GOVERNMENT POLYTECHNIC, MUMBAI
Department of Information Technology

TEST : 2
Course Name: Operating System
Prog : Diploma in Information Technology
Date: 23/04/2025

EVEN TERM : 2024-25
Course code: CO23109
Marks : 20
Time : 10.30 to 11.30

**Qu 1 Attempt the following** — 6 M

a) Define Deadlock — CO4/L

b) Define Swapping — CO4/L

c) Define Paging — CO5/U

**Qu 2 Attempt the following** — 8 M

a) Consider the set of 5 processes whose arrival time and burst time are given below- — CO4/A

| Process Id | Arrival Time | Burst Time |
|---|---|---|
| P1 | 3 | 1 |
| P2 | 1 | 4 |
| P3 | 4 | 2 |
| P4 | 0 | 6 |
| P5 | 2 | 3 |

29/5
40/5

If the CPU scheduling policy is SJF non- Preemptive, calculate the average waiting time and average turnaround time.

**OR**

a) Explain Round Robin CPU scheduling algorithm with example.? — CO4/U

b) Explain paging with neat diagram. — CO5/U

**OR**

b) Explain Segmentation with neat diagram. — CO5/U

**Qu 3 Attempt any TWO out of the following** — 6 M

a) How deadlocks can be handled? Explain in brief. — CO4/U

b) Given the following page reference string and number of frames, simulate FIFO and calculate the number of page faults. — CO5/A
Reference String: 7, 0, 1, 2, 0, 3, 0, 4, 2, 3
Number of frames: 3

c) Given the following page reference string and number of frames, simulate Least Recently Used page replacement algorithm and calculate the number of page faults. — CO5/A
Reference String: 7, 0, 1, 2, 0, 3, 0, 4, 2, 3
Number of frames: 3

5) 24