



R22 Regulation

Subject code:4E2AB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Semester Regular/Supplementary Examinations, July 2025

C PROGRAMMING FOR PROBLEM SOLVING

(CE)

Maximum Marks: 60

Date: 11.07.2025

Duration: 3 hours

- Note: 1.This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 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	BTL
1.a	What are the rules for declaring identifiers?	1M	CO1	L1
b	Write difference between while and do-while loops?	1M	CO1	L3
c	Differentiate between static and auto storage classes.	1M	CO2	L3
d	Write an example for two-dimensional array initialization and access of elements.	1M	CO2	L2
e	List out advantages of pointers.	1M	CO3	L1
f	What is the difference between calloc() and malloc()?	1M	CO3	L2
g	Define self referential structure with an example.	1M	CO4	L1
h	Define union with syntax.	1M	CO4	L2
i	Define file and list it's modes.	1M	CO5	L1
j	What is the use of rewind() function.	1M	CO5	L2

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
2	a) Write a 'C' program to find roots of a quadratic equation.	5M	CO1	L5
	b) Explain the structure of C program and write the various steps involved in executing a C program.	5M		L2
OR				
3	Explain loops(for,while,do-while) with examples.	10M	CO1	L2
4	Write an algorithm to search an element using binary search.	10M	CO2	L1
OR				
5	Perform Bubble sort on the input: 4, 8, 6, 3, 9, 1, 5, 7, 2.	10M	CO2	L6
6	A) What is a pointer? Explain declaration, initialization and accessing of a pointer variable	5M	CO3	L2
	b) Swap two integers using pointers.	5M		L5
OR				
7	Explain the following string handling functions i)strcmp() (ii) strcat() (iii) strlen() iv)strrev()	10M	CO3	L2

8	a) Differentiate between structure and union in 'C' b) explain command– line arguments with example program in 'C'	5M 5M	CO4	L3 L2
	OR			
9	Explain different types of pre-processor directives with examples.	10M	CO4	L2
10	Write a 'C' Program to count the number of characters in a file	10M	CO5	L4
	OR			
11	Demonstrate fopen() , fclose(),fseek(). with suitable example.	10M	CO5	L2