

OR

Q.6 a. What is a Deadlock? What are the necessary conditions for the deadlock to occur? 06 L1 CO3

b. Consider the following snap shot of the system. 14 L3 CO2

Process	Allocation			Max			Available		
	A	B	C	A	B	C	A	B	C
P ₀	0	1	0	7	5	3	3	3	2
P ₁	2	0	0	3	2	2			
P ₂	3	0	2	9	0	2			
P ₃	2	1	1	2	2	2			
P ₄	0	0	2	4	3	3			

Answer the following questions:

- What is the content of the matrix-need?
- Is the system on a safe state? If so, find safe sequence.
- If P₁ requirements for (1, 0, 2) additional resources can P₁ be granted.

Module – 4

Q.7 a. What is paging? Explain with a neat diagram paging hardware with TLB. 10 L1 CO4

b. Explain the different strategies used to select a free hole from available holes. 05 L1 CO4

c. What is Fragmentation? List and explain its types. 05 L2 CO4

OR

Q.8 a. What is page fault? With a neat diagram explain steps in handling page fault. 08 L2 CO4

b. Consider the page reference string for a memory with 3 frames determine the number of page faults using FIFO, optimal and LRU replacement algorithms. Which algorithms is more efficient? 12 L3 CO4

7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1

Module – 5

Q.9 a. Define File. List and explain different file operations and file attributes. 10 L1 CO5

b. Explain the different file allocation methods. 10 L2 CO5

OR

Q.10 a. What is Access Matrix? Explain the implementation of Access Matrix. 10 L2 CO5

b. A drive has 5000 cylinders numbered 0 to 4999. The drive is currently servicing at a request 143 and previously served a request at 125. The queue of pending request in FIFO order.

86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130
starting from current head position. What is the total distance travelled (in cylinders) by a disk arm to satisfy the request using FCFS, SSTF, SCAN, LOOK and C-Look algorithm
