File Systems:

A filesystem is the methods and data structures that an operating system uses to keep track of files on a disk or partition, that is, the way the files are organized on the disk.

A file is an entry in a directory. The file may have attributes like name, creator, date, type, permissions etc.

File Structure:

A file has various kinds of structure. Some of them can be :

1. 1. Simple Record Structure with lines of fixed or variable lengths.
2. Complex Structures like formatted document or reloadable load files.
3. No Definite Structure like sequence of words and bytes etc.

Attributes of a File:

1. Name. It is the only information which is in human-readable form.
2. Identifier. The file is identified by a unique tag(number) within file system.
3. Type. It is needed for systems that support different types of files.
4. Location. Pointer to file location on device.
5. Size. The current size of the file.
6. Protection. This controls and assigns the power of reading, writing, executing.

File Access Methods:

1. Sequential Access:Data is accessed one record right after another is an order.
2. Direct Access: There are no restrictions, blocks read/written, can be done in any order.
3. Indexed Sequential Access: It uses an Index to control the pointer while accessing files.

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60. What is Process Scheduling, CPU Scheduling, Disk Scheduling? Explain Short, Medium and Long term Scheduler?
61. Explain concept of a process with its components ?
62. Explain the following in brief Contiguous and Linked list allocation for implementing file system?
63. Explain various Disk scheduling algorithms with Illustrations ?
64. Define process and thread. What is PCB ? Explain its various entries with their usefulness ?
65. Discuss advantages and disadvantages of the Buffer cache ?
66. Explain different types of OS with examples of each ?
67. What is an Operating System? Write down its desirable characteristics ?
68. Define a deadlock ? Write down the conditions responsible for deadlock? How can we recover from deadlock ?
69. What are the various services provided by Operating system ?
70. What do you mean by PCB? Where is it used? What are its contents? Explain.
71. What is Binary and Counting semaphores ?
72. What is File? What are the different File attribute and operations?
73. What are System call? Explain briefly about various types of system call provided by an Operating System?
74. Describe necessary conditions for deadlocks situation to arise.
75. What are points to be consider in file system design? Explain linked list allocation in detail?
76. Write a Semaphore solution for dining Philosopher’s problem?

77. Consider the following page reference string:1,2,3,4,5,3,4,1,2,7,8,7,8,9,7,8,9,5,4,5. How many page faults would occur for the following replacement algorithm, assuming four frames:a) FIFOb) LRU
78. Explain CPU schedulers in operating system?
79. Write the different state of a process with the help of Process state deagram?
80. What is Mutex in operating system?
81. Explain Network operating system?
82. What do you mean by paging in operating system ?