R25 Regulation *Subject code: 5ES2AI*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Semester Regular Examinations, June 2026

PYTHON PROGRAMMING

(Common to EEE & ECE)

Maximum Marks: 60 Date:24.06.2026 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 (5X2M=10Marks)		Marks	CO	BTL
1.a	Name any four Python data types and give one example value for each.	2M	1	L1
b	What is list comprehension?	2M	2	L2
c	State the difference between a module and a package in Python. Give one example of each.	2M	3	L2
d	What is the difference between the 'w' and 'a' file mode in Python?	2M	4	L2
e	Define encapsulation in OOP. How is it achieved in Python?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
2	Explain the following types of operators in Python with syntax and one example each: Arithmetic, Relational, Logical, and Assignment operators.	10M	1	L2
	OR			
3	a. Define variable in python and list the rules of python. b. Explain input and output functions in Python. Write a program to take user input and display formatted output.	5M 5M	1	L2
4	a) Explain string slicing and string methods in Python with examples (at least 5 methods) b) Write a Python program that accepts a list of numbers from the user, removes duplicates using a set, and displays the sorted unique numbers.	5M 5M	2	L2
	OR			
5	Write a Python program to create a dictionary {"Alice": 85, "Bob": 90, "Charlie": 78}, print it, update Bob's marks to 95, and check whether "Alice" exists in the dictionary. If it exists, print "Alice is present", otherwise print "Alice is not present".	10M	2	L2
6	a) Explain recursion in Python with an example. Also mention the advantages and limitations of recursion.	5M	3	L2

	b) Write a Python program to define a recursive function to find the factorial of a number. Perform the following: (i) call the function with input 5, and (ii) print the result.	5M		
	OR			
7	Explain scope of variables in Python with suitable examples. Your answer should include local and global variables and the use of the global keyword.	10M	3	L2
8	a) Explain file handling in Python with suitable examples. Your answer should include file modes, opening and closing files. b) Write a Python program to create a file data.txt and perform the following operations: (i) write the text "Hello Python" into the file, (ii) read and display the contents of the file, and (iii) append the text "Welcome" to the file and display the updated content.	5M 5M	4	L2
	OR			
9	Explain built-in exceptions in Python with examples.	10M	4	L2
10	Explain Single, Multiple, and Multilevel Inheritance with suitable examples for each type.	10M	5	L2
	OR			
11	Define a class and object in Python. Write a program to create a class with attributes and methods and demonstrate object creation.	10M	5	L2