List of the Possible Questions

#1: What is “process starvation”?

#2: Which process scheduling algorithms can cause “process starvation” (select all that apply)?
   (1) FCFS
   (2) RR
   (3) SJF
   (4) SRTF

#3: What is “race condition”?

#4: How can “race condition” happen? Show “how” using an example.

#5: What is “critical section”?

#6: What is “mutual exclusion”?

#7: What does “atomic” in “atomic operations” mean?

#8: What is “a binary (or mutex) semaphore”?

#9: What are the two primary system calls for manipulating a semaphore?

#10: Explain how a semaphore can prevent race condition.

#11: What are the two operations of a semaphore (just name them)?

#12: What “wait” system call to a semaphore exactly performs?

#13: What “signal” system call to a semaphore exactly performs?

#14: Why must the two system calls for semaphores (“wait” and “signal”) be atomic operations (explain the reason)?

#15: What are “counting semaphores” (how are “counting semaphores” different from “binary (mutex) semaphores”)?
#16: Who manages semaphores?

#17: Operating systems use “queue (FIFO data structure)” for managing processes blocked on a semaphore. Why is FIFO-queue used (the best reason for using FIFO structure)?