DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – March 2019

Course: S.Y. B.Tech (CSE) **Sem: II**

Subject Name: Operating Systems **Subject Code: BTCOC403**

Max Marks: 20 **Date:- 13/03/2019** **Duration:- 1 Hr.**

Instructions to the Students:

1. Check that you have received a correct Question paper.
2. Assume suitable data if necessary and mention it clearly
3. Draw NEAT labeled diagrams wherever necessary

Q.1. Attempt any **Six Questions** (1*6 = 6 Marks)

1. Mention purpose of system call.
2. Differentiate between batch system and time sharing system.
3. What do you mean by PCB?
4. Define turnaround time.
5. What are cooperative processes?
6. Define starvation.
7. Draw labeled process state transition diagram.

Q. 2. Attempt any **Two** of the following (2*3 =6 Marks)

1. What are differences between monolithic kernel and microkernel?
2. What do you mean by process synchronization? Explain how semaphore can used as synchronization tool.
3. What is scheduler? Describe different types of scheduler?

Q.3. Attempt any **One** of the following (1* 8 = 8 Marks)

1. Consider the following set of processes with the length of CPU burst time

Process	Burst Time	Priority
P1	10	3
P2	1	1
P3	2	5
P4	1	4
P5	5	2

The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 all at time 0

- Draw Gantt chart that illustrate the execution of these processes using preemptive Priority scheduling (smaller priority number implies higher priority) and RR scheduling (time quantum = 2)
- What is turnaround time of each process for each of the scheduling algorithm?

2. Evaluate performance of preemptive vs. non-preemptive SJF scheduling algorithm using following set of processes.

Process	Arrival Time	Burst Time
P1	1	7
P2	2	5
P3	3	1
P4	4	2
P5	5	8