



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

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|-------------|---|------------|
| 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 $5 \ 3 + 6 \ 2 / * \ 3 \ 5 * +$ | 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 inverse tree by using preorder ,In order ,Post order | CO5,A |
| Qn3 | Attempt any TWO out of the following | 6 M |
| a) | Explain enqueue and dequeuer operation with queue overflow and underflow condition | CO4,W |
| 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