K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: July 2019-20

Max. Marks: 30 **Duration: 1hr.15 min.**

Class: T.Y.BTech. Semester: V

Branch: COMP

Test 1 Name of the Course: Operating System

Question No.		Max. Marks	CO Mapped	Bloom's Taxonomy Level
1	Explain the services (any five) provided by operating system	5	CO1	Understanding
2	What common events leads to the creation of the process? **OR** Differentiate between Multiprogramming and Multithreading.	5	CO2	Understanding
3	Five batch jobs, A to E , arrives at the computer center at essentially the same time. They have an estimated running time of 15,9,3,6,and 12 minutes, respectively. Their (externally defined) priorities are 6,3,7,9, and 4, respectively, with the lower value corresponding to a higher priority. For each of the following scheduling algorithms, determine the turnaround time and waiting time for each process and the average turnaround time, waiting time for all jobs. Ignore process switching overhead. Assume all jobs are completely CPU bound jobs. For last three algorithms (b,c,d) assume that only one job at a time runs until it finishes. a) Round robin with time quantum of 2 Minute. b) Priority Scheduling c) FCFS d) SJF	10	CO2	Application
4	Consider a variant of the RR scheduling algorithm where entries in the ready queue are pointers of the PCBs. a. What would be the effect of putting two pointers to the same process in the ready queue? b. What would be the major advantage of this scheme? c. How could you modify the basic Round robin algorithm to achieve the same effect without the duplicate pointers? Justify your answer with the help of diagram	10	CO2	Analysis