Please concisely answer these questions. Type your answers and submit a printed copy.

(1) What is the purpose of system calls?

(2) What’s the benefit of multiprogramming and what’s the disadvantage of having a too large multiprogramming level?

(3) Why does usually a process scheduler give I/O-intensive process a higher priority than a compute-intensive process?

(4) Briefly describe how a page fault is resolved.

(5) Why can a TLB that holds only small portion of page tables remove most of memory accesses for address translation?

(6) Why is multi-level page table adopted instead of a single-level page table?

(7) What is the cause of thrashing? How does the system detect thrashing? Once it detects thrashing, what can the system do to eliminate this problem?

(8) In what data access scenario where LRU is too expensive and the CLOCK algorithm is needed to replace it?

(9) What is the disk access scenario that motivates the anticipatory scheduling algorithm?

(10) Show the steps for resolving path name “/spell/words/rade”, including access of inode and directory files.