

Indian Statistical Institute
Documentation Research and Training Centre
MS(LIS) (2020-22)
Second Semester Final Examination
Paper: 10 Data Structures and Computer Programming

Date: 09th July 2021

Max. Marks: 100

Time: 3 hrs

Answer all questions

All questions carry equal marks

Q.1 Explain with examples any 5 data types used in C. [10]

Q.2 a. Differences between a constant and a variable. [3+3+4]
b. Difference between break and continue statements.
c. Difference between while and do while statements.

Q.3 What are the operators used in C programming? [10]

Q.4 What are functions in C programming? Explain recursive functions in C with an example. [10]

OR

Write a program for Arithmetic Operations using switch case statements. [10]

Q.5 a. What are the rules to keep in mind while naming a variable? [5+5]
b. Provide inputs for the program, and state what the output will look like as per your inputs.

```
int main() {
    int i;
    int number, sum;

    for (i = 1; i <= 10; ++i) {
        printf("Enter n%d: ", i);
        scanf("%d", &number);

        if (sum > 50) {
            break;
        }

        sum = sum + number;
    }

    printf("Sum = %d", sum);

    return 0;
}
```

Q.6 Briefly describe Linked List with the traversing & searching, finding, insertion, and deletion operation. [10]

Q.7 Briefly describe Stack and Queue. Also explain how Linked list can be used for implementation of stack and queue. [10]