



Term Evaluation (Even) Semester Examination March 2025

Roll no... 2421627

Name of the Course and semester: BCA - II

Name of the Paper: Introduction to Operating System

Paper Code: TBC-203

Time: 1.5 hour

Maximum Marks: 50

Note:

- (i) Answer all the questions by choosing any one of the sub questions
- (ii) Each question carries 10 marks.
- (iii) Please specify COs against each question.

Q1. (10 Marks)

- a. Differentiate Batch Processing Operating System and Multiprogramming Operating System. CO1
- OR
- b. Explain dual-mode operating in Operating System with a neat block diagram. CO1

Q2. (10 Marks)

- a. What is the average waiting time and average turn around time of all processes for FCFS, SJF algorithm? CO2

Processes	Burst Time	Arrival
P1	10	3
P2	1	1
P3	2	0
P4	1	4
P5	5	2

OR

- b. Differentiate "kernel" and Shell" in at least 10 points. CO1

Q3. (10 Marks)

- a. Consider the set of 5 processes whose arrival time and burst time are given below: CO2

Process Id	Arrival time	Burst time
P1	3	1
P2	1	4
P3	4	2
P4	0	6



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P5	2	3
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If the CPU scheduling policy is SJF, calculate the average waiting time and average turnaround time.

OR

- b. Define the term deadlock. Explain various necessary conditions for a deadlock to occur. Explain in brief about deadlock prevention. CO2

Q4

(10 Marks)

CO2

- a. Define the following :

- PCB
- Threshold
- System Call
- Multi-Programming OS
- Frame

OR

- b. Define How 'UNIX' operating system works in detail.

CO1

Q5.

(10 Marks)

CO2

- a. Define the functions of Operating System in detail.

OR

- b. Define the following :

CO3

- Race Condition
- Starvation
- Critical Section
- Mutual Exclusion
- Deadlock Avoidance