School of Engineering
B.TECH
Mid Term Examination - Nov 2023

Duration : 90 Minutes
Max Marks : 50

Sem I - E2UC102C - Programming for Problem Solving

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1) State the key features of Python? — K1 (1)

2) Calculate the output of the following expressions 14/(13 * (12-11)) and 14/13*(12-11). Summarize the output whether they are equal or not. — K2 (2)

3) Write a Python program to calculate the sum of Gemetric Progression series: To calculate the geometric sum of a series. Take sum as S, a is the first term in the series. r is the common ratio and n is the number of terms. — K3 (3)

4) Write a program in python, and draw the flowchart, to find the numbers in the thousands, hundreds, tens, and ones place for an input number? For example: 256 has 6 ones, 5 tens, and 2 Hundred. — K3 (6)

5) Write a Python program count_substring, also write the pseudo code in which the user enters a string and a substring. You have to print the number of times that the substring occurs in the given string. — K3 (9)

6) Write a pseudo code and program to print the reverse of a given integer number. — K4 (8)

7) Explain the concept of operators in Python, and provide examples of different types of operators used in Python. Discuss the following categories of operators: Arithmetic Operators Comparison Operators Logical Operators For each category, provide a brief description of the operators and give examples to illustrate their usage. Explain when and why each category of operators is commonly used in Python. — K5 (15)

8) You are given a list of numbers L=[12, 13,14,15,21]. Write a Python program to perform the following operations: 1.Find the total sum of elements of list. 2.Find the length of list. 3.Find the output of L[:3] — K6 (6)