Started on	Monday, 26 May 2025, 3:40 PM
State	Finished
Completed on	Monday, 26 May 2025, 3:48 PM
Time taken	7 mins 46 secs
Marks	16.00/20.00
Grade	**80.00** out of 100.00

Question 1

Complete

Mark 1.00 out of 1.00

Which disk scheduling algorithm provides the best average seek time but may cause starvation?

- a. SCAN
- b. SSTF (Shortest Seek Time First)
- c. C-SCAN
- d. FCFS

Question 2

Complete

Mark 1.00 out of 1.00

What is the main advantage of multilevel queue scheduling?

- a. Simple implementation and quick context switches
- b. Differentiated treatment for different process classes
- c. No starvation at all
- d. Optimal turnaround time

Question 3

Complete

Mark 1.00 out of 1.00

What does a context switch involve?

- a. Saving the CPU state of the current process and loading that of the next
- b. Allocating new memory pages
- c. Loading new process code from disk
- d. Flushing the TLB

Question 4

Complete

Mark 1.00 out of 1.00

Which method is used to detect deadlock by examining the resource-allocation graph?

- a. Wait-for graph
- b. Request edge reversal
- c. Banker's Algorithm
- d. Cycle detection

Question 5

Complete

Mark 0.00 out of 1.00

What does “thrashing” primarily impact?

- a. Paging performance
- b. Process priority
- c. Disk space usage
- d. CPU utilization

Question 6

Complete

Mark 1.00 out of 1.00

Segmentation faults are detected by the

- a. File system driver
- b. I/O scheduler
- c. Shell interpreter
- d. CPU’s MMU (Memory Management Unit)

Question 7

Complete

Mark 1.00 out of 1.00

Which of these is a non-preemptive scheduling algorithm?

- a. Shortest Remaining Time First
- b. Round Robin
- c. First-Come, First-Served
- d. Priority Scheduling (preemptive)

Question 8

Complete

Mark 0.00 out of 1.00

Which of the following is NOT a disadvantage of a microkernel?

- a. More context switches
- b. Larger codebase
- c. Higher IPC overhead
- d. Better fault isolation

Question 9

Complete

Mark 1.00 out of 1.00

Demand paging means

- a. All pages are loaded at process startup
- b. Pages are swapped to disk periodically
- c. Pages are loaded into memory only when referenced
- d. Pages are compressed on-the-fly

Question 10

Complete

Mark 1.00 out of 1.00

Which condition is necessary for deadlock to occur?

- a. Preemption
- b. Mutual exclusion
- c. Starvation
- d. Time slicing

Question 11

Complete

Mark 1.00 out of 1.00

In a file system, journaling is used to

- a. Increase read/write throughput
- b. Encrypt files on disk
- c. Track changes to improve crash recovery
- d. Manage user permissions

Question 12

Complete

Mark 0.00 out of 1.00

Which memory allocation method can lead to external fragmentation?

- a. Segmentation
- b. Paging
- c. Buddy system
- d. Both B and C

Question 13

Complete

Mark 1.00 out of 1.00

Which of the following scheduling algorithms is preemptive?

- a. First-Come, First-Served (FCFS)
- b. Round Robin (RR)
- c. Shortest Job First (SJF)
- d. Priority Scheduling

Question 14

Complete

Mark 1.00 out of 1.00

Which of the following is true of symmetric multiprocessing (SMP)?

- a. Each CPU has its own OS instance
- b. Only one CPU runs kernel code at a time
- c. A single OS instance controls multiple CPUs equally
- d. Processes cannot migrate between CPUs

Question 15

Complete

Mark 1.00 out of 1.00

What problem does the “bounded-buffer” (producer-consumer) problem illustrate?

- a. Synchronization of processes
- b. Deadlock
- c. Mutual exclusion only
- d. Virtual memory management

Question 16

Complete

Mark 1.00 out of 1.00

In the Banker's algorithm, if a request would leave the system in an unsafe state, the request is

- a. Granted and then rolled back
- b. Denied permanently
- c. Delayed until safe
- d. Granted immediately

Question 17

Complete

Mark 1.00 out of 1.00

Which IPC (Inter-Process Communication) method is typically the fastest?

- a. Named pipe
- b. Shared memory
- c. Message queue
- d. Socket

Question 18

Complete

Mark 0.00 out of 1.00

The primary purpose of the file allocation table (FAT) is to

- a. Store file metadata
- b. Track open file descriptors
- c. Manage virtual memory pages
- d. Map files to disk blocks

Question 19

Complete

Mark 1.00 out of 1.00

Which of the following is NOT a goal of an operating system?

- a. Security
- b. Resource sharing
- c. Compiler optimization
- d. Reliability

Question 20

Complete

Mark 1.00 out of 1.00

Which of these is a benefit of virtual memory?

- a. Allows programs to exceed physical memory size
- b. Simplifies I/O operations
- c. Eliminates external fragmentation completely
- d. Guarantees no page faults