1. Suppose we use linux command "ln" to create a link file "new", pointing to the file "old'. What if you delete the file "old"? Can we still access the content using "new"?

单选题 (10 分)　　10分

A. yes, we can

B. No, we cannot

C. it depends on the owner of "new"

D. it depends on the privilege of "new"

正确答案: A

2. Linux classifies the input/output devices as character device, block devices and network devices. Which one of below is a block device?

单选题 (10 分)　　10分

A. IDE harddisk

B. Graphic output

C. Printer

D. Mouse

正确答案: A

3. Linux represents the second extent partition on the slave disk of IDE0 with _____

单选题 (10 分)　　10分

A. /dev/hdb2

B. /dev/sd1b2

C. /dev/sdb2

D. /dev/hd0s2

正确答案: A

4. For Linux file system ext2/ext3, which of the following disk allocation approaches are applied?

单选题 (10 分)　　10分

A. contiguous allocation

B. linked allocation

C. index allocation

D. B and C

5. Consider a file system on a disk that has both logical and physical block sizes of 512 bytes. Assume that the information about each file is already in memory. Answer the following three questions:

   Suppose we use linked allocation and want to access the 512 byte in the logical block, how many disk blocks should we access?

   回答错误

   单选题 (10 分)   0分

   A. 1

   B. 2

   C. 3

   D. 4

   正确答案: B

6. Suppose we use indexed allocation and are currently at the 10th logical block. If we want to access the 3rd logical block, how many disk blocks should we access?

   单选题 (10 分)   10分

   A. 1

   B. 2

   C. 3

   D. 4

   正确答案: B

7. A file system uses a two-level indexed allocation scheme. If the size of each block is 1KB, and the block address is 4 bytes, then the maximum length of a file this system can support is approximately

   单选题 (10 分)   10分

   A. 16MB

   B. 64MB

   C. 128MB

   D. 256MB

   正确答案: B

8. To mount a usb device located at /dev/sdb to /mnt/usb, suppose the file format is fat32. Which of the following shell scripts is correct?

   单选题 (10 分)   10分

   A. mount –t vfat /dev/sdb /mnt/usb

   B. mount –t fat32 /dev/sdb /mnt/usb

C. mount   –t vfat /mnt/usb

D. mount –t fat32 /mnt/usb

正确答案: A

9. By default, each process can at most open 256 files (including the standard input/output and error). This is because:

单选题 (10 分)   10分

A. System does not have enough memory to maintain too many inodes

B. fs_struct sets the maximal number of files that can be opened

C. file_struct defines the size of file array to be 256

D. We can only use one byte to store the file descriptor number

正确答案: C

10. In an i-node based file system implementation, the i-node typically stores 12 direct block pointers, one 1-indirect block pointer, one 2-indirect block pointer, and one 3-indirect block pointer. Recall that an indirect block is a disk block storing an array of disk block addresses (i.e. pointers). The pointers in a 1-indirect block point to disk blocks that store file data. The pointers in a 2-indirect (or 3-indirect) block point to other 1-indirect (or 2-indirect) blocks. Suppose the file system is configured to use a block size of 210 bytes and each pointer takes up 4-byte. What is the maximum file size that can be supported in the file system (approximately)?

单选题 (10 分)   10分

A. 256MB

B. 1GB

C. 4GB

D. 4TB

E. 16GB

正确答案: E