

**CMR ENGINEERING COLLEGE: : HYDERABAD**  
**UGC AUTONOMOUS**  
**I-B.TECH-II-Semester End Examinations (Supply) -January- 2025**  
**PROGRAMMING FOR PROBLEM SOLVING**  
**(IT)**

[Time: 3 Hours]

[Max. Marks: 70]

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A****(20 Marks)**

1. a) What is Pseudo code? Give example? [2M]
- b) What are bitwise operators? Give example for each. [2M]
- c) Explain the usage of pointers in arrays. [2M]
- d) Describe String Handling Functions. [2M]
- e) Define file? Explain types of files? [2M]
- f) Find the value of n in below code? [2M]  

```
# include<stdio.h>
void main()
{
FILE *fp; int n;
fp=fopen("file.txt","w"); n=ftell(fp);
printf("%d",n);fclose(fp);
}
```
- g) Describe function and how parameters are passing to functions. [2M]
- h) What is the difference between malloc and calloc? [2M]
- i) Arrange the following elements in ascending order using Bubble sort. [2M]  
12, 40, 3, 13, 47, 55, 10.
- j) Explain Searching Techniques. [2M]

**PART-B****(50 Marks)**

2. Construct a Flowchart to find the roots of a quadratic equation. [10M]
- OR**
3. What is an algorithm? Write an for finding minimum and maximum numbers of a given set. [10M]
  4. Classify the following [10M]  
i) Pointers to arrays ii) Pointers to structure
- OR**
5. Explain String handling functions with examples? [10M]
  6. Explain about types of files with an example? [10M]
- OR**
7. Explain the purpose and usage of preprocessor directives? [10M]
  8. Differentiate call by value and call by reference. [10M]
- OR**
9. Explain about recursive function with an example? [10M]
  10. Write a program for binary search. [10M]
- OR**
11. Construct a C program on Selection sort and Explain with an example. [10M]

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