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( CBCS )

( 6th Semester )

**MATHEMATICS**

TWELFTH (C) PAPER

**( Computer Programming in C )**

**( Theory )**

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks for the questions*

**( SECTION : A—OBJECTIVE )**

( Marks : 10 )

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. The number of keywords available in C is

(a) 30 ( )

(b) 31 ( )

(c) 32 ( )

(d) 33 ( )

2. The value of  $9 \text{ ((}8 \% 2) \text{ } 4 * 2) \text{ } 1$  is

(a) -1 ( )

(b) -2 ( )

(c) 1 ( )

(d) 2 ( )

3. What will be the output of the code `b = ++c + ++c`; if c is 10 initially?

(a) 0 ( )

(b) 25 ( )

(c) 26 ( )

(d) 27 ( )



**( SECTION : B—SHORT ANSWER )**

( Marks : 15 )

Answer the following questions :

3×5=15

UNIT—I

1. What do you understand by constant?

**OR**

2. What do you understand by identifiers?

UNIT—II

3. What is conditional operator?

**OR**

4. What is function prototype?

UNIT—III

5. What are the advantages and disadvantages of pointers?

**OR**

6. Explain `strncpy()`.

UNIT—IV

7. How does structure differ from union?

**OR**

8. Explain self-referential structures.

UNIT—V

9. Explain (i) `rewind()` and (ii) `rename()`.

**OR**

10. What are the various operations on files?

( SECTION : C—DESCRIPTIVE )

( Marks : 50 )

Answer the following questions :

10×5=50

UNIT—I

1. What do you understand by C? Explain the structure of C programming with a neat diagram.

**OR**

2. Differentiate between operators and operands. Discuss the commonly used operators in C programming.

UNIT—II

3. Write a simple program to differentiate 'if' and 'if-else' statements. Mention the relationship between 'switch' statement and 'break' statement with example.

5+5=10

**OR**

4. Explain call by value and call by reference by giving suitable examples.

UNIT—III

5. State four storage classes in C. Explain all of them in brief.

**OR**

6. How do two-dimensional arrays allocate in the memory? Explain with suitable example.

UNIT—IV

7. What is an array of pointer? Write a program to illustrate array of pointer and explain.

**OR**

8. What is structure within structure? Write C program to demonstrate structure within structure and explain in brief.

UNIT—V

9. Explain the different categories of functions with appropriate example.

**OR**

10. Explain the functions fprintf( ) and fscanf( ), and write complete example of file management.

★ ★ ★