Q.1 What are the two main functions of an operating system ?

Q.2 What is multiprogramming?

Q.3 List some differences between personal computer operating systems and mainframe operating systems.

Q.4 What is the key difference between a trap and an interrupt?

Q.5 On early computers, every byte of data read or written was directly handled by the CPU (i.e.there was no DMA. What implications does this organization have for multiprogramming ?)

Q6. Which of the following instructions should be allowed only in kernel mode?

(a) Disable all interrupts.

(b) Read the time-of-day clock.

(c) Set the time-of-day dock.

(d) Change the memory map.

Q7. Can the

count = write(fd, buffer, nbytes);

call return any value in *count* other than *nbytes*? If so, why?

Q8. A file whose file descriptor is *fd* contains the following sequence of bytes: 3, 1, 4, 1, 5, 9, 2, 6, 5, 3, 5. The following system calls are made:

lseek(fd, 3, SEEK\_SET);

read(fd, &buffer, 4);

where the lseek call makes a seek to byte 3 of the file. What does *buffer* contain after the read has completed?

Q9.

A computer uses the relocation scheme of Fig. 1-9(a). A program is 10,000 bytes long and is loaded at address 40,000. What values do the *base* and *limit* register get according to the scheme described in the text?