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**M.A./M.Sc.(Third Semester)
EXAMINATION, Dec. - Jan., 2021-22**

MATHEMATICS

(Optional - A)

Paper Fifth

[Programming in 'C' (with ANSI Features) - I]

Time : Three Hours]

[Maximum Marks:70

Note: All questions are compulsory. All questions carry equal marks.

Section - A

(Objective/Multiple Choice Questions)

(1 mark each)

Note : Attempt all questions.

Choose the correct answer

1. Who is father of 'C' Language?

- (A) Bjarne Stroustrup
- (B) Dennis Ritchie
- (C) James A. Gosling
- (D) Dr. E. F. Codel

2. A C-language variable cannot start with

- (A) A number
- (B) An alphabet
- (C) A special symbol other than underscore
- (D) Both (A) and (C)

3. What is an array?

- (A) An array is a collection of variables that are of the dissimilar data type.
- (B) An array is not a collection of variables that are of the same data type.
- (C) An array is a collection of variables that are of the same data type.
- (D) None of the above

4. Bitwise operators can operate upon?

- (A) Double and chars
- (B) Floats and doubles
- (C) ints and floats
- (D) ints and chars

5. Which operators are known as Ternary operator?

- (A) ::; ?
- (B) ?; ::
- (C) ?; ; ;
- (D) None of the above

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6. Which one of the following sentences is true?
- (A) The body of a while loop is executed at least once.
 - (B) The body of a do.....while loop is executed zero or more times.
 - (C) A for loop can never be used in place of a while loop
 - (D) The body of a do.....while loop is executed at least once
7. Recursive functions are executed in a ____
- (A) Parallel Fashion
 - (B) First in first out order
 - (C) Load Balancing
 - (D) Last in first out order
8. The statement `print f("% d";10 ? 0 ? 5 :1:12);` will print-
- (A) 10
 - (B) 0
 - (C) 1
 - (D) 12
9. The 'C' language is
- (A) Context sensitive language
 - (B) Context free language
 - (C) Regular language
 - (D) None of the above

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10. The continue statement can not be used with -
- (A) for
 - (B) switch
 - (C) do
 - (D) while
11. Which operator has the lowest priority?
- (A) ||
 - (B) +
 - (C) %
 - (D) &&
12. Which is correct with respect to size of the data type?
- (A) char > int > float
 - (B) int > char > float
 - (C) double > char > int
 - (D) double > int > char
13. Which of the following keywords is used to define an alternate name for an already existing data type?
- (A) satoc
 - (B) volatile
 - (C) default
 - (D) typedef

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14. Choose a right a statement
- (A) Loops block executes a group of statements repeatedly
 - (B) Loops usually take advantage of loop counter.
 - (C) Loops is usually executed as long as a condition is met
 - (D) All the above
15. Range of Character data type is:
- (A) -2^{23} to $2^{23}-1$
 - (B) -2^{31} to $2^{31}-1$
 - (C) -2^7 to 2^7-1
 - (D) -2^{15} to $2^{15}-1$
16. Which is not a keyword group?
- (i) continue, do, register, volatile
 - (ii) signed, void, typeof, small
 - (iii) struct, switch, case, fact
- (A) Only (i)
 - (B) Only (ii)
 - (C) (i), (ii)
 - (D) (ii) and (iii)
17. Which statement is correct for constructing an integer constant?
- (A) It must have a decimal point
 - (B) No comma and blank space allowed with an integer constant.
 - (C) It could be always positive
 - (D) Default sign is always negative.

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18. The statement (i) $(23 < 18) \&\& (23 > 15)$ (ii) $(23 < 18) \parallel (23 > 15)$ are:
- (A) (i) is true and (ii) is false
 - (B) (i) is false and (ii) is true
 - (C) Both (i) and (ii) are true
 - (D) Both (i) and (ii) are false
19. Explicit type conversion is known as:
- (A) Conversion
 - (B) Disjunction
 - (C) Separation
 - (D) Casting
20. C - language allows a three way transfer of control with the help of
- (A) Relational operator
 - (B) Ternary operator
 - (C) Conditional operator
 - (D) Comparison operator

Section - B

(Very Short Answer Type Question)

(1 mark each)

Note: Attempt all questions answer in 1-2 sentences.

1. How to used gets() and puts() in C programming language?
2. Write five Keywords?
3. What is enumeration data types?

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4. How "long int" types data can be defined?
5. What do you mean by infiniteloop?
6. What is the purpose of switch case statement?
7. What do you understand by precedence of operators?
8. What is unary+ and unary- operators?
9. How to declare array in C language?
10. What do you mean by initialization of array?

Section - C

(Short Answer Type Questions)

(2 marks each)

Note: Attempt all questions. Answer in 2-3 sentences.

1. What is preprocessor in C language?
2. Explain in detail the variables:
3. Write a C program to find sum of sine series without function.
4. What is typedef?
5. Write a program to find out simple interest using while loop.
6. Write short note on break and continue statement.
7. What do you mean by increment and decrement operations?
8. What is encryption and decryption?
9. Write a program in C language to find the biggest number between three interger using conditional operator.
10. Write a program for subtraction of two matrix.

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Section - D

(Long Answer Type Questions)

(4 marks each)

Note: Attempt all questions.

1. What is the role of function in C programming? Explain with suitable example.

OR

Explain Basic structure of C program

2. Explain pointer.

OR

What do you understand by data conversion and mixing type data type?

3. What is looping in C programming? Explain different type of loop?

OR

Why we use conditional branching in C language? Write a program to find sum of the five subjects obtained by the student and calculate its percentage.

4. Write a short notes about _____

(i) Bitwise operators.

(ii) Ternary operators

OR

Explain relational operators and arithmetic operators.

5. Explain malloc() and calloc() function and write a C programming to find out integers using array.

OR

Explain the use of array and its type.

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