output of following code? (Explain with reason)

void main()

```
{  
    int a=3, b=4;  
    b %= 3+4;  
    a *= a+5;  
    printf("%d %d", b,a);  
}
```

- j. What will be the output of following code? (Explain with reason)

void main()

```
{  
    int a[] = {1,2,3,4,5}, *p;  
    p = a;  
    ++*p;  
    printf("%d ", *p);  
    p += 2;  
    printf("%d ", *p);  
}
```

2.

- a. What are the *characteristics* of an *algorithm*? Draw the flow chart to print *factorial* of a given number. (4)

P.T.O.

b. Explain the difference between a 'while' loop and a 'for' loop with a suitable example.

(5)

c. Explain the difference between *if-else* and *else-if* statements with suitable example.

(4)

3.

a. Discuss about the *relational operators* in C with suitable examples. (5)

b. Differentiate between *function definition* and *function prototype* with suitable example.

Is it possible to return more than value from a function? Explain your answer with suitable example. (8)

4.

a. State the difference between *automatic* and *external storage class variables* by using appropriate example. (6)

b. Write your own function for following operations on string: (7)

i. Find length of a given string

ii. Concatenate two strings

5.

a. Define *string*. Explain with suitable example to store and display the names of five countries. (6)

b. Define *pointer*. Explain any three *arithmetic operations* that can be applied on pointer variables with suitable example. (7)

a. Explain the syntax for *opening a file* in C with suitable example? Write any two reasons for the failure of file open operation. How you handle this situation in your program? (7)

b. What do you mean by *Dynamic memory allocation* in C. Differentiate between *malloc()* and *calloc()* function with suitable example. (6)

a. What is the role of *Preprocessor* in C programming? Differentiate between a *Macro*(with argument) and *Function* with suitable example. Out of these two which one will you prefer and why while writing a program? (6)

b. Differentiate between *structure* and *union* with suitable example. What are the situations when it would be better to use *union* instead of *structure*? Explain with a real life example. (7)