1. In magnetic disk \_\_\_\_\_\_\_\_ stores information on a sector magnetically as reversals of the direction of magnetization of the magnetic material.  
a) Read–write head  
b) Read-assemble head  
c) Head–disk assemblies  
d) Disk arm

Answer: d  
Explanation: Each side of a platter of a disk has a read–write head that moves across the platter to access different tracks.

2. A \_\_\_\_\_\_\_\_\_\_ is the smallest unit of information that can be read from or written to the disk.  
a) Track  
b) Spindle  
c) Sector  
d) Platter

Answer: c  
Explanation: The disk surface is logically divided into tracks, which are subdivided into sectors.

3. The disk platters mounted on a spindle and the heads mounted on a disk arm are together known as \_\_\_\_\_\_\_\_\_\_\_  
a) Read-disk assemblies  
b) Head–disk assemblies  
c) Head-write assemblies  
d) Read-read assemblies

Answer: b  
Explanation: Each side of a platter of a disk has a read–write head that moves across the platter to access different tracks.

4. The disk controller uses \_\_\_\_\_\_\_\_ at each sector to ensure that the data is not corrupted on data retrieval.  
a) Checksum  
b) Unit drive  
c) Read disk  
d) Readsum

Answer: a  
Explanation: A disk controller interfaces between the computer system and the actual hardware of the disk drive.

5. \_\_\_\_\_\_\_\_\_ is the time from when a read or write request is issued to when data transfer begins.  
a) Access time  
b) Average seek time  
c) Seek time  
d) Rotational latency time

Answer: a  
Explanation: To access (that is, to read or write) data on a given sector of a disk, the arm first must move so that it is positioned over the correct track, and then must wait for the sector to appear under it as the disk rotates.

6. The time for repositioning the arm is called the \_\_\_\_\_\_\_\_ and it increases with the distance that the arm must move.  
a) Access time  
b) Average seek time  
c) Seek time  
d) Rotational latency time

Answer: c  
Explanation: Typical seek times range from 2 to 30 milliseconds, depending on how far the track is from the initial arm position.

7. \_\_\_\_\_\_\_\_\_ is around one-half of the maximum seek time.  
a) Access time  
b) Average seek time  
c) Seek time  
d) Rotational latency time

Answer: b  
Explanation: Average seek times currently range between 4 and 10 milliseconds, depending on the disk model.

8. Once the head has reached the desired track, the time spent waiting for the sector to be accessed to appear under the head is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
a) Access time  
b) Average seek time  
c) Seek time  
d) Rotational latency time

Answer: d  
Explanation: Rotational speeds of disks today range from 5400 rotations per minute (90 rotations per second) up to 15,000 rotations per minute (250 rotations per second), or, equivalently, 4 milliseconds to 11.1 milliseconds per rotation.

9. In Flash memory, the erase operation can be performed on a number of pages, called an \_\_\_\_\_\_\_ at once, and takes about 1 to 2 milliseconds.  
a) Delete block  
b) Erase block  
c) Flash block  
d) Read block

Answer: b  
Explanation: The size of an erase block (often referred to as just “block” in flash literature) is usually significantly larger than the block size of the storage system.

10. Hybrid disk drives are hard-disk systems that combine magnetic storage with a smaller amount of flash memory, which is used as a cache for frequently accessed data.  
a) Hybrid drivers  
b) Disk drivers  
c) Hybrid disk drivers  
d) All of the mentioned

Answer: b  
Explanation: Frequently accessed data that are rarely updated are ideal for caching in flash memory.