REG. No.:

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
&
DEPARTMENT OF INFORMATION TECHNOLOGY
CONTINUOUS ASSESSMENT TEST - I

Subject	**: OPERATING SYSTEMS**	**Sub. Code**	**: CS8493**
Year / Sem	**: II / III**	**Branch**	**: CSE & IT**
Date / Session	**: 25-03-2021 & FN**	**Time**	**: 1 ½ Hrs**
		Marks	**: 50**

Answer ALL Questions
PART - A (5 x 2 = 10 Marks)

1.	List the need of OS.	**(R) (CO1)**
2.	What is the purpose of a System call?	**(K) (CO1)**
3.	Differentiate process and threads.	**(U) (CO2)**
4.	What are the scheduling criteria's ?	**(U) (CO3)**
5.	Compare Preemptive and non-Preemptive scheduling.	**(A) (CO3)**

PART - B (2x13 = 26 Marks)

6. a. **i)** Explain Time sharing systems and multi-programming systems.(8)   **(U)(CO1)**
   ii) Explain briefly the significance of Cache Memory.(5)   **(U)(CO1)**

Or

6. b. What is a system call? Explain in detail the system call sequence to copy the contents of one file to another. (5)   **(K)(CO2)**

7. a. What are the advantages of Inter Process Communication? How communication takes place in a shared-memory environment? Explain. (13)   **(A)(CO2)**

Or

7. b.   i) What are the difference between user threads and kernel threads.(6)
ii) Illustrate PCB with a diagram.(4)
iii) Define Process ? List the states of process with diagram.   **(U)(CO2)**

PART - C (1x14 = 14 Marks)

8.a   Explain the FCFS, preemptive and non-preemptive versions of Shortest Job First and Round Robin (time-slice 2) scheduling algorithms with Gantt Chart for the four processes given. Compare their average turnaround time and waiting time.

Process   Arrival time   Burst Time
P1   0   10
P2   1   6
P3   2   12
P4   3   15

(C)(CO3)

Or

8. b   i) What are the 3 different types of scheduling queues? Explain.(3)
ii) Discuss the need for scheduling and explain the types of schedulers? Explain. (5)
iii) Explain multi queue scheduling and multi queue feedback scheduling with diagram.(6)
(U)(CO3)

Course Outcomes:
CO1: Understand the basic concepts and functionality of operating system. (K2)
CO2: Understand the process concepts, threads and dead lock management.(K2)
CO3: Analyze various process scheduling algorithms. (K4)
CO4: Compare and contrast various memory management schemes. (K5)
CO5: Understand file management and various I/O systems (K2)
CO6: Demonstrate Linux system and mobile OS like ios and Android. (K3)