K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: July 2017- November 2017

Max. Marks: 30	**Duration: 1hr.15 min.**
Class: TY B.Tech	**Semester: V**
Branch: COMP	**Course Code:**
Test 1	**Name of the Course: Operating System**

Question No.		Max. Marks	*CO Mapped
Q.1	An I/O bound program is one that, if run alone, would spend more time waiting for I/O than using the processor. A processor bound program is opposite. Suppose a short-term scheduling algorithm favors those programs that have used little processor time in the recent past. Explain why this algorithm favors I/O bound programs and yet does not permanently deny processor time to processor-bound programs.	5M	CO1
Q.2	Define following terms: 1. Multi programming 2. Kernel 3. Multi-processing 4. Process 5. What is usually the critical performance requirement in an interactive operating system? OR In what way is the modular kernel approach similar to layered approach? In what way does it differ from the layered approach?	5M 5M	CO1
Q.3	Explain 5 state process model. OR Describe the action taken by kernel to context switch between the processes.	5M	CO2

	Consider the following set of processes:	

Process	Arrival Time	Execution Time	Priority
A	0	3	2
B	1	4	3
C	1	2	1
D	2	5	3
E	12	5	4

Q.4

Show the sequence of process execution using Gantt chart and
Calculate the average turn around time and average waiting
time for

2. HRRN

3. Priority (Non preemptive) small priority no implies higher
priority.

4. SRTN

5. RR (Time quantum: 2ms)

CO4