

**Unit-III**

3. Answer **any one** question : 10×1=10

(a) Write a C program to add two complex numbers by passing structure to a function. Write a C program to concatenate two strings without using library function. Name the header file for string manipulating library functions. 5+4+1

(b) Write a C program to count characters words and lines in a text file. Explain any two library functions to read from a file. When fopen() is not able to open a file what does it returns? 6+3+1

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**B.Sc. 1st Semester (Honours) Examination-2022-23****COMPUTER SCIENCE**

**Course ID : 11511 Course Code : SH/CSC/101/C-1**

**Course Title :**

**Programming Fundamentals C (New)**

**Programming Fundamentals C/C++ (Old)**

*Time : 1 Hour 15 Minutes*

*Full Marks : 25*

*The figures in the right hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**Unit-I**

1. Answer **any five** questions : 1×5=5

(a) What is pre-processor directive?

(b) Why and when do we use #include directive?

(c) Write differences between while and do-while loop.

- (d) Write differences between float and double data type in "C" Language.
- (e) Write a printf statement to output a floating point variable with up to four digits before the decimal point and 2 digits after the decimal point.
- (f) Write a C statement to correctly round a float variable when it is assigned to an int variable. Your answer should not use any library function.
- (g) What is static variable?
- (h) Define union.

### Unit-II

2. Answer **any two** questions : 5×2=10

- (a) Write a recursive program in "C" to calculate GCD of two given numbers. Write the differences between ++a and a++. 4+1
- (b) Write a C program to find the transpose of a matrix. What is dynamic memory allocation? 4+1

- (c) Write a program in "C" to print the following pattern :

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1
2  3
4  5  6
7  8  9  10

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Write differences between "&" and "|" operators.

4+1

- (d) Explain the relational operators available in "C". When a recursive function is called, what happens in

computer's primary memory?  $2\frac{1}{2} \times 5$