



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India
(Autonomous College Affiliated to University of Mumbai)

Mid Semester Examination

March 2019

Max. Marks: 20

Class: FYMCA

Course Code: MCA23

Name of the Course: Data Structures

Duration: 1 Hr

Semester: II

Branch: MCA

Instruction:

- (1) All questions are compulsory
- (2) Draw neat diagrams
- (3) Assume suitable data if necessary

Q No.	Questions	Max. Marks	CO
Q.1	Compare worst case complexity of Insertion sort and Bubble sort with the help of an example.	4	CO1
	OR		
	Compare efficiency of Selection sort and Insertion sort algorithm in terms of number of passes required and number of iterations required for following example. 10, 2, -20, 30, 12, 34	4	CO1
Q.2	Apply Double Hashing to map following data in memory of size 10. 12, 2, 18, 45	4	CO2
Q.3	Construct an algorithm for reversing of singly linked list elements.	4	CO3
Q.4	Apply Stack operations to convert following infix expression into postfix expression. (A + B) * C / D / E	4	CO3
	OR		
	Construct an algorithm to implement 2 Stacks using only one array.	4	CO3
Q.5	Construct enqueue and dequeue algorithms to implement queue using 2 stacks.	4	CO3