1. A(n) (B) file is a sequence of subroutines and functions.

A) Text B) source C) object D) executable

2. In an environment where several processes may open the same file at the same time, (D).

A) the operating system typically uses only one internal table to keep track of open files

B) the operating system typically uses two internal tables called the system-wide and per-disk tables to keep track of open files

C) the operating system typically uses three internal tables called the system-wide, per-disk, and per-partition tables to keep track of open files

D) the operating system typically uses two internal tables called the system-wide and per-process tables to keep track of open files

3. Suppose that the operating system uses two internal tables to keep track of open files. Process A has two files open and process B has three files open. Two files are shared between the two processes. How many entries are in the per-process table of process A, the per-process table of process B, and the system-wide tables, respectively? (B)

A) 5, 5, 5 B) 2, 3, 3 C) 2, 3, 5 D) 2, 3, 1

4. A shared lock (C).

A) behaves like a writer lock

B) ensures that a file can have only a single concurrent shared lock

C) behaves like a reader lock

D) will prevent all other processes from accessing the locked file

5. The simplest file access method is (A).

A) sequential access B) logical access

C) relative access D) direct access

6. Which of the following is true of the direct-access method? (B)

A) It is the most common mode of access.

B) It allows programs to read and write records in no particular order.

C) Files are made up of variable-length records.

D) It is not a good method for accessing large amounts of data quickly.

7. Which of the following is true of the tree-structured directory structure? (D)

A) Users cannot create their own subdirectories.

B) Users cannot acquire permission to access the files of other users.

C) Directories can share subdirectories and files.

D) It is the most common directory structure.

8. An acyclic-graph directory structure (B).

A) does not allow the sharing of files.

B) allows the sharing of subdirectories and files.

C) is less complicated than a simple tree-structured directory structure.

D) is less flexible than a simple tree-structured directory structure.

9. Transfers between memory and disk are performed a (C).

A) byte at a time B) file at a time

C) block at a time D) sector at a time

10. Order the following file system layers in order of lowest level to highest level. (D)

[1] I/O control [2] logical file system

[3] basic file system [4] file-organization module

[5] devices

A) 1, 3, 5, 4, 2 B) 5, 1, 3, 2, 4

C) 1, 5, 3, 4, 2 D) 5, 1, 3, 4, 2

11. Which of the following is the simplest method for implementing a directory? (B)

A) tree data structure B) linear list C) hash table D) nonlinear list

12. A disk with free blocks 0,1,5,9,15 would be represented with what bit map? (B)

A) 0011101110111110 B) 1100010001000001

C) 0100010001000001 D) 1100010001000000

13. How many disk accesses are necessary for direct access to byte 20680 assuming each disk block is 4 KB in size? (D)

A) 1 B) 10 C) 7 D) 5

14. The free-space list can be implemented using a bit vector approach. Which of the following is a drawback of this technique? (B)

A) To traverse the list, each block must be read on the disk.

B) It is not feasible to keep the entire list in main memory for large disks.

C) The technique is more complicated than most other techniques.

D) This technique is not feasible for small disks.

15. A volume control block (D).

A) can contain information needed by the system to boot an operating system from that partition

B) is a directory structure used to organize the files

C) contains many of the file's details, including file permissions, ownership, size, and location of the data blocks

D) contains information such as the number of blocks in a partition, size of the blocks, and free-block and FCB count and pointers

16. Metadata includes all of the file-system structure, including the actual data (or contents of the file). (F)

17. Indexed allocation may require substantial overhead for its index block. (T)

18. Linked allocation suffers from external fragmentation. (F)