Attempt all the questions. [ 8\*5=40]

1. What is optimal page replacement algorithm? Why is it difficult to implement it? Consider the following page-reference string: - 0 1 2 3 0 1 2 3 0 1 2 3 4 5 6 7. How many page faults would occur for the following replacement algorithms assuming four frames

a) LRU b) FIFO c) Optimal

[2+6]

1. Explain why SSTF scheduling tends to favor middle cylinders over the inner most and outer cylinders. Suppose a disk has 200 tracks, numbered 0 to 199, the read write head is currently serving a request at track 143 and has just finished a request at track 125. The queue of request is kept in FIFO order-

86, 146, 91, 177, 94, 150, 102, 175, 130

What is the total number of head movements needed to satisfy these requests for the following disk scheduling algorithms

1. SSTF
2. C-SCAN
3. LOOK

[2+6]

1. Explain the impact of selection of block size for file. Explain different file allocation methods with suitable diagrams. [3+5]
2. Compare segmentation with paging. When do we need segmented paging? Explain segmented paging with suitable diagram. [2+1+5]
3. Write short notes on
4. Access Control List
5. Pubic Key Encryption
6. Tasks of System Administrator