

Q1.

Choose the correct option for following questions. All the Questions are compulsory and carry equal marks. (2 Marks each)

1.

What inbuilt function should be used to return a value rounded up to the next higher integer?

- Option A: floor( )  
Option B: round( )  
Option C: puts( )  
Option D: ceil( )

2.

Collection of variables of same or different data types is called as

- Option A: Array  
Option B: Structure  
Option C: Function  
Option D: String

3.

What is value of **a** in following expression?  
int a = 10 + 4.867;

- Option A: a=10  
Option B: a=14.867  
Option C: a=14  
Option D: a=4

4.

```
#include <stdio.h>
void main()
{
    int x = 5;
    if (x == 5)
        printf("hi\n");
    else
        printf("how are u\n");
    printf("hello\n");
}
```

- Option A: hi  
Option B: hi  
hello  
Option C: how are you  
hello  
Option D: how are you

5.

The value obtained in the function is given back to the main program by using which keyword?

- Option A: new  
Option B: return  
Option C: volatile  
Option D: static

6.	In an array $a[2][2] = \{10, 20, 30, 40, 50, 60\}$ , then $a[0][1]$ is which element?
Option A:	10
Option B:	20
Option C:	30
Option D:	40

Q2	Solve any Four out of Six (4 marks each)
A	Explain conditional operator used in C language with proper example.
B	Differentiate between entry and exit controlled loop with an example.
C	Write a program to accept a number and to check whether it is Armstrong number or not. (If sum of cube of digits equal to that number then number is Armstrong number. example $1^3 + 5^3 + 3^3 = 153$ )
D	Define recursion. Write a program using recursive function 'power' to compute x raised to n i.e. $x^n$ which can be defined as given below: $\text{power}(x, n) = 1$ if $n = 0$ $\text{power}(x, n) = x$ if $n = 1$ $\text{power}(x, n) = x * \text{power}(x, n-1)$ otherwise
E	Explain following functions with proper example. a) <code>strcmp()</code> b) <code>strcat()</code> c) <code>gets()</code> d) <code>strrev()</code>
F	Write a program to accept elements of one dimensional array from user and sort and display them in ascending order.

Q3	Solve any Four out of Six (4 marks each)
A	Explain bitwise operators available in C?
B	Write a program to print the following pattern. Accept number of rows from user and display that much number of rows in output 1 01 101 0101
C	Write a program to find factorial of a given number using function.
D	Explain compile time and run time initialization of an array with proper example.
E	Write a program to accept elements of two dimensional square matrix and check whether matrix is symmetric or not.
F	Write a program to read Title, Author and Price of 5 books using array of structures. Display the records in ascending order of Price.

Q4	Solve any Four out of Six (4 marks each)
A	Explain data type modifiers available in C language.
B	Write a program to accept three numbers and to find largest of three numbers using nested if-else.
C	Write a program to check whether the entered string is palindrome or not using user defined function.
D	Explain the following with proper example: a) <code>break</code> b) <code>continue</code> c) <code>goto</code>
E	Explain the advantages of using Function.
F	Distinguish between Structure and Union with proper example.