2304CS411 – Data Structure

Sr. No.	Unit No.	Question	BL	CO
1	2	What is Stack? List out the operations on stack.	R	CO2
2	2	Write algorithms for PUSH, POP and PEEP operations of stack.	U	CO2
3	2	Write algorithms for Change and Display operations of stack.	U	CO2
4	2	What is top of stack? Why stack is called LIFO list?	R	CO2
5	2	Take a stack of size 3 and performing following operations. Show the position of stack at each step: • Push 1 • Push 2 • Push 3 • Push 4 • Pop • Pop • Push 5 • Change 3rd element to 8 • Push 6 & 7 • Traverse the stack	A	CO2
6	2	Write recursive algorithm to compute factorial of a given number. Which data structure can be used to implement this algorithm?	R	CO2
7	2	Convert the following infix expressions to their prefix and postfix equivalents. 1. A*B+C/D 2. (A*B)+(C/D)-(D+E) 3. (A + B * C / D - E + F / G / (H + I)) 4. (A + B) * C + D / (B + A * C) + D 5. A + B - C * D / E + F $ G / (I + J) 6. (a + b ^ c ^ d) * (e + f / d)	A	CO2
8	2	Evaluate the following postfix expression in tabular form showing stack after every step. 1. 5 4 6 + * 4 9 3 / + * 2. 7 6 + 4 * 4 10 + - 5 + 3. 5 3 + 6 2 / * 3 5 * + 4. 12, 7, 3, -, /, 2, 1, 5, +, *, +	A	CO2
9	2	Evaluate the following postfix expression in tabular form showing stack after every step. 1. * / 8 2 + 2 2 2. 2 + 1 + * 4 + 2 1 3 3. *, +, 6, 9, -, 3, 1 4. +, -, *, 2, 2, 1, 16, 8, 5	A	CO2
10	2	Write the applications of Stack	R	CO2
11	2	WHat is Queue? List out the operations on queue.	U	CO2
12	2	Write the following algorithms in queue. • Enqueue • Dequeue • Display	U	CO2

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13	2	Perform following operations on queue with size 4 & draw queue after each operation Insert 'A' | Insert 'B' | Insert 'C' | Delete | Delete | Insert 'D' | Insert 'E'	A	CO2
14	2	What are the Limitation of Simple Queue	U	CO2
15	2	State disadvantages of simple queue. How to overcome it?	R	CO2
16	2	Write the following algorithms in circular queue. • Enqueue • Dequeue • Display	U	CO2
17	2	Perform following operations on Circular queue with size 5 & draw the circular queue after each operation enQueue 14 | enQueue 22 | enQueue 13 | enQueue -6 | dequeuer | dequeuer | enQueue 9 | enQueue 20 | enQueue 5	A	CO2
18	2	Write the following algorithms in Double ended queue. • Insert at Rear • Delete at Front • Insert at Front • Delete at Rear	U	CO2
19	2	Write the applications of Queue	R	CO2
20	2	Distinguish between stack and queue.	U	CO2