

CMR TECHNICAL CAMPUS
UGC AUTONOMOUS
B.Tech.I Sem Regular & Supply End Examinations, January-2024
Programming for Problem solving
Common to ECE, CSM, CSD, CSE, IT, CSIT

Max. Marks: 60

Time: 3 Hours

Note

- i. This Question paper contains Part- A and Part- B.
- ii. All the Questions in Part A are to be answered compulsorily.
- iii. All Questions from Part B are to be answered with internal choice among them.

PART-A

10 X 01 = 10 Marks

		Marks	CO	BL	
1.	a List the components of a Computer.	01	CO1	1	
	b Write about Type Conversion.	01	CO1	1	
	c	Discuss about goto and break.	01	CO2	2
		d What is String?	01	CO2	1
	e	How to define a Pointer?	01	CO3	1
		f Write about fseek.	01	CO3	1
	g	What are the Limitation of Recursive Functions?	01	CO4	1
		h What is malloc() and calloc()?	01	CO4	1
	i	What is sorting?	01	CO5	1
		j What is time complexity?	01	CO5	1

PART- B

5 X 10 = 50 Marks

		Marks	CO	BL
2.	a How are the expressions evaluated in C? Explain the role of precedence and associativity in it. Give example.	05	CO1	2
	b Define algorithm? Write the characteristics of an algorithm.	05	CO1	2
3.	OR			
	a Develop an algorithm for sum of digits in a given number.	05	CO1	3
	b Draw flowchart for it.	05	CO1	3
4.	a Draw the flowchart and write a C program to compute simple interest.	05	CO1	3
		05	CO2	2
	b List all conditional control statements used in C. Explain any two with syntax and example.	05	CO2	2
b	Implement a C program to find the reverse of an integer number and check whether it is palindrome or not.	05	CO2	2
	OR			

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|-----|---|---|----|-----|---|
| 5. | a | Contrast while loop and do-while loop. write a C program to find sum of Natural Numbers from 1 to N using for loop. | 05 | CO2 | 3 |
| | b | Explain string manipulation library functions with their syntaxes. | 05 | CO2 | 2 |
| 6. | a | What is preprocessor directive? Explain #define and #include preprocessor directives. | 05 | CO3 | 2 |
| | b | What is a pointer? Write a C program to find the sum and mean of all elements in an array using pointer. | 05 | CO3 | 3 |
| OR | | | | | |
| 7. | a | Define File? Briefly explain various modes and operations on files with examples. | 05 | CO3 | 2 |
| | b | Write a C program to define macros for finding area of a circle. | 05 | CO3 | 3 |
| 8. | a | What is recursive function? Explain recursion with example Program. | 05 | CO4 | 2 |
| | b | With suitable examples explain different dynamic memory management functions in C. | 05 | CO4 | 2 |
| OR | | | | | |
| 9. | a | Compare call by value and call by reference methods of passing parameters to an user defined swap function to exchange value. | 05 | CO4 | 3 |
| | b | What are various standard library input/output functions used in C language? Explain with simple program. | 05 | CO4 | 3 |
| 10. | a | Write an algorithm and develop a C program to search an integer from N numbers in ascending order using Binary Searching technique. | 05 | CO5 | 3 |
| | b | Compare the advantage and disadvantage of bubble, insertion and selection sorts. | 05 | CO5 | 3 |
| OR | | | | | |
| 11. | a | Write a C program for to implement Linear search. | 05 | CO5 | 3 |
| | b | Sort the sequence 3, 1, 4, 5, 9, 2, 6, 5 using insertion sort. | 05 | CO5 | 3 |

CO : Course Outcomes

BL : Bloom's Taxonomy Levels

L 1 : Remembering

L 2 : Understanding

L 3 : Applying

L 4 : Analysing

L 5 : Evaluating

L 6 : Creating
