Reg. No .....................                Name ...............................                **22U111**
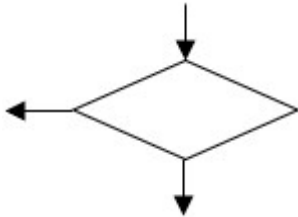
## END SEMESTER EXAMINATION : OCTOBER 2022
### SEMESTER 1 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE - DATA SCIENCE
COURSE : **21UP1CRMCP1 : PROGRAMMING IN C LANGUGAGE**
*(For Regular - 2022 Admission and Improvement / Supplementary - 2021 Admission)*

Time : Three Hours                                                          Max. Weightage: 30

### PART A
### Answer any 8

1. Specify the syntax of malloc() function.

2. _____ function is used to read a string with whitespaces.

3. If the strings str1="Semester" and str2="Examination", write a statement / code that would print the output as "Semester Examination".

4. Define the term 'exit controlled loop'. Give an example for the same.

5. The _____ operator is used to access structure elements using a pointer variable.

6. List any two file-related functions in C.

7. The conversion specification _____ can be used with printf() to display a line of text.

8. State the use of the following symbol in a flowchart:



9. Differentiate between `void main()` and `int main()`.

10. State the use of break statement inside a switch case construct.

(1 x 8 = 8 Weight)

### PART B
### Answer any 6

11. Differentiate between while and do-while loops.

12. Write a sample code for displaying the values stored in an array.

13. Describe the purpose of escape sequence characters.

14. State the meaning of the following functions:
    ```
    fseek(fp, 0L, 0);
    fseek(fp, -m, 2);
    ```

15. Given the following declarations, find the value of the expression `*ptr1 + (*ptr2)--`.
    ```
    int x = 10, y = 20, *ptr1, *ptr2;
    ptr1 = &x, ptr2 = &y;
    ```

16. Define the term 'function' in C. State any one advantage of using functions.

17. Discuss the syntax of opening file for writing values from the beginning of the file.
18. Draw a flowchart to show iterative execution of programs.

<div align="right">(2 x 6 = 12 Weight)</div>

## PART C
### Answer any 2

19. With a sample code, explain how parameters can be passed to a function with returning a result from it.
20. A programmer wishes to include the code to reverse a number in his program. Write an algorithm to perform this.
21. Write a program that performs read and write operations of numbers on files with sequential access functions.
22. With a suitable example, differentiate between the ways to pass arguments by value and by reference.

<div align="right">(5 x 2 = 10 Weight)</div>