



Avinashilingam Institute for Home Science and Higher Education for Women
 (Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
 Re-accredited with 'A++' Grade by NAAC. Recognized by UGC Under Section 12B
 Coimbatore - 641 043, Tamil Nadu, India
 Continuous Internal Assessment - II October 2025

I Semester

Class: I UG

Time: 2 hours

Major: Computer Science

Max.Marks:60

23BCSC01 Programming Methodology

Course Outcomes:

1. Obtain knowledge to design algorithms and draw flowcharts to solve a problem.
2. Develop problem solving skills coupled with top-down design principles.
3. Acquire knowledge to implement different Operations on arrays.
4. Trained skill to solve problems through programming for simple applications.
5. Understand the use of Arrays, functions, pointers, structures and unions.

Part A

6x1 = 6

Choose the Correct Answer

1. What is the index of the first element in a C array? CO3K2
 a. 0 b. 1 c. -1 d. Depends on compiler
2. Which operator is used to access the members of a structure in C? CO3K1
 a. Dot(.) b. arrow(->) c. comma(,) d. scope resolution(::)
3. What will be the output of the following C code? CO4K3

```
#include <stdio.h>
#include <string.h>
int main() {
    char str1[20] = "Hello";
    char str2[20] = "World";
    printf("%s", strcat(str1, str2));
    return 0;
}
```

 a. Hello b. World c. HelloWorld d. Hello World
4. Which of the following is true about unions? CO4K1
 a. Members of a union share the same memory location.
 b. Members of a union have different memory locations.
 c. Unions cannot contain members of different data types.
 d. Unions are used to create objects with different data types but the same name.
5. In C, which function is used to open a file? CO5K1
 a. open() b. fopen() c. file_open() d. openfile()
6. Which of the following is a requirement for Binary Search to work correctly? CO5K2
 a. The array must be sorted b. The array must contain distinct elements only
 c. The array size must be even d. Binary search works only with integers

Part- B

3x6=18

Answer ALL Questions

Each answer should not exceed 400 words or two pages

7. a. Explain any two string library functions with example. CO3K1

Or

7. b. Explain pointer to structure in detail. CO3K2

8. a. Explain Union in C with example.

9. a. Explain in detail about Linear search algorithm with an example. CO5K2

or

9. b. What are the file opening modes in C? Explain.

Part-C

3x12=36

Answer ALL questions

Each answer should not exceed 800 words or four pages

10. a. Define a multidimensional array, including its declaration and initialization. Provide an example code. CO3K3

Or

10. b. Write a C program to add two matrices using arrays. CO3K3

11. a. Define a structure in C and how to access structure members? Provide a code example that demonstrates this. CO4K1

Or

11. b. Write a C program that performs different string operations using built-in string functions. CO4K3

12. a. Discuss the various File operations in C. CO5K3

Or

12.b. Explain in detail about Binary search algorithm with an example. CO5K2

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Dr.M.Thilagu

Campus-I- 65

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23.10.2025