

UNIT-V: File System Interface and Operations

Multiple Choice Questions (MCQs)

1. A file system is primarily used to:

- a) Manage CPU scheduling
- b) Organize and manage files on storage devices
- c) Manage processes
- d) Allocate memory

Answer: b) Organize and manage files on storage devices

2. Which of the following is an access method in a file system?

- a) Sequential Access
- b) Paging
- c) Segmentation
- d) Swapping

Answer: a) Sequential Access

3. In sequential access, records are accessed:

- a) Randomly
- b) One after another in order
- c) Using indexes only
- d) Through hashing only

Answer: b) One after another in order

4. Which access method allows direct access to any record in a file?

- a) Sequential Access
- b) Direct Access
- c) Indexed Access
- d) Linear Access

Answer: b) Direct Access

5. A directory is used to:

- a) Store process information
- b) Organize files and subdirectories
- c) Allocate memory
- d) Schedule CPU processes

Answer: b) Organize files and subdirectories

6. Which directory structure has only one directory for all users?

- a) Tree-structured directory
- b) Two-level directory
- c) Single-level directory
- d) Acyclic graph directory

Answer: c) Single-level directory

7. A tree-structured directory allows:

- a) No subdirectories
- b) Hierarchical organization of files
- c) Only one user
- d) No file sharing

Answer: b) Hierarchical organization of files

8. File protection is mainly used to:

- a) Increase CPU speed
- b) Prevent unauthorized access
- c) Allocate memory
- d) Improve scheduling

Answer: b) Prevent unauthorized access

9. Which file allocation method stores each file in contiguous blocks?

- a) Linked Allocation
- b) Indexed Allocation
- c) Contiguous Allocation
- d) Dynamic Allocation

Answer: c) Contiguous Allocation

10. In linked allocation, file blocks are:

- a) Stored continuously
- b) Linked using pointers
- c) Indexed in a table
- d) Stored randomly without links

Answer: b) Linked using pointers

11. Indexed allocation uses:

- a) A linked list
- b) An index block containing pointers to file blocks
- c) Continuous memory blocks
- d) No pointers

Answer: b) An index block containing pointers to file blocks

12. Free-space management is concerned with:

- a) Managing available disk blocks
- b) CPU scheduling
- c) Process synchronization
- d) Memory swapping

Answer: a) Managing available disk blocks

13. Which system call is used to create a new file?

- a) read()
- b) write()
- c) create()
- d) close()

Answer: c) create()

14. Which system call is used to open an existing file?

- a) open()
- b) stat()
- c) ioctl()
- d) lseek()

Answer: a) open()

15. Which system call reads data from a file?

- a) write()
- b) read()
- c) close()
- d) stat()

Answer: b) read()

16. Which system call writes data to a file?

- a) write()
- b) open()
- c) create()
- d) ioctl()

Answer: a) write()

17. The close() system call is used to:

- a) Open a file
- b) Delete a file
- c) Close an opened file
- d) Read a file

Answer: c) Close an opened file

18. The lseek() system call is used to:

- a) Move the file pointer to a specified location
- b) Close a file
- c) Create a file
- d) Delete a file

Answer: a) Move the file pointer to a specified location

19. The stat() system call provides information about:

- a) Process status
- b) File attributes and status
- c) Memory status
- d) CPU status

Answer: b) File attributes and status

20. The ioctl() system call is mainly used to:

- a) Perform device-specific input/output operations
- b) Allocate memory
- c) Create processes
- d) Schedule CPU tasks

Answer: a) Perform device-specific input/output operations

Fill in the Blanks

1. A file system is used to organize and manage _____ on storage devices.
Answer: files
2. In _____ **access**, records are accessed one after another in sequence.
Answer: sequential
3. _____ **access** allows direct retrieval of records from a file.
Answer: Direct
4. A directory is a collection of files and _____.
Answer: subdirectories
5. The simplest directory structure is the _____-**level directory**.
Answer: single
6. A hierarchical arrangement of directories is called a _____-**structured directory**.
Answer: tree
7. File protection prevents _____ **access** to files.
Answer: unauthorized
8. In contiguous allocation, file blocks are stored in _____ **locations**.
Answer: contiguous
9. Linked allocation uses _____ to connect file blocks.
Answer: pointers
10. Indexed allocation uses an _____ **block** to store addresses of file blocks.
Answer: index
11. Managing free disk blocks is known as _____-**space management**.
Answer: free
12. The system call used to create a file is _____().
Answer: create
13. The system call used to open a file is _____().
Answer: open
14. The _____() system call is used to read data from a file.
Answer: read
15. The _____() system call writes data to a file.
Answer: write
16. The _____() system call closes an opened file.
Answer: close
17. The _____() system call moves the file pointer to a specified location.
Answer: lseek
18. The _____() system call retrieves file information and attributes.
Answer: stat

19. Device-specific input/output operations are performed using the _____() system call.

Answer: ioctl

20. A file must be _____ before it can be accessed for reading or writing.

Answer: opened