



DCU-003-2041002

Seat No. _____

B. Sc. (I.T.) (Sem. I) (CBCS) (WEF-2019) Examination

August - 2022

**CS-02 : Problem Solving Methodologies &
Programming in C
(New Course)**

Faculty Code : 003

Subject Code : 2041002

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) Attempt any five questions.
(2) Each que. has equal marks.

- 1 (a) Attempt the following : 4
(1) C language was found in which year?
(2) long int occupies _____ bits of memory.
(3) _____ is the format specifier of unsigned char type.
(4) $23 \& 28 =$ _____.
- (b) Answer in brief : 2
Differentiate pre increment and post increment.
- (c) Answer in detail : 3
Explain type casting with example.
- (d) Write a note on following : 5
Explain data types of C - language.
- 2 (a) Attempt the following : 4
(1) Write codes that declare argumented macro.
(2) What is the use of \sim (Tilde) Operator
(3) $10 \&\&-10 =$ _____.
(4) _____ operator has highest priority.
- (b) Answer in brief : 2
What is dry run?
- (c) Answer in detail : 3
Explain different logic development techniques in brief.
- (d) Write a note on following : 5
Explain basic structure of a C - Program.

- 3 (a) Attempt the following : 4
- (1) `for (i=1; i <=10;i--)`
`printf("Hello");`
Write output of the above code.
- (2) To create menu driven programs _____ statement is useful.
- (3) _____ is used to skip the statements which we write after it and continue the loop with next value of the loop variable.
- (4) What is the use of the break ?
- (b) Answer in brief : 2
Explain nested if with example.
- (c) Answer in detail : 3
Write limitations of switch statement.
- (d) Write a note on following : 5
Write program that print the following using looping statement.
151, 151, 152, 153, 155, 158, n values.
- 4 (a) Attempt the following : 4
- (1) Write syntax of simple if statement.
- (2) `while(1) {`
`printf("Hello"); }`
Write output of the above code.
- (3) `for(i = 65 ; i <= 90 ; i++)`
`printf("%c ",i);`
Write output of the above code.
- (4) List out entry controlled looping statements.
- (b) Answer in brief : 2
Explain ternary operator with example.
- (c) Answer in detail : 3
Explain goto statement with example.
- (d) Write a note on following : 5
List out looping statement. Explain any one in detail.
- 5 (a) Attempt the following : 4
- (1) return statement can return maximum _____ values / variables.
- (2) Write difference between `getch ()` and `getche ()`.
- (3) _____ Function is useful to convert a character into uppercase.
- (4) _____ Function is useful to get system date.

- (b) Answer in brief : 2
Differentiate malloc () and calloc ().
- (c) Answer in detail : 3
Create a recursive function that return factorial value of given number.
- (d) Write a note on following : 5
Write short note on storage classes.
- 6** (a) Attempt the following : 4
(1) By default function returns _____ type of value.
(2) fmod (20.1, 3) = _____
(3) _____ is header file of isdigit ().
(4) strcmp () returns an _____ type of value.
- (b) Answer in brief : 2
Explain ceil () function with example.
- (c) Answer in detail : 3
Explain function with argument and return value with example.
- (d) Write a note on following : 5
Explain call by value and call by reference with example.
- 7** (a) Attempt the following : 4
(1) _____ is the subscript of the last element of the array.
(2) Collection of same type of elements is known as _____.
(3) _____ Operator is useful to access the member of the structure.
(4) _____ Keyword is useful to define structure.
- (b) Answer in brief : 2
Explain initialization of two dimensional arrays.
- (c) Answer in detail : 3
Explain nested structure with example.
- (d) Write a note on following : 5
Input a string; Write a program that print number of characters of each word.
- 8** (a) Attempt the following : 4
(1) _____ is the subscript operator.
(2) When Structure occupies the memory.
(3) If int a[5] = {10, 20, 30};
Then what is the value of a[4]?
(4) What is ragged array?

- (b) Answer in brief : 2
 Explain multi dimensional array.
- (c) Answer in detail : 3
 Write short note on union.
- (d) Write a note on following : 5
 Explain array of structure and array within structure with example.
- 9** (a) Attempt the following : 4
 (1) What is FILE?
 (2) For binary files, a _____ must be appended to the mode string.
 (3) `int a= 10, *b;`
`b =&a;`
 What is the value of *b?
 (4) _____ Operator is useful to access the members using pointer to structure.
- (b) Answer in brief : 2
 Explain feof () with example.
- (c) Answer in detail : 3
 Explain pointer to structure with example.
- (d) Write a note on following : 5
 Write a program that copy one file into another.
- 10** (a) Attempt the following : 4
 (1) Null
 (2) _____ Function is useful to write a string into file.
 (3) _____ Operator return address of the variable.
 (4) If we declare array variable a, then _____ and _____ are ways to access the first element of the array a.
- (b) Answer in brief : 2
 Explain pointer to variable with example.
- (c) Answer in detail : 3
 Explain command line argument with example.
- (d) Write a note on following : 5
 Explain fread () and fwrite () with example.