Code No.: CS103ES | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
I–B.TECH–I–Semester End Examinations (Supply) - September- 2023
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)	Discuss about primary and secondary memory.	[2M]
b)	What is type conversion give an example?	[2M]
c)	Compare and contrast structures and unions.	[2M]
d)	Explain strlen and strcpy functions with an example?	[2M]
e)	Differentiate #include and #define.	[2M]
f)	Differentiate text and binary files.	[2M]
g)	Define Recursion?	[2M]
h)	Write about malloc function?	[2M]
i)	Differentiate linear and binary search?	[2M]
j)	What are the order of complexity notations?	[2M]

PART-B **(50 Marks)**

2.a)	Write a program to find square of a number.	[5M]
b)	Explain the components of a Computer System	[5M]
	OR	
3.	Explain the following bitwise operators with an example programs Bitwise AND, bitwise OR, bitwise XOR, bitwise NOT	[10M]
4.	Define structure? Explain with an example program.	[10 M]
	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.	Explain 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 number using recursion?	[5 M]
b)	Write the limitations of recursion?	[5 M]
10.	Write a program to implement selection sort?	[10M]
	OR	
11.	Explain the insertion sort algorithm with an example program.	[10M]

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