

Duration : 2 1/2 Hours

Total Marks : 60

Q. 1 Attempt any four of the following

16

- What is Process scheduling? Explain in detail.
- Explain threads. What are the advantages and disadvantages of threads?
- Explain Operating system services.
- What is the System call? Explain its types.
- What are the functions of operating system?
- Write short note on interprocess communication
- Describe the structure of operating system
- Explain multithreading models.

Q. 2 Attempt any four of the following

16

- Explain Critical Section Problem in detail.
- Explain Deadlock Prevention in detail.
- Consider the following table. Calculate average waiting time and turnaround time using SJF.(non-preemptive)

Process	Arrival Time	Burst Time
P1	0	6
P2	1	2
P3	2	5
P4	3	6
P5	7	1

- Explain Semaphores.
- Write short note on classic problems of synchronization
- What is process synchronization?
- Explain Deadlock Detection in detail
- Explain FCFS algorithms with example

Q. 3

Attempt any four of the following

- a. What is Swapping and Contiguous memory allocation ? Explain in detail.
- b. What is FIFO in page replacement Algorithm? Consider page reference string 1, 3, 0, 3, 5, 6, 3 with 3 page frames. Find the number of page faults.
- c. Explain Disk Scheduling in detail.
- d. Explain File Access Methods in detail.
- e. Describe structure of disk.
- f. Explain page table.
- g. Explain logical and physical address space.
- h. Write short note on trashing.

Q. 4

Attempt any Three of the following

- a. what is operating system? give its advantages
- b. Write short note on Synchronization Hardware.
- c. Explain Demand paging.
- d. Write short note on Processes.
- e. Explain Scheduling Criteria.
- f. Write short note on Disk Management.