



Daffodil International University

Department of Computer Science and Engineering

Faculty of Science and Information Technology

Mid Term Examination, Semester: Fall - 2019

Course Title: Operating Systems

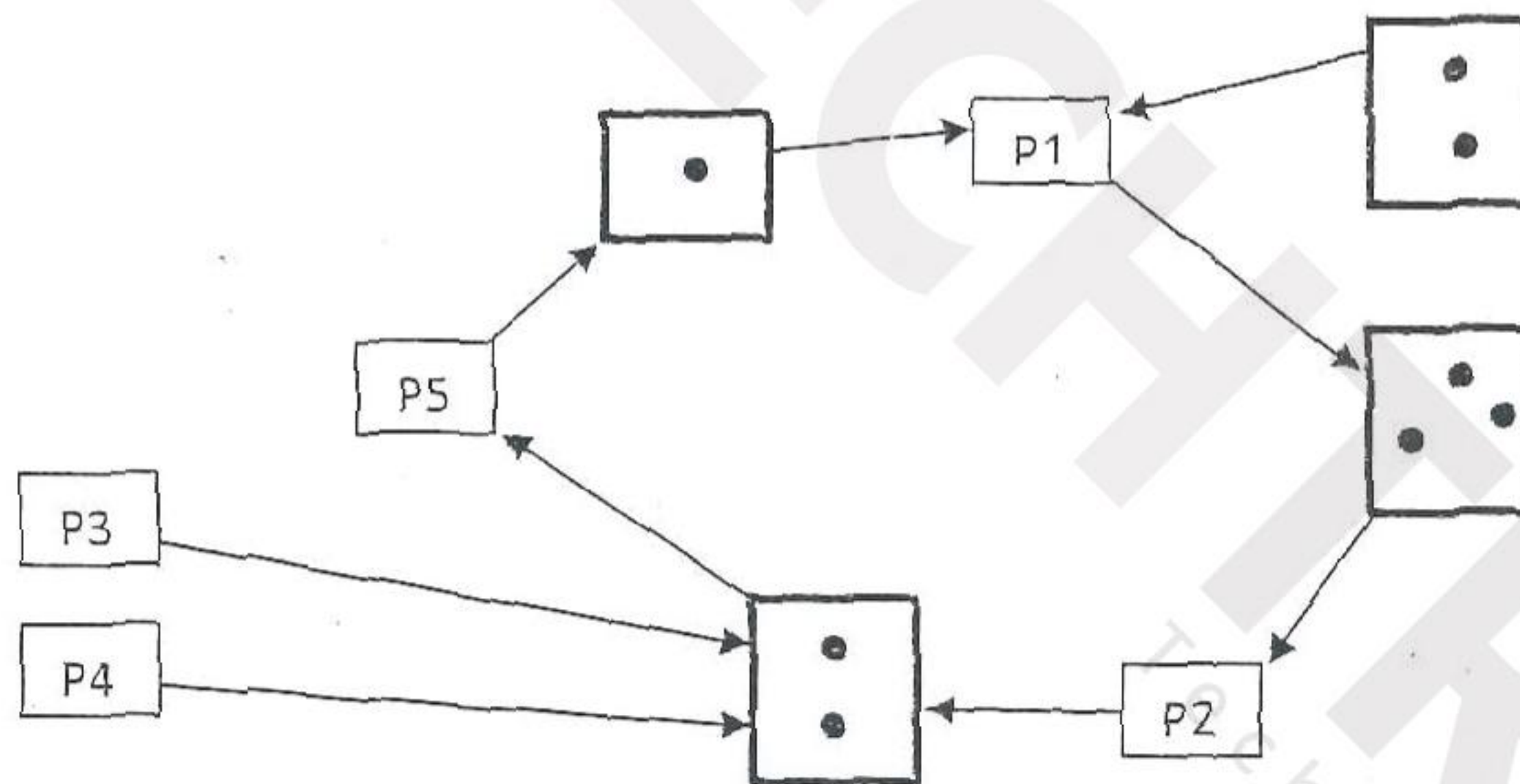
Course Code: CSE 323 Section: Day (All) Course Teacher: All

Time: 01.50 Hours

Full Marks: 25

Answer all the questions

1. "Medium term scheduler can be added if degree of Multiprogramming needs to decrease" - is this statement true? Justify your answer. [3.5]
2. a. What are the differences between hard and soft real time systems? [2]
b. Compare between layered approach and microkernel system structure of Operating System. [3]
3. Do the following scenario contains deadlock situation? If not mention a possible order of process execution. [4]



4. Convoy effect occurs when short process falls behind long process. Implement non preemptive CPU scheduling algorithm to avoid this convoy effect for 6 processes tabulated below. [6.5]

Process	Arrival Time	Burst Time
P3	5.0	3.0
P6	9.0	5.0
P1	7.0	2.0
P2	5.0	4.0
P5	3.0	1.0
P4	10.0	2.0

- a. Draw the Gantt chart.
- b. Find out the average waiting and turnaround time for the processes.

5. Consider the following set of processes, with the length of the CPU burst given in microseconds: [6]

Process	Arrival Time	Burst Time
P1	6.0	4.4
P2	0.0	2.2
P3	2.0	4.0
P4	3.0	3.0
P5	8.0	3.0
P6	0.0	3.6
P7	9.0	4.0

- a. Draw the Gantt chart for Round Robin scheduling algorithm with time quantum= 2.2.
- b. Find out the waiting and response time for the processes.