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Question Paper Code: 30119

B.E./B.Tech DEGREE EXAMINATIONS, APRIL/MAY 2023.

Third Semester

Electrical And Electronics Engineering

CS 3353 – C PROGRAMMING AND DATA STRUCTURES

(Common to: Electronics and Communication Engineering/Electronics and Instrumentation Engineering/Electronics and Telecommunication Engineering/Instrumentation and Control Engineering)

(Regulations 2021)

Time: Three hours

Maximum: 100 marks

Answer ALL questions.

PART A —  $(10 \times 2 = 20 \text{ marks})$ 

- 1. What is the role of associativity in prioritizing the operators?
- 2. Define recursion.
- 3. Write short notes on 'enum'.
- 4. What is the role of pointers in call by reference.
- 5. List the advantages of linked list over arrays.
- 6. Name any four applications of queue in the field of computer applications.
- 7. Convert the infix expression to postfix : (A B/C)\*(D/E F)
- 8. What is rehashing? When is it Preferred?
- 9. What is output of selection sort after second iteration for the number sequence: 15, 5, 43, 7, 25, 11
- 10. Is linear search is better than binary search? Why?

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15.	(a)	(i)	Sort the following values using quick sort:	
		35,4	0,45,50,55,30,25,20,15	(9)
			strate each step of the sorting process.	
		(ii)	Write and explain the algorithm of linear search.	(4)
			$\operatorname{Or}$	
	(b)	(i)	Explain about the sorting algorithm that works based on divide conquer technique.	e and (7)
		(ii)	What are the advantages of linear search over binary search your observation with an example.	(6)
			PART C — $(1 \times 15 = 15 \text{ marks})$	
16.	(a)	(i)	Convert the following arithmetic expression in infix form to po form using stack: $A+B/C+D*(E-F)$ ^ G	st fix (8)
		(ii)	Explain the procedure for string reversal using stack with sui diagram.	table (7)
			Or	
	(b)	(i)	Evaluate the following arithmetic expression using s $2*(4+3)-5$	tack. (8)
		(ii)	Explain the procedure for balanced parenthesis checker using with suitable diagram.	stack (7)
			consequences to a second second strategic branches and	
			and of a sound south or technique Wieth State (1997)	
			3	0119