

Poona College of Arts, Science & Commerce

(CA- 403) Operating System

Question Bank

[2 Marks]

- a) What is an operating system? List different types of operating systems.
- b) What is system call? Explain with example.
- c) Explain different types of scheduling queues.
- d) Define Throughput and Response time.
- e) What is dispatcher?
- f) Explain medium term scheduler.
- g) What is starvation?
- h) Define Turnaround time and Waiting time of a process.
- i) What is process?
- j) Define Burst Time.
- k) Define Context Switch?
- l) Define Belady's Anomaly

[4 Marks]

- a) Explain services provided by the operating system.
- b) Explain Process Control Block (PCB) with diagram.
- c) Differentiate between long term scheduler and short term scheduler.
- d) Explain necessary conditions for deadlock.
- e) What is a process? Explain different process states.
- f) What is scheduling? Compare short term scheduler with long term scheduler.
- g) Consider the following set of processes with CPU burst time given in milliseconds.

Process	Burst Time	Arrival Time
P1	5	1
P2	3	0
P3	2	2
P4	4	3
P5	8	2

Illustrate the execution of these process using FCFS and pre-emptive SJF. Calculate average turnaround time and average waiting time.

- h) Consider the following set of processes with CPU burst time given in milliseconds.

Process	Burst Time	Arrival Time
P1	5	1
P2	7	0
P3	3	3
P4	10	2

Illustrate the execution of these process using RR (with time quantum = 3 ms). Calculate average turnaround time and average waiting time.

i) Consider the system with 3 resource types A, B and C with 7, 2, 6 instances respectively. Consider the following snapshot.

	Allocation		
	A	B	C
P₀	0	1	0
P₁	2	0	0
P₂	3	0	3
P₃	2	1	1
P₄	0	0	2

	Max		
	A	B	C
P₀	0	1	0
P₁	4	0	2
P₂	3	0	4
P₃	3	1	1
P₄	0	0	4

Available		
A	B	C
7	2	6

Answer the following questions.

1. What are the contents of Need matrix?
2. Is there any deadlock?

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