KOLHAPUR INSTITUTE OF TECHNOLOGY'S,
COLLEGE OF ENGINEERING (AUTONOMOUS), KOLHAPUR
(AFFILIATED TO SHIVAJI UNIVERSITY, KOLHAPUR)

S. Y. B.Tech.(Computer Science & Engineering) (Sem- III)
MID SEMESTER EXAMINATION, SEPTEMBER-2019
Data Structures (UCSE0303)

Day and Date: Friday, 20/09/2019
Time: 10:00 AM to 12:00 Noon

PRN No. :

Max Marks- 50

Instructions:

IMP: Verify that you have received question paper with correct course, code, branch etc.

i) All questions are compulsory.
ii) Figure to the right indicate full marks.
iii) Assume suitable data wherever necessary.

		Marks	B.L	CO's
Q.1	**Attempt any three**	**18**		
A	Explain recursion with example. Construct a recursive function to compute factorial of a given number.	6	3	1
B	Evaluate the postfix expression from following infix expression using stack **A+((B+C)+(D+E)*F^G)/H** Show the contents of stack at every stage of conversion	6	5	2
C	What is the difference between static memory allocation and dynamic memory allocation?	6	1	1
D	What is an algorithm? Construct an algorithm to search a given number in an array.	6	3	1
Q.2	**Attempt any two**	**16**		
A	Write an algorithm for evaluation of postfix expression using stack. Evaluate following postfix expression **5 3 2 + 8 * +**	8	5	2
B	What is Priority queue? Write algorithms for Enque and Deque operations on priority queue using linked list	8	3	1
C	Write a C code (only functions) for delete beginning and delete end operations on Singly Linked List	8	3	4
Q.3	**Attempt any two**	**16**		
A	What is Stack? Write algorithms for all operations on stack(isEmpty, isFull, Push, Pop)	8	3	1
B	Write algorithms for Enque and Deque operations of Circular queue using array	8	3	1
C	Write C code (only functions) for insert beginning and delete beginning operations of Doubly Linked List	8	3	4

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