1. What is c) called

   Cylinder

2. What is the motion of j) (on top, between e and h

   Seek

3. What is h) called

   Arm assembly

4. What is the positioning time

   The time of both i) motion and j) motion for the head to be on the target position

5. What is an issue with hard disk drives that is not an issue with NAND flash storage

   Seek time and rotational latency

6. Which of the following disk scheduling algorithms is better for SSD than for HDD

   FIFO

7. which of the following disk scheduling algorithms may have starvation

   SSTF

8. what is the difference between SCAN and LOOK disk scheduling algorithms

   SCAN moves to both extremes of the disk cylinders, while LOOK moves only to the highest or lowest cylinders that are actually requested

9. which RAID organization improves the mean time to data loss over a single hard drive

   Mirroring as in RAID-1

10. Assume you have consecutive sectors abcdes where s is a spare and d is defective, what is the sequence of sectors after sector after repair by sector slipping? Use u sor marking a sector as unusable

    abcude

11. In a personal computer, which of the following is attached directly to the PCIe bus directly

    Graphics controller

12. How would a SCSI device connect to PCIe

    Via a host-bus adapter

13. How can the processor know if a device is busy

    Read the device's status register

14. To control a SATA hard drive, the processor would access the device registers that reside where

    On the hard drive's controller

15. What is interrupt chaining

    Multiple devices share an IRQ line, and the ISR queries each device

16. Which of the following is not a correct explanation of DMA

    The DMA controller must transfer not only to memory but also update the processor's cache or else the processor will access the wrong data

17. Which of the following is a correct characterization of Unix I/O calls

    seek() is synchronous

18. What is vectored I/O

    have one system call perform multiple I/O operations to save overhead

19. Where is the file name of a file stored

    In the directory structure on disk

20. Which of the following Unix I/O call is used to issue device-specific commands

    ioctl()

21. which of the following structures is only in-memory but not on-disk

    System-wide open file table

補充：

To setup, the device driver tells the device controller to transfer data to memory at starting address and the number of bytes

After setup, device driver tells the DMA controller to start DMA transfer
Device driver tells the DMA controller to start DMA transfer

Upon completion, DMA controller interrupts the processor

The DMA controller must steal cycles from the processor when it is not accessing memory, but this may cause the processor to wait for memory longer

put() is not nonblocking
read() is not synchronous
get() is not asynchronous
select() is not asynchronous