



GOVERNMENT POLYTECHNIC MUMBAI

EVEN TERM: 2024-25

UNIT TEST : I

PROGRAMME: INFORMATION TECHNOLOGY

COURSE NAME : DS

SEMESTER:SECOND

SHIFT : First Shift/ Second Shift

COURSE CODE:CO23104

CLASS – FIRST YEAR

MAX MARKS: 20 TIME: 1 Hour

Q1) Attempt the following

(3x2=06)

- a) Define Data structure with classification.
- b) Define Stack data structure.
- c) Define advantages of Data Structure.

(C01,R)

(C03,R)

(C01,R)

Q2) Attempt the following

(4x2=08)

- a) Sort the following elements by using selection sort
54,23,88,95,46,12,61,4

(C02,U)

OR

- b) Sort the following elements by using Bubble Sort
56,10,23,9,34,45,15,6

(C02,u)

- a) Explain the following terms w.r.t Stack
1.PUSH 2. POP 3. Empty Stack 4.Stack Overflow

(C03,U)

OR

- b) Perform following operations on stack and return TOP of stack
size of stack 6

PUSH(10), PUSH(12), PUSH(15), POP(), POP(), PEEK(),
PUSH(20), PUSH(56), POP()

(C03,U)

(2x3=6)

Q3) Attempt any two of following

- a) State limitations of Array data structure
- b) Search 23 number from array by using binary search
10,23,27,32,35,56,67,78,89,90
- c) Sort elements using Insertion sort 89,12,74,35,55,45

(C01,U)

(C02,A)

(C02,A)

CO	R	U	A	TOTAL
C01	4		3	7
C02		8	6	14
C03	2	8		10
TOTAL	6	15	10	31