Time : 3 hours

Full Marks : 75
Pass Marks : 30

The figures in the right margin indicate full marks for the questions.

There will be 4(four) parts. PART-A has 10(ten) questions which carries 1(one) mark each, PART-B has 8(eight) questions which carries 2(two) mark each, out of which only 5(five) questions needs to be answered. PART-C has 8(eight) questions which carries 5(five) mark each, out of which only 5(five) questions needs to be answered. PART-D has 5(five) questions which carries 10(ten) mark each, out of which only 3(three) questions needs to be answered.

PART-A

All questions are compulsory

1. Choose the correct answer :   1 x 16 = 16

   i) Who is the father of C language?
      a) Steve Jobs
      b) James Gosling
      c) Dennis Ritchie
      d) Rasmus Lerdorf

   ii) Which of the following is not a valid C variable name?
      a) int number;
      b) float rate;
      c) int variable_count;
      d) int $main;

   iii) Which is valid C expression?
      a) int my_num = 100,000;
      b) int my_num = 100000;
      c) int my num = 1000;
      d) int $my_num = 10000;

   iv) The C-preprocessors are specified with _____ symbol.
      a) #   b) $ c) " "   d) &

v) scanf( ) is a predefined function in _____ header file.
    a) stdlib.h   c) stdio.h
    b) ctype.h   d) stdarg.h

vi) What is meant by "a" in the following C operation?
        fp = fopen("Sample.txt","a");
    a) Attach   c) Apprehend
    b) Append   d) Add

vii) How many times i value is checked in the following C program?

```
#include<stdio.h>
int main( )
{
        int i = 0;
        while(i < 3)
                i++;
        printf("In while loop");
}
```

    a) 2   b) 3   c) 4   d) 1

viii) Which of the following is not a storage class specifier in C?
    a) auto   b) static   c) extern   d) volatile

ix) Which of the following is not a logical operator?
    a) &&   b) !   c) || d) |

x) What is the output of this statement "printf("%d",(a++))"?
    a) The value of (a + 1)   c) Error message
    b) The current value of a   d) Garbage

PART-B

Answer any 5(five) from question 2 to 9.

2×5

2. Define algorithm citing an example.
3. Differentiate between linking and loading.
4. What are the different Data Type available in C language?

2

5. Define keywords with examples.
6. Differentiate between local and global variable in C.
7. What are operators? Mention their types in C.
8. What is the use of sizeof( ) operator in C? Cite with an example.
9. Define and name loop in C.

PART-C

Answer any 5(five) from question 10 to 17.   5x 5

10. Differentiate between 'while' and 'do-while' loop citing with ad example each.
11. What is an array? State the different operations performed in an array.
12. State the various String Manipulation functions in C along with its purpose.
13. Write a program to find the factorial of a given number using recursive function.
14. Differentiate between structure and union with an example each.
15. Explain files and its types of file processing.
16. What are the Storage classes available in C? Give example each.
17. Write a C program to transpose a matrix.

PART-D

Answer any 3(three) from question 18 to 22.   10

18. Write a C program to print the Fibonacci series and also draw flowchart.
19. Write a C program using menu-driven method to calculate the area triangle, rectangle, square and circle.

3

20. Explain the concept of pass by value and pass by reference. Write a C program to swap the content of two variables using pass by reference.

21. Define a structure of a student with details like roll number, student name and total marks. Using this, declare an array with 50 elements. Write a program to read details of n students and print the list of students who have scored 75 marks and above.

22. Explain two-dimensional arrays and write a program to multiply two matrix.