R25 Regulation *Subject code:5ES1AF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech I Semester Regular Examinations, January 2026

PROGRAMMING FOR PROBLEM SOLVING

(Common to EEE, CSE, CSE(AI&ML), CSE(DS) & IT)

Maximum Marks: 60 Date: 09.01.2026 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	List the difference between switch and else if ladder statement.	2M	1	L4
b	What is an array?	2M	2	L1
c	Define pointer with an example.	2M	3	L1
d	Is it possible to nest the structure?	2M	4	L5
e	Distinguish between binary and text file.	2M	5	L4

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
2.	a) What is an operator and explain different types of operators. b) Construct an algorithm to check whether the year is Leap Year or not. Illustrate with Flowchart.	5M 5M	1	L2 L2
	OR			
3.	a) With neat sketch explain the procedure for creating and executing a C program. b) List the differences between explicit and implicit type conversions.	5M 5M	1	L2 L2
4.	a) What are the different ways of initializing the arrays? What are the disadvantages of an array? Explain. b) Build a program to print all the prime numbers Between 1 to 100.	5M 5M	2	L2 L2
	OR			
5.	a) What are the various Library Functions available to support strings? Explain the same with an example. b) Write a 'C' program using string handling functions.	5M 5M	2	L2 L3

6.	a) What do you mean by storage class? Explain the importance of each storage class with suitable examples. b) How to initialize and access pointer variable? Explain pointer to a function with example.	5M 5M	3	L3 L2
	OR			
7.	a) Elaborate the command line arguments with an example. b) Demonstrate the use of dynamic memory allocation functions with examples.	5M 5M	3	L3 L2
8.	a) Compare and contrast the Recursion and Iteration with suitable examples. b) Define a structure. Describe how to declare and initialize structure and its members with an example.	5M 5M	4	L4 L3
	OR			
9.	a) How to create self-referential structures in C programming? Explain with an example program. b) Design a program to print the Fibonacci series using Recursion.	5M 5M	4	L5 L3
10.	a) List and explain various file functions available in C. b) Elaborate linear search. Apply Linear search on the data {22,11,66,44,99,55,88} to find 99.	5M 5M	5	L3 L3
	OR			
11.	a) Devise an algorithm for selection sort and explain with an illustration. b) Create two text files and write a program to add the contents of one file at the end of another.	5M 5M	5	L3 L3