

Date: 11-03-22

Registration number:

ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27

BSC - I SEMESTER

SEMESTER EXAMINATION: OCTOBER 2021

**(Examination conducted in February-March 2022)**

**CS 121 - Computer Fundamentals and Programming in C**

Time- 3 hrs Max Marks-100

This question paper contains FOUR printed pages and three parts

**Part A**

**Answer all the following questions (20\*1=20)**

1. Which of the following language does computer understand?
a) Computer understands only C Language
b) Computer understands only Assembly Language
c) Computer understands only Binary Language
d) Computer understands only BASIC
2. Which of the following is the brain of the computer?
a) Central Processing Unit
b) Memory
c) Arithmetic and Logic unit
d) Control unit
3. Which of the following monitor looks like a television and are normally used with non-portable computer systems?
a) LED
b) LCD
c) CRT
d) Flat Panel Monitors
4. Which of the following part of a processor contains the hardware necessary to perform all the operations required by a computer?
a) Controller
b) Registers
c) Cache
d) Data path
5. The octal equivalent of 1100101.001010 is \_\_\_\_\_\_
a) 624.12
b) 145.12
c) 154.12
d) 145.21
6. Which of the following is not a binary number?
a) 1111
b) 101
c) 11E
d) 000
7. Which of the following is not a valid C variable name?
a) int number;
b) float rate;
c) int variable\_count;
d) int $main;
8. Which keyword is used to prevent any changes in the variable within a C program?
a) immutable
b) mutable
c) const
d) volatile
9. Where in C the order of precedence of operators do not exist?
a) Within conditional statements, if, else
b) Within while, do-while
c) Within a macro definition
d) None of the mentioned
10. What will be the output of the following C code?



a) Value of x is 1
b) Value of x is 2
c) Value of x is 3
d) Compile time error

1. The continue statement cannot be used with
a) for

b) while

c) do while

d) switch

1. Which loop is guaranteed to execute at least one time.
2. for
3. while
4. do while
5. None of the above
6. do-while loop terminates when conditional expression returns?
	1. One
	2. Zero
	3. Non - zero
	4. None of the above
7. Choose correct statement about Functions in C Language.
	* 1. A Function is a group of c statements which can be reused any number of times.
		2. Every Function has a return type.
		3. Every Function may or may not return a value.
		4. All the above
8. A function which calls itself is called a \_\_\_ function.
9. Self Function
10. Auto Function
11. Recursive Function
12. Static Function
13. What is the dimension of the below C Array.?

int ary[]={1,3,5,7};

1. 1
2. 2
3. 3
4. 5
5. What is the output of C Program with arrays.?

int main()

{

 static int ary[] = {1, 3, 5};

 printf("%d %d", ary[-1], ary[5]);

 return 0;

}

* 1. 0 0
	2. -1 -1
	3. Compiler error
	4. None of the above
1. What is the minimum number of functions to be present in a C Program.?
2. 1
3. 2
4. 3
5. 4
6. What characters are allowed in a C function name identifier.?
	* 1. Alphabets, Numbers, %, $, \_
		2. Alphabets, Numbers, Underscore (\_)
		3. Alphabets, Numbers, dollar $
		4. Alphabets, Numbers, %
7. What is the output of C Program with functions and pointers.?

**int main()**

**{**

 **int b=25;**

 **//b memory location=1234;**

 **int \*p = b;**

 **printf("%d %d", b, p);**

 **return 0;**

**}**

* 1. 25 1234
	2. 25 0
	3. 25 25
	4. Compiler error

**PART B**

**Answer any six of the following questions. (6\*6=36)**

1. Solve the following:
2. 1101110 – 0110111
3. 1101010 + 1010101
4. 110011\*101
5. Write short notes on

a. Assembler

b. Interpreter

c. Compiler

 23. Write an algorithm and draw flowchart to find largest of three numbers.

 24. Differentiate between while and do while loop. Illustrate your answer with a suitable example.

 25. Write a program to find x n of a number using recursive functions.

 26.Write a C program to delete an element from a single dimensional array.

 27.How does Structure differ from a Union? Explain with suitable examples.

 28.Write a program to find Julian date using switch statements?

**PART C**

**Answer any three of the following questions. (8\*3=24)**

 29. Write short notes on Excess 3 code and Gray code.

 30. Explain call by reference with a suitable example.

 31. Explain any four types of String handling functions with examples

 32. What is a flow chart? Draw a flowchart to find the sum of the digits of a number.

33. Write a C program to compute the sum of even numbers and the sum of odd numbers using

 functions.

**PART D**

**Answer any two of the following questions. (10\*2=20)**

34. Convert FACE (16) to decimal, binary and octal numbers.

35. Write a C program to add two matrices.

36. a. What are the differences between local and global variable?

 b. Write a C program to find whether a given number is prime or not. [4+6]

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