

Subject Code:22CS1030ES

SET-I

HT NO:

7 R

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

- This Question paper contains Part- A and Part- B.
- All the Questions in Part A are to be answered compulsorily.
- 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
OR			
3. a Develop an algorithm for sum of digits in a given number. Draw flowchart for it.	05	CO1	3
b Draw the flowchart and write a C program to compute simple interest.	05	CO1	3
4. a 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