Group – A

(Multiple Choice Type Questions)

1. Choose the correct answer from the given alternatives in each of the following questions:

a) What is the scope of the global variable?

   ✓i) The entire programme file

   ii) Only the function in which the variable is declared

   iii) None of these

   iv) All of these

b) *C* is a

   ✓i) Middle level language   ii) High level language

   iii) Low level language   iv) None of these

c) *C* programs are converted into machine language with the help of

   i) an interpreter   ✓ii) a compiler   iii) an operating system   iv) none of these

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d) The real constant C can be expressed in which of the following forms?

i) Fractional form only

ii) Exponential form only

iii) ASCII from only

✓iv) Both fractional and exponential forms

e) The maximum value, that an integer constant can have, is

i) –32767   ✓ii) 32767   iii) 1.7014e + 38   iv) – 1.7014e + 38

f) A C variable cannot start with

i) an alphabet

✓ii) a number

iii) a special symbol

iv) both (ii) and (iii)

g) A switch statement is used to

i) switch between functions in a program

ii) switch from one variable to another

iii) to use switching variable

✓iv) to choose from multiple possibilities which may arise due to different values of a single variable

h) Which of the following operator accepts only integer operand?

i) +   ii) *   iii) /   ✓iv) %.

i) How many times will the loop be executed?

```
x = 500;
while (x <= 500)
    {
            x = x - 600;
            if (x < 0)
                break;
    }
```

✓i) 0   ii) 1   iii) 500   iv) 100

j) What will be the output of the following program?

```
main ( )
    {
        int i = 3, *j, *k;
        j = & i;
        j = j / 3;
        print f ("%u", j);
    }
```

i) 1   ii) 3   ✓iii) error   iv) none of these

Group – B
(Short Answer Type Questions)

2. Explain the storage classes available in C. What do you mean by scope of the variable?
1st Part: See Topic: FUNCTIONS, Long Answer Type Question No. 4.
2nd Part: See Topic: FUNCTIONS, Short Answer Type Question No. 2.

3. What do you mean by explicit and implicit type conversion? What is the utility of users defined function?
See Topic: FUNCTIONS, Long Answer Type Question No. 6.

4. What do you mean 'by call by value & call by reference? Explain with examples.
See Topic: POINTERS, Long Answer Type Question No. 2.

5. Write a recursive program to calculate the factorial of a positive integer. What is the limitation on the magnitude of the input integer for integer output?
1st Part: See Topic: FUNCTIONS, Long Answer Type Question No. 5.
2nd Part: See Topic: FUNCTIONS, Short Answer Type Question No. 7.

6. Define loop. Classify the type of loops in C with suitable examples. The fibonacci numbers are defined recursively as follows:
$$F1=1: F2=1; \quad Fn-1+Fn-2 > 2$$
See Topic: FLOW OF CONTROL, Long Answer Type Question No. 9.

7. Write a function that will generate and print the first n fibonacci numbers.
See Topic: FUNCTIONS, Short Answer Type Question No. 8.

Group – C
(Long Answer Type Questions)

8. What are the different decision making controls in C? Describe IF statements with example. Write a program that accepts an integer number and print it in the reverse order.
Decision Making control in C includes if Statement, The If else construct, Compound Relational tests, Nested if Statement, The ELSE If Ladder, The Switch Statement and The GOTO statement.
See Topic: OPERATORS, EXPRESSIONS & MANAGING INPUT OUTPUT, Long Answer Type Question No. 2.

9. a) Write a program to remove all blank lines from a file.
b) Write a program to print the following series:
$$\sin(x) = x - x^3/3! + x^5/5! + x^7/7! + \cdots\cdots + x^n/n!$$ (where the value of x and n are supplied by the user as an input).
c) Write a program that converts a given decimal number to its binary equivalent.

a) See Topic: FILES, Long Answer Type Question No. 1.

b) See Topic: OPERATORS, EXPRESSIONS & MANAGING INPUT OUTPUT, Long Answer Type Question No. 3.

c) See Topic: FUNCTIONS, Short Answer Type Question No. 9.

10. a) Differentiate between an identifier and a keyword.

b) What is the utility of a "" operator in C?

c) What do you mean by recursion? What advantages are there in its use?

d) What is meant by structure in C? How does a structure differ from an array?

e) What is the purpose of a static variable? What is its scope?

See Topic: OPERATORS, EXPRESSIONS & MANAGING INPUT OUTPUT, Short Answer Type Question No. 4.

See Topic: POINTERS, Short Answer Type Question No. 4.

See Topic: FUNCTIONS, Short Answer Type Question No. 10.

See Topic: STRUCTURES AND UNIONS, Short Answer Type Question No. 2.

See Topic: FUNCTIONS, Short Answer Type Question No. 11.

11. a) Draw the flow-chart for the bubble sort algorithm on a set of *n* numbers where *n* is specified by the user as an input.

b) What is a pointer? How is the pointer initialised?

c) Write a program in C which accepts integer numbers and prints the sum of the digits.

a) See Topic: INTRODUCTION, Short Answer Type Question No. 1.

b) See Topic: POINTERS, Short Answer Type Question No. 5.

c) See Topic: LOW OF CONTROL, Long Answer Type Question No. 8.