



GOVERNMENT POLYTECHNIC, MUMBAI  
Department Of Information Technology

TEST : 2

COURSE CODE: DS

Prog : IT

Date:24/4/2025

EVEN TERM : 2024-25

Course code: IT23104

Marks : 20

Time : 10:30AM TO 11:30 AM

Qn 1 Attempt the following

6 M

- a) Define Queue with example CO4,R
- b) Define root and sibling in Tree with example. CO5,R
- c) Define in degree and out degree with example in Graph CO5,R

Qn2 Attempt the following

8 M

- a) Convert following infix to prefix expression  $A-B/(C*D/E)$  CO3,A

OR

- a) Evaluate following expression  $53 + 62 / * 3.5 * +$  CO3,A
- b) Convert following infix to postfix expression  $A+(B*C-(D/E-F)*G)*H$  CO3,U

OR

- b) Prepare Binary Search Tree 43, 10, 79, 90, 12, 54, 11, 9, 50 and traverse tree by using preorder, In order, Post order CO5,A

Qn3 Attempt any TWO out of the following

6 M

- a) Explain enqueue and dequeue operation with queue overflow and underflow condition CO4,U
- b) Explain circular queue with example CO4,U
- c) Explain Binary Search Tree with example. CO5,U

CO NO	CO3	CO4	CO5	Levels	R	U	A
Marks	12	8	11	Marks	6	13	12