VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA
Even Mid Semester Examination for Academic Session 2024-25

COURSE NAME: UG SEMESTER: 2nd

BRANCH NAME: A, B, C, K, L, M, N
SUBJECT NAME: C and Data Structure

FULL MARKS: **30** TIME: **90 Minutes**

Answer **All** Questions.
The figures in the right-hand margin indicate Marks. *Symbols carry the usual meaning.*

Q1. Answer all Questions. **[2 × 3]**

a) Define an identifier. Write the rules for the identifier in C. - CO1

b) Given value of a=10 and b=2 - CO2
print outputs for the following output statements.
i) printf("%d",a&b)
ii) printf("%d",a&&b)
iii) printf("%d",a>>b)
iv) printf("%d",a<<b)

c) Differentiate between formal argument and actual argument. Give Example - CO3

Q2. **[8]**

(a) Write a C program to swap two variables without using a third variable. - CO1

(b) Write a C program to find the largest among of three numbers using the ternary operator

OR

(c) Describe the different input and output functions available in C. - CO1

(d) Write a C program to check whether a given year is a leap year.

Q3. **[8]**

(a) Write a C program to display a total number of even and odd numbers from 1 to 20. - CO2

(b) Write a program in C to print the following pattern

1
2 1
3 2 1
4 3 2 1

OR

(c) Enter marks in five different subjects, calculate percentages, and display the grade of a student based on the given information. - CO2

Percentage	Grade
90-100	O
80-89	E
70-79	A
60-69	B
Below 60	fails

(d) Write a program in C to check if the given number is a palindrome number or not.

Q4. [8]

(a) Write a program in C using a switch case statement to perform arithmetic operations such as addition, subtraction, multiplication, division, and modulus division. - CO3

(b) Write a program in C to print the Fibonacci series using user-defined functions.

OR

(c) Differentiate between Call by Value and Call by Reference. Give suitable examples to illustrate the approaches. - CO3

(d) Write a program in C to display the factorial of a given number using user-defined function.