R22 Regulation *Subject code:4O5DA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Regular/Supplementary Examinations, November 2025

PYTHON PROGRAMMING

(ECE)

Maximum Marks: 60 Date:12.11.2025 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	BloomTx
1.a)	What are the key features of Python?	1M	1	1
b)	Define indentation in Python.	1M	1	1
c)	List any two logical operators in Python.	1M	2	1
d)	Differentiate between break and continue statements.	1M	2	1
e)	What is a keyword argument in Python functions?	1M	3	1
f)	Define a tuple and mention one use case.	1M	3	1
g)	What is the purpose of the import statement?	1M	4	1
h)	Mention any two Python packages used for data analysis.	1M	4	1
i)	What is the role of the self variable in Python classes?	1M	5	1
j)	Differentiate between an error and an exception.	1M	5	1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BloomTx
2	a) Explain the basic syntax and structure of a Python script. b) Discuss the various data types available in Python with examples.	5M 5M	1	2 3
	OR			
3	a) Describe the steps to set up a Python programming environment. b) Build a Python program to accept user input and display its data type.	5M 5M	1	2 3
4	a) Explain different types of operators in Python with examples. b) Write a Python program using if-else and while loop to check prime.	5M 5M	2	2
	OR			
5	a) Discuss the order of evaluation in Python expressions. b) Build a python program to print the following pattern using looping statement. 1 1 2 1 1 2 3 2 1 1 2 3 4 3 2 1	3M 7M	2	3 6

6	a) Explain variable-length arguments and anonymous functions in Python. b) Develop a Python program to demonstrate lists and dictionaries.	5M 5M	3	2 3
	OR			
7	a) Discuss the scope of local and global variables in Python functions. b) Build a Python function to compute factorial using recursion.	5M 5M	3	3 3
8	a) Explain file input/output operations in Python. b) Build a Python program to read a text file and count words.	5M 5M	4	2 3
	OR			
9	a) Explain the process of creating and using Python modules. b) Develop a Python script using numpy and matplotlib to plot a graph.	5M 5M	4	2 3
10	a) Explain inheritance and method overriding in Python with examples. b) Construct a Python class to represent a student and display details.	5M 5M	5	2 3
	OR			
11	a) Discuss exception handling using try-except blocks. b) Develop a Python program to raise and handle a user-defined exception.	5M 5M	5	2 3