5/10/26 AN

MAR ATHANASIUS COLLEGE OF ENGINEERING, KOTHAMANGALAM – 686 666.
(GOVERNMENT AIDED AUTONOMOUS ENGINEERING COLLEGE)

DEPARTMENT OF MECHANICAL ENGINEERING

FIRST SESSIONAL EXAMINATION, OCTOBER 2026
S1 MECHANICAL A BATCH

B24ES1T01B: PROBLEM SOLVING AND PROGRAMMINGTECHNIQUES (B)

Time –1.5 Hours **Max: 40 Marks**

PART-A
Answer All Questions.

1	How do you receive user input in Python? Write a code snippet to accept an integer value from the user.	**CO1**	**3 Marks**
2	What is an IDE? Name two popular IDEs used for Python.	**CO1**	**3 Marks**
3	Differentiate between *for loop* and *while loop* with syntax for each.	**CO2**	**3 Marks**
4	How does the continue statement differ from the break statement?	**CO2**	**3 Marks**

PART - B
Answer All Questions.

5	a. What is a flowchart? Draw and explain the purpose of any four standard flowchart symbols. (7 marks)	**CO1**	**14 Marks**
	b. Draw a flowchart to find the largest of three numbers. (7 marks)		
6	a. Explain Python Lists with examples. Discuss any four built-in list methods with examples for each. [*example: append()*]. (7 marks)	**CO2**	**14 Marks**
	b. Write a Python program that finds the sum of first n terms in the following series using either *for loop* or *while loop*. The values of n and x must be taken from the user. (7 marks)		

Series: $x+x^2+x^3+x^4+x^5+\ldots\ldots$

Vision
Mentoring to ensure Excellence
Mission
To facilitate comprehensive and integrated development of students by providing quality education that encourages sustainable practices
To mould disciplined and socially committed engineers capable of assuming professional leadership upholding national integrity