Week 10

1) In the C-SCAN disk scheduling algorithm, the disk arm is required to move in one direction only until it reaches the last track or there are no more requests to service in that direction, then it reverses direction and the scan proceeds in the opposite direction in the same fashion.

**False**

2) A key aspect of I/O is the use of buffers that are controlled by I/O utilities rather than by application processes.

**True**

3) \_\_\_\_\_\_\_\_\_\_\_ external devices are suitable for communicating with electronic equipment.

a. Communication

**b. Machine readable**

c. Human readable

d. Application

4) Two of the most widely used approaches to improve disk I/O performance are disk scheduling and disk cache.

**True**

5) Examples of human readable external I/O devices are printers, terminals, and keyboards.

**True**

6) The actual queuing and scheduling of I/O operations occurs at the logical I/O module.

**False**

7) Access rights are managed at the physical organization layer.

**False**

8) The requested operations and data are converted into appropriate sequences of I/O instructions, channel commands, and controller orders at the \_\_\_\_\_\_\_\_\_\_ layer.

a. logical I/O

b. scheduling and control

c. physical organization

**d. device I/O**

9) On a moveable-head system, the time it takes to position the head at the track is known as \_\_\_\_\_\_\_\_ .

a. rotational delay

**b. seek time**

c. access time

d. transfer time

10) Direct memory access is the dominant form of transfer that must be supported by the operating system.

**True**

11) The \_\_\_\_\_\_\_\_\_\_\_\_\_ category of external devices are suitable for communicating with the computer user.

**a. human readable**

b. communication

c. application

d. machine readable

12) The \_\_\_\_\_\_\_\_\_\_ unit is capable of mimicking the processor and of taking over control of the system bus just like a processor.

a. interrupt-driven I/O

**b. direct memory access**

c. I/O channel

d. programmed I/O

13) The simplest type of support that the operating system can provide is \_\_\_\_\_\_\_\_\_ .

a. dual buffering

b. circular buffering

**c. single buffering**

d. overflow buffering

14) The SCAN policy favors jobs whose requests are for tracks nearest to both innermost and outermost tracks, and favors the latest arriving jobs.

**True**

15) \_\_\_\_\_\_\_\_\_\_ external devices are suitable for communicating with modems.

a. Human readable

b. Machine readable

**c. Communication**

d. Application

16) Cache memory reduces average memory access time by exploiting the principle of locality.

**True**

17) The use to which a device is put does not have an influence on the software and polices in the operating system and supporting utilities.

**False**

18) The hierarchical philosophy is that the functions of the operating system should be separated according to their complexity, their characteristic time scale, and their level of abstraction.

**True**

19) \_\_\_\_\_\_\_\_\_\_ is a technique that smoothes out peaks in I/O demand.

a. Blocking

b. Tracking

c. Smoothing

**d. Buffering**

20) Double buffering is when a process transfers data to (or from) one buffer while the operating system empties (or fills) the other.

**True**