CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
I–B.TECH–I–Semester End Examinations (Supply) -June- 2025
PROGRAMMING FOR PROBLEM SOLVING
(Common for all)

[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) Discus about primary and secondary memory.   [2M]
   b) Explain type conversion with an example program.   [2M]
   c) Compare and contrast structures and unions.   [2M]
   d) Explain stsrstsr and strcpy functions with an example   [2M]
   e) Differentiate between include and define.   [2M]
   f) Differentiate between text and binary files.   [2M]
   g) Define Recursion?   [2M]
   h) Write about malloc function call.   [2M]
   i) Differentiate between linear and binary search algorithms.   [2M]
   j) Discuss about order of complexity with a suitable example.   [2M]

PART-B   (50 Marks)

2. a) Write a program to find square of a number by reading input from command prompt?   [5M]
   b) Explain the components of a Computer System   [5M]
                                    OR
3. Explain the following bitwise operations with an example program Bitwise AND, OR,   [10M]
   XOR, NOT.

4. Explain the usage of self-referential structures in Linked list.   [10M]
                                    OR
5. Write a program to find multiplication of Matrix using arrays.   [10M]

6. Write a program to copy the content of a file into another file.   [10M]
                                    OR
7. Write the following functions.
   a) Ftell( )   [4 M]
   b) Fseek( )   [3 M]
   c) Rewind( )   [3 M]

8. Explain the following.
   a) Call by Value.   [5 M]
   b) Call by reference.   [5 M]
                                    OR
9. a) Write a program to find the factorial of a function using recursion.   [5 M]
   b) Write the limitations of recursion.   [5 M]

10. Write a program for selection sort.   [10M]
                                    OR
11. Explain the insertion sort algorithm with an example program. [10M]
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