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

DEPARTMENT OF MECHANICAL ENGINEERING
SECOND SESSIONAL EXAMINATION, DECEMBER 2024

S1 MECHANICAL A & B BATCH

B24ES1T01B: PROBLEM SOLVING AND PROGRAMMINGTECHNIQUES (B)

Time –1.5 Hours **Max: 40 Marks**

PART-A

Answer All Questions.

1	How to define a function in python? Illustrate with an example.	**CO3**	**3 Marks**
2	Discuss any three python built-in functions.	**CO3**	**3 Marks**
3	What are the different modes of opening a file? Write a code for opening a file in read mode.	**CO4**	**3 Marks**
4	Discuss the application of try-except with an example.	**CO4**	**3 Marks**

PART - B

Answer All Questions.

5	a.	What is a module in python? Discuss **random** and **math** modules with an example each.	**CO3**	**9 Marks**
	b.	Write a python program to find the factorial of a number using function recursion.		**5 marks**
6	a.	What is the utility of os module in python? Explain how to create a directory using os module along with try-except to check if it already exists (Hint: FileExistsError). How will you modify the syntax to create nested directories?	**CO4**	**9 Marks**
	b.	How to delete an existing file and an empty directory in python.		**5 marks**

VISION

Mentoring to Ensure Excellence

MISSION

- To facilitate comprehensive and integrated development of students by providing quality education that encourages sustainable practices
- To mold disciplined and socially committed engineers capable of assuming professional leadership upholding national integrity