Review Questions: Chapter 3

- **List system service functions provided for the convenience of the programmer.**
- **List system service functions provided for the efficiency of the system.**
- **List some system calls used for file manipulation.**
- **List some debugging aid.**
- **What is command line interpreter?**

Review Questions: Chapter 4

- What are the differences between a program, a process, and a thread?
- What is process control block?
- What are tasks of long term, short term and midterm schedulers?
- Which one should be fast?
- What is the degree of multiprogramming?
- What is time sharing?
- What is swapping?
- What is content switching?
- Describe the producer/consumer problem.
- Give examples of producer/consumer problem.

Review Questions: Chapter 5

- What is a CPU burst? An I/O burst?
- What is FIFO?
- What is preemption?
- List 5 performance criteria for a system.
- What is convoy effect?
- What is exponential averaging?
- What is the purpose of "aging"?
- What is SJF, SRTF and RR scheduling?
- How time quanta is related to context switching time?
- What is multilevel queue based scheduling?

Review Questions: Chapter 6

- What is critical section problem?
- What are the three requirements for a good CSP solution?
- What is term "atomically" means?
- What was wrong with the first two CSP solutions?
- Define the wait() and signal() operations on semaphore.
- If processes S1 and S2 have to execute in sequence, how you will use a semaphore?

Review Questions: Chapter 7

- What are the 4 necessary conditions for deadlock?
    - ♦ (One resource is non-sharable, a process is in hold and wait state, no preemption, circular wait)
- List three strategies for dealing with deadlock.
- List few technique of deadlock prevention attacking 2nd condition.
    - ♦ (request all at the beginning, can request one, if it is not holding one)
- List few technique of deadlock prevention attacking 3rd condition.
    - ♦ (requestor is preempted first, requestor can preempt from others).
- List few technique of deadlock prevention attacking 4th condition.
    - ♦ (order resources, to request a higher resource release the lower order ones).
- What is safe state?
- Summarize Banker's algorithm.

Os-slide#5

Review Questions: Chapter 8

- What is binding?
- What are overlays?
- What is dynamic loading?
- What is swapping?
- Explain Internal and External fragmentations.
- What is page and what is frame?
- What is the content of a page table?
- List three ways of implementing page tables (registers, memory and associative registers).
- What is segmentation?

Os-slide#6

Review Questions: Chapter 9

- What is Virtual memory? What are the advantages?
- What is demand paging? What are the advantages?
- What is the purpose of valid/invalid bit?
- What is a page fault?
- How you compute effective access time on a demand pages system?
  $(1-p) m + p \times d$
- How do you resolve when there is no more free frames?
- What is dirty bit?
- What is the ideal criteria to choose a victim?
- What is Belady's anamaly?
- What is LRU?
- What is second chance replacement algorithm?
- How frames can be allocated to processes?
- What local and global replacement differs?
- What is thrashing?
- How CPU utilization varies with degree of multiprogramming?

Os-slide#7

Review Questions: Chapters 10-11

- What is a file?
- What is involved in opening a file?
- What are the advantages of directory?
- List three ways of allocating disk blocks to files.
- What are the difficulties of contiguous allocation?
- What are the difficulties of linked allocation?
- How BSD Unix implements a mixed scheme?
- Rank the allocation methods based on speed of access.

Os-slide#8

Review Questions : Chapters 13

- What is sector, track and cylinder?
- What are components of disk access time?
- What is the problem with FCFS disk scheduling?
- What is SSTF scheduling?
- What is the difference between SCAN and C-SCAN algorithms?
- Which track will have best performance?

Os-slide#9