

(4) TBC-101/TBI-101

5. (a) What is a function in C language and its significance in programming. Explain different types of functions with suitable examples. (CO5)
- (b) Explain recursion in detail. Write a C program to print Fibonacci series using recursion. (CO5)
- (c) Write a C program using functions to find : (CO5)
- (i) Factorial of a number
  - (ii) Reverse of a number

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**TBC-101/TBI-101**

**B. C. A./B. Sc. (IT)**

**(FIRST SEMESTER) END SEMESTER**

**EXAMINATION, Jan., 2023**

**PROGRAMMING CONCEPTS USING C  
LANGUAGE**

**Time : Three Hours**

**Maximum Marks : 100**

**Note : (i) All questions are compulsory.**

**(ii) Answer any *two* sub-questions among  
(a), (b) and (c) in each main question.**

**(iii) Total marks in each main question are  
*twenty*.**

**(iv) Each sub-question carries 10 marks.**

1. (a) What do you understand by the term  
"Algorithm" ? Describe its different

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characteristics and write an algorithm to check whether a number is a palindrome or not. (CO1)

(b) What is a flowchart and explain its significance in programming. Draw a flowchart to check whether a number is prime or not. (CO1)

(c) Explain the following : (CO1)

(i) Machine level Language, Assembly level language, High level language

(ii) Assembler, Compiler and Interpreter

2. (a) Explain the use of precedence and associativity of operators used in C language. Write a C program to find whether a year is leap year or not using logical operators. (CO2)

(b) What is type casting in C language. Explain different types of type casting used in C with the help of suitable examples. (CO2)

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(c) Write a C program to compute net salary.  $(NS = BP + HRA + TA + DA)$ , where BP (Basic pay would be enter by user),  $HRA = 10\%$  of BP,  $TA = 5\%$  of BP,  $DA = 15\%$  of BP. (CO2)

3. (a) Explain the following : (CO3)

(i) While loop and do-while loop

(ii) Break and continue statements

(iii) Ternary operator

(b) Write a C program to find whether a number is Armstrong number or not. (CO3)

(c) Write a C program to convert a decimal number into binary number. (CO3)

4. (a) What is a String in C language ? Briefly describe 5 string handling functions used in C language. (CO4)

(b) Write a C program to swap maximum and minimum element in an ARRAY. (CO4)

(c) Explain ARRAY and its various types. Write a C program to reverse an ARRAY. (CO4)