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**Reg. No. :** .....

**Code No. : 20593 E      Sub. Code : SEMA6F**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2021.

Sixth Semester

Mathematics

Major Elective - PROGRAMMING IN C

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — ( $10 \times 1 = 10$  marks)

Answer ALL questions.

Choose the correct answer :

1. Who is the father of C language?  
(a) Bjarne Stroustrup (b) James A. Gosling  
(c) Dennis Ritchie (d) E.F. Codd
2. The format identifier '%d' is used for \_\_\_\_\_ data type.  
(a) char (b) int  
(c) float (d) double

3. Operator % in C language is called \_\_\_\_\_
- (a) Percentage                      (b) Quotient
- (c) Modulus                        (d) Division
4. Which among the following is NOT a logical or relational operator?
- (a) !=                                (b) ==
- (c) ||                                 (d) =
5. An array index start with \_\_\_\_\_
- (a) 2                                 (b) 1
- (c) 0                                 (d) 3
6. What is the default return type of getchar()?
- (a) char                            (b) int
- (c) char\*                         (d) none of the above
7. Array is \_\_\_\_\_data type in C programming language.
- (a) Primitive                      (b) Derived
- (c) Custom                        (d) None of the above

8. Smallest element of an array is called as \_\_\_\_\_
- (a) Middle bound      (b) Lower bound
- (c) Upper bound      (d) Range
9. A recursive function can be replaced with \_\_\_\_\_ in C language.
- (a) for loop      (b) while loop
- (c) do...while loop      (d) all of the above
10. \_\_\_\_\_ keyword must be used to achieve expected result using Recursion.
- (a) printf      (b) scanf
- (c) void      (d) return

PART B — ( $5 \times 5 = 25$  marks)

Answer ALL the questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Define Variable. Write a brief account on variables with example.

Or

- (b) Describe about symbolic constants.

12. (a) Write a brief account on Relational operators.

Or

- (b) Write C program to calculate the given number is prime or not.

13. (a) Explain in detail about conditional operator with example.

Or

- (b) Add a note on reading and writing a character with example.

14. (a) Write a short note on two dimensional arrays.

Or

- (b) Describe in detail about writing strings to screen.

15. (a) Discuss in detail about definition of functions.

Or

- (b) Write a C program to calculate factorial of a given number using Recursion.

PART C — ( $5 \times 8 = 40$  marks)

Answer ALL the questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Detail account on data types with example.

Or

- (b) Explain in detail about constants with example.

17. (a) Elaborate note on Arithmetic operators with example.

Or

- (b) Describe about precedence of arithmetic expressions.

18. (a) Write a brief account on if statement and its types with example.

Or

- (b) Discuss in detail about looping statements with example.

19. (a) Illustrate about initialization of one dimensional array with example.

Or

- (b) What is String? Describe about String handling functions with example.

20. (a) Explain in detail about category of functions with example.

Or

- (b) Discuss about scope, visibility and lifetime of variables.
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