

# SEE MODEL QUESTION PAPER

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21CSE13

First Semester B.E. Degree Examination, March- 2022

## C Programming

Time: 3 hrs.

Max. Marks: 100

*Note: answer any Five full questions, choosing ONE full question from each module.*

Q. No.	MODULE - 1	Marks
1	a Develop an algorithm and draw a flowchart to input two numbers and find the greatest number among them.	6 MARKS
	b Explain the basic structure of C program with an example.	10 MARKS
	c Evaluate the following expression:	
	d (i) $Res = x*x+2*x+1/2*x*x+x+1$ where $x=3.5$ , assume Res to be float (ii) $Res = (a>0) \    \ (b>=0) \ \&\& \ (a>=0) \    \ (b<=0)$ where $a=-1, b=-a$ (iii) $int \ a=5; \ a+= \ a++ \ + \ ++a;$ (iv) $a+= \ b*= \ c-=5$ where $a=3, b=5, c=8$	4 MARKS
	Write a C program to input 2 numbers, swap them without using temporary variable.	4 MARKS
2	a List the operators used in C language. Explain relational and logical operators.	6 MARKS
	b Write a C program to input 3 sides (a, b, c) of a triangle and find the area using the formula $area = \sqrt{s(s-a)(s-b)(s-c)}$ where $s = \frac{a+b+c}{2}$	10 MARKS
	c Define type conversion. Explain implicit type conversion with example.	4 MARKS
	d Describe the process of compiling and running a C program.	4 MARKS
<b>MODULE - 2</b>		
3	a Explain the working of if-else ladder statement with syntax and example.	6 MARKS
	b Write a C program to read four values a, b, c, d and evaluate the ratio of (a + b) to (c - d) and prints the result, if c - d is not equal to zero.	4 MARKS
	c Evaluate and find the output for the following code.	6 MARKS
	(i) <pre>for(;;) printf("Hello");</pre>	
(ii) <pre>int i; for(i=1; i&lt;=10; i++) ; printf("%d ",i);</pre>		
(iii) <pre>int count = 5; while (count -- &gt; 0) printf("%d ", count);</pre>	4 MARKS	
d Write a C program to input a character and check whether it is uppercase or lowercase or any other character without using library functions.		
4	a Explain the working of switch statement with syntax and example.	6 MARKS
	b Find errors, if any, in each of the following segments and correct them. (i) <pre>if (x + y = z &amp;&amp; y &gt; 0) printf(" ");</pre>	4 MARKS

(ii) if (p < 0) || (q < 0)  
printf (" sign is negative");

(iii) if (code > 1);

a = b + c

else

a = 0

6 MARKS

c

Write a C program to input numeric day value (starting from Monday as 1) and display the corresponding name of the week day. Use switch-case for the purpose.

4 MARKS

d

Write a C program to find the sum =  $1^2 + 2^2 + 3^2 + 4^2 + \dots + n^2$

### MODULE - 3

- 5 a Define array. Explain the declaration and initialization of two-dimensional array with an example. 6 MARKS
- b Write a C program, which reads your name from the keyboard and outputs a list of ASCII codes, which represent your name. 4 MARKS
- c Write a c program to find the transpose of a matrix. 6 MARKS
- d Explain the following string handling functions with examples. 4 MARKS
- (i) strcat()
- (ii) strcmp()
- 6 a Define string. Explain declaration and initialization of string variables with example. 6 MARKS
- b Write a C program to input a string, convert lowercase letters to uppercase and vice versa without using library functions. 4 MARKS
- c Write a C program to arrange the elements of an integer array using Bubble Sort algorithm. 6 MARKS
- d Explain the following string handling functions with examples. 4 MARKS
- (i) strcpy()
- (ii) strlen()

### MODULE - 4

- 7 a List and explain the categories of user defined functions. 10 MARKS
- b Write a recursive function to generate Fibonacci series for n no. of terms. 5 MARKS
- c Write a user defined function to swap two numbers using bitwise operators. Use it in the main() function. 5 MARKS
- 8 a Discuss the relevance of storage classes on scope, visibility and lifetime of variables. 10 MARKS
- b Write a C program to find sum of digits using recursion. 5 MARKS
- c Write a user defined function to find sum of  $1^{\text{st}}$  n natural numbers. Use it in the main() function to display the result. 5 MARKS

### MODULE - 5

- 9 a Define a structure. Explain the syntax of structure declaration in C with an example. 5 MARKS
- b Write a C program using structures to input marks, compute average marks and display the students score above and below the average marks for a class of N students. 10 MARKS
- c Explain the File I/O Operations with an example. 5 MARKS
- 10 a Evaluate and find the output of the C program. 5 MARKS
- ```
#include<stdio.h>
void main()
{
```

```
struct simp
{
    int i = 6;
    char city[] = "chennai";
};
struct simp s1;
printf("%d",s1.city);
printf("%d", s1.i);
}
```

**10 MARKS**

- b** Write a C program to read data from the keyboard, write it to a file called INPUT, again read the same data from the INPUT file, and display it on the screen.
- c** Write a program in C to count the number of Lines in a Text File.

**5 MARKS**

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