Mid Semester Examination

Max. Marks: 20	Duration:1 hr
Class: FYMCA	Semester: II
Course Code: MCA21	Date:02/03/20
Subject: Operating System	Time: 12:00 to 1:00

Instructions: (1) All questions are compulsory.
(2) Use of scientific calculator is allowed.
(3) Assume any necessary data but justify the same.

Q. No.	Questions	Max. Marks	CO-BL-PI
Q.1	a) What is the need of system calls? Illustrate different types of system calls	05	1-2-1.3.1
Q. 2	a) Schedule the following set of processes using Priority Scheduling algorithm. Find Average Turnaround time and waiting time	05	2-3-2.1.3

Process	AT	BT	Priority
P0	0	10	5 (L)
P1	1	6	4
P2	3	2	2
P3	5	4	1 (H)

b) Use Rate Monotonic and Earliest deadline first scheduling algorithm to schedule given set of tasks. State your observations.		05	2-3-3.2.1

Task	Service Time	Period
T1	1	3
T2	2	4
T3	1	6

Q. 3	a) What is Producer Consumer problem? Explain the possible solution to solve it.	05	2-3-2.1.2

OR

	a) Consider method used by process x and y for accessing critical section. P and Q are the Boolean variables. Check whether ME and/or deadlock are achieved by following code to solve critical section problem.	05	2-3-2.4.4

Process x	Process y
While(T) {	While(T) {
Var P=T	Var Q=T
While(var Q= =T);	While(var P= =T);
Critical Section	**Critical Section**
Var P=F }	Var P=T }