Operating Systems Fundamentals Final Exam

50 Questions (100 Points) - Model (1)

...

* Required

1

Write your name *

Enter your answer

2

An operating system consists of ..... and system programs.
(2 Points)

- a kernel
- application programs
- hardware programs
- firmware programs

3

..... locates the kernel, load it into memory, and start its execution.
(2 Points)

- The operating system
- The bootstrap program
- The loader
- The dispatcher

4

..... refers to reading an instruction from memory and storing it in the CPU's instruction register.
(2 Points)

- fetch
- decode
- execute
- encode

5

..... ensures that an update to a cache is reflected immediately in other caches.
(2 Points)

- Cache update
- Cache reflection

- Cache decoding
- Cache coherency

6

…… in multiprocessor systems means that failure of one processor will not halt the system.
(2 Points)

- Increased throughput
- Economy of scale
- Increased reliability
- Workflow

7

In ……., one node is in hot standby mode monitoring the active server.
(2 Points)

- asymmetric clustering
- symmetric clustering
- asymmetric processing
- symmetric processing

8

In dual mode operation, privileged instructions can execute only in ……..
(2 Points)

- asymmetric mode
- application mode
- kernel mode
- user mode

9

In ……., the CPU switches between jobs so frequently to allow for multitasking.
(2 Points)

- batch systems
- multiprogramming systems
- timesharing systems
- bulk systems

10

…… is a collection of physically separate computer systems that are networked together.
(2 Points)

- A distributed system
- A cluster system
- A multiprocessor system
- A multicore system

11

..... delivers computing as a service and users pay based on usage.
(2 Points)

- cloud computing
- peer-to-peer computing
- client-server computing
- batch computing

12

..... has well defined, fixed time constraints.
(2 Points)

- A distributed system
- A single-processor system
- A multiprocessor system
- A real-time system

13

The operating system provides application programmers with ..... to invoke services.
(2 Points)

- DMA
- RPC
- IPC
- API

14

..... system calls support open, close, read, write, reposition file operations.
(2 Points)

- Process control
- File management
- Device management
- Information maintenance

15

..... system calls support get time/date and set time/date operations.
(2 Points)

- Process control
- File management
- Device management
- Information maintenance

16

Using the ..... makes the OS difficult to implement and extend.
(2 Points)

- monolithic Approach
- layered Approach

- micro-kernel Approach
- hybrid approach

17

Using the ..... removes all nonessential components from the kernel and implements them as system programs.
(2 Points)

- monolithic Approach
- layered Approach
- micro-kernel Approach
- hybrid approach

18

In a process, the ..... contains the temporary variables.
(2 Points)

- text section
- data section
- heap section
- stack section

19

A process is said to be in a ..... state if it is being created.
(2 Points)

- new
- running
- waiting
- ready

20

Context switch saves the current context of the current process into its .....
(2 Points)

- IPC
- RPC
- DMA
- PCB

21

A ..... process shares data with other executing processes.
(2 Points)

- independent
- cooperating
- batch
- interactive

22

..... contains processes waiting for a certain event to occur.
(2 Points)

- ready queue
- wait queue
- device queue
- system queue

23

..... is a process that can receive messages from mailbox.
(2 Points)

- user
- owner
- sender
- receiver

24

In ..... addressing, both sender and receiver processes must name each other.
(2 Points)

- multicore
- cluster
- asymmetric
- symmetric

25

..... involves the distribution of tasks across multiple cores.
(2 Points)

- Data parallelism
- Data distribution
- Task parallelism
- Task distribution

26

In the one-to-one model, thread management is done by .....
(2 Points)

- the operating system
- a thread library
- RPC mechanisms
- IPC mechanisms

27

In the ....., the entire process will block if a thread makes a blocking system call.
(2 Points)

- many-to-one

- one-to-one
- many-to-many
- one-to-many

28

..... is a synchronous version of the thread pool.
(2 Points)

- Blocking send
- Blocking receive
- Implicit fork-join
- Explicit fork-join

29

In ..... cancellation, the target thread periodically checks whether it should terminate.
(2 Points)

- Deferred
- Cascading
- Synchronous
- Asynchronous

30

The ..... is a segment of code, in which the process may be accessing and updating shared data.
(2 Points)

- entry section
- exit section
- critical section
- remainder section

31

..... is a deadlock condition and it means that at least one resource must be held in a non-shareable mode.
(2 Points)

- Mutual exclusion
- Hold and wait
- No preemption
- Circular wait

32

Deadlock .....ensure that at least one of the necessary conditions for a deadlock to occur cannot hold.
(2 Points)

- avoidance
- prevention
- detection
- recovery

33

..... instructions such as Test-and-Set execute as one uninterruptible unit.
(2 Points)

- Blocking
- Privileged
- Automatic
- Atomic

34

A binary semaphore behaves similarly to .....
(2 Points)

- mutex locks
- race condition
- waiting locks
- signal locks

35

Process execution ends with a .....
(2 Points)

- device burst
- I/O burst
- CPU burst
- operating system burst

36

The ..... gives control of the CPU to the process selected for execution.
(2 Points)

- CPU scheduler
- dispatcher
- bootstrap program
- CPU register

37

..... scheduling allows for stopping a running process before it completes its CPU burst.
(2 Points)

- preemptive
- non-preemptive
- round-robin
- asynchronous

38

Question

Problem 1

Consider the following set of processes with the specified arrival time, priority, and length of CPU burst given in milliseconds:

Process	Arrival Time	Burst Time	Priority
P_1	0	5	2
P_2	2	8	3
P_3	4	4	3
P_4	7	1	1

Enter your answer

39

In problem 1, if preemptive priority scheduling is used, the turnaround time of P2 will be .....
(2 Points)

- 18
- 9
- 11
- 1

40

In problem 1, if preemptive priority scheduling is used, the waiting time of P2 will be .....
(2 Points)

- 1
- 13
- 7
- 0

41

In problem 1, if preemptive priority scheduling is used, the response time of P2 will be .....
(2 Points)

- 3
- 1
- 0
- 2

42

The ..... contains the length of the addresses allocated to the process.
(2 Points)

- base register
- relocation register
- limit register
- page-table base register

43

..... is a contiguous allocation method that produces the smallest leftover hole.
(2 Points)

- First Fit

- ◯ Best Fit
- ◯ Worst Fit
- ◯ Next Fit

44

Paging divides the physical memory into blocks of the same size called .....
(2 Points)

- ◯ pages
- ◯ frames
- ◯ blocks
- ◯ segments

45

Memory compaction is a possible solution for the ..... problem.
(2 Points)

- ◯ external fragmentation
- ◯ internal fragmentation
- ◯ swapping
- ◯ segmentation

46

..... occurs when the allocated memory is slightly larger than the requested memory.
(2 Points)

- ◯ Overflow
- ◯ Compaction
- ◯ Internal fragmentation
- ◯ External fragmentation

47

Referencing a page that is not currently in memory results in .....
(2 Points)

- ◯ a deadlock
- ◯ a page fault
- ◯ page starvation
- ◯ page fragmentation

48

If there is no frame in memory, a ..... algorithm can be used to select a victim frame.
(2 Points)

- ◯ page-fault
- ◯ page-fragmentation
- ◯ page-replacement
- ◯ page-starvation

49

In ..... frame allocation, the number of memory frames allocated to a process depends on its size.
(2 Points)

- equal
- priority
- dynamic
- proportional

50

..... processes information in the file in order, one record after the other.
(2 Points)

- Sequential access
- Direct access
- Random access
- Relative access

51

The ..... records information (e.g. name, location, size, and type) for all files on a volume.
(2 Points)

- device directory
- volume scanner
- file locator
- random-access list

52

To condense the length of the file access-control list, many systems classify users into owner, group, and .....
(2 Points)

- cooperator
- universe
- coordinator
- subgroup

Submit