Q3-4

Due Feb 12 at 11:59pm **Points** 90 **Questions** 60
Time Limit 35 Minutes

Instructions

Quizzes are closed books/notes and students are forbidden to get help from any source as they are taking their quiz. JMU Honor Code applies for all quizzes, projects, and exams.

T/F questions have 1 point each and Multiple-Choice questions have 2 points each. "All of the above" answers means all three possible answers in a multiple choice question.

You are given a short time to finish your quizzes. So, please make sure you are

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	26 minutes	86 out of 90

ⓘ Correct answers are hidden.

Score for this quiz: **86** out of 90
Submitted Feb 11 at 2:33pm
This attempt took 26 minutes.

Question 1 — 1 / 1 pts

A computer platform consists of a collection of hardware resources, such as the processor, main memory, I/O modules, timers, and disk drives.

- (●) True
- ( ) False

Question 2

1 / 1 pts

For efficiency, applications should be written directly for a given hardware platform.

- ○ True
- ◉ False

Question 3

1 / 1 pts

A design change in the structure or semantics of the process control block could affect a number of modules in the OS.

- ◉ True
- ○ False

Question 4

1 / 1 pts

The process control block is the key tool that enables the OS to support multiple processes and to provide for multiprocessing.

- ◉ True
- ○ False

Question 5

1 / 1 pts

It is not the responsibility of the operating system to control the execution of processes.

- True
- False

Question 6

1 / 1 pts

The first step in designing an OS to control processes is to describe the behavior that we would like the processes to exhibit.

- True
- False

Question 7

1 / 1 pts

The OS may create a process on behalf of an application.

- True
- False

Question 8

1 / 1 pts

Swapping is not an I/O operation so it will not enhance performance.

- ○ True
- ◉ False

Question 9

1 / 1 pts

If a system does not employ virtual memory each process to be executed must be fully loaded into main memory.

- ◉ True
- ○ False

Question 10

1 / 1 pts

A process that is not in main memory is immediately available for execution, regardless of whether or not it is awaiting an event.

- ○ True
- ◉ False

Question 11

1 / 1 pts

The OS may suspend a process if it detects or suspects a problem.

- (selected) True
- ( ) False

Question 12

1 / 1 pts

All processor designs include a register or set of registers, often known as the program status word, which contains status information.

- (selected) True
- ( ) False

Question 13

1 / 1 pts

The process control block is the least important data structure in an OS.

- ( ) True
- (selected) False

Question 14

1 / 1 pts

A process switch may occur any time that the OS has gained control from the currently running process.

- (selected) True
- ( ) False

Question 15

1 / 1 pts

The principal function of the OS is to create, manage, and terminate processes.

- (●) True
- ( ) False

Question 16

1 / 1 pts

The OS performs a protection function to prevent unwanted interference between processes with respect to resources.

- (●) True
- ( ) False

Question 17

1 / 1 pts

Windows process design is driven by the need to provide support for a variety of OS environments.

- (●) True
- ( ) False

Question 18

1 / 1 pts

The unit of dispatching is usually referred to as a process or task.

- ○ True
- ◉ False

Question 19

1 / 1 pts

In a multithreaded environment there are separate stacks for each thread, as well as a separate control block for each thread.

- ◉ True
- ○ False

Question 20

1 / 1 pts

It takes less time to terminate a process than a thread.

- ○ True
- ◉ False

Question 21

1 / 1 pts

If there is an application or function that should be implemented as a set of related units of execution, it is far more efficient to do so as a collection of separate processes rather than a collection of threads.

- ○ True
- ◉ False

Question 22

1 / 1 pts

An example of an application that could make use of threads is a file server.

- ◉ True
- ○ False

Question 23

1 / 1 pts

Termination of a process does not terminate all threads within that process.

- ○ True
- ◉ False

Question 24

1 / 1 pts

If a process is swapped out, all of its threads are necessarily swapped out because they all share the address space of the process.

- (●) True
- ( ) False

Question 25

1 / 1 pts

On a uniprocessor, multiprogramming does not enable the interleaving of multiple threads within multiple processes.

- ( ) True
- (●) False

Question 26

1 / 1 pts

Any alteration of a resource by one thread affects the environment of the other threads in the same process.

- (●) True
- ( ) False

Question 27

1 / 1 pts

In a pure ULT facility, all of the work of thread management is done by the application, and the kernel is not aware of the existence of threads.

- (●) True
- ( ) False

Question 28

1 / 1 pts

As a default, the kernel dispatcher uses the policy of hard affinity in assigning threads to processors.

- ( ) True
- (●) False

Question 29

1 / 1 pts

Windows is an example of a kernel-level thread approach.

- (●) True
- ( ) False

Question 30

1 / 1 pts

The potential performance benefits of a multicore organization depend on the ability to effectively exploit the parallel resources available to the

application.

- [x] True
- [ ] False

Question 31

2 / 2 pts

The processor itself provides only limited support for multiprogramming, and _____ is needed to manage the sharing of the processor and other resources by multiple applications at the same time.

- [ ] data
- [ ] memory
- [x] software
- [ ] hardware

Question 32

2 / 2 pts

"The process was placed in a suspended state by an agent; either itself, a parent process, or the OS, for the purpose of preventing its execution," is a characteristic of a _____ process.

- [ ] ready
- [ ] swapped
- [x] suspended
- [ ] blocked

Question 33

2 / 2 pts

A(n) _____ is a unit of activity characterized by the execution of a sequence of instructions, a current state, and an associated set of system resources.

- identifier
- kernel
- process
- state

Question 34

2 / 2 pts

We can characterize the behavior of an individual process by listing the sequence of instructions, referred to as a _____, that executes for that process.

- trace
- priority
- process block
- state

Question 35

2 / 2 pts

It is the principal responsibility of the _____ to control the execution of processes.

- memory
- dispatcher
- process control block
- OS

Question 36

2 / 2 pts

When one process spawns another, the spawned process is referred to as the _____ .

- child process
- parent process
- stack process
- trap process

Question 37

2 / 2 pts

_____ involves moving part or all of a process from main memory to disk.

- Suspending
- Swapping

- Relocating
- Blocking

Incorrect

Question 38

0 / 2 pts

When a process is in the _____ state it is in secondary memory but is available for execution as soon as it is loaded into main memory.

- Blocked
- Ready
- Ready/Suspend
- Blocked/Suspend

Question 39

2 / 2 pts

A process is in the _____ state when it is in main memory and awaiting an event.

- Ready
- Blocked
- Blocked/Suspend
- Ready/Suspend

Question 40

2 / 2 pts

The OS must maintain _____ tables to manage processes.

- I/O
- memory
- file
- process

Question 41

2 / 2 pts

The collection of program, data, stack, and attributes is referred to as the _____ .

- process location
- process image
- process control block
- process structure

Question 42

2 / 2 pts

The _____ is the less-privileged mode.

- kernel mode

- system mode
- user mode
- control mode

Question 43

2 / 2 pts

The _____ contains the basic elements of a user's program and can be generated

directly from a compiled object file.

- user-level context
- register context
- system-level context
- all of the above

Question 44

2 / 2 pts

A total of _____ process states are recognized by the UNIX SVR4 operating system.

- 15
- 9
- 21
- 3

Question 45

2 / 2 pts

The portion of the operating system that selects the next process to run is called the _____ .

- trace
- process control block
- dispatcher
- PSW

Question 46

2 / 2 pts

The traditional approach of a single thread of execution per process, in which the concept of a thread is not recognized, is referred to as a _____ .

- single-threaded approach
- lightweight process
- task
- resource

Question 47

2 / 2 pts

The idea of having a many-to-many relationship between threads and processes has been explored in the experimental operating system _____ .

- (selected) TRIX
- VISTA
- SOLARIS
- LEOPARD

Question 48

2 / 2 pts

In a multithreaded environment, a _____ is defined as the unit of resource allocation and a unit of protection.

- (selected) process
- strand
- trace
- string

Question 49

2 / 2 pts

The principal disadvantage of the _____ approach is that the transfer of control from one thread to another within the same process requires a mode switch to the kernel.

- [x] KLT
- [ ] LWP
- [ ] ULT
- [ ] VAX

Question 50

2 / 2 pts

_____ is a good example of an OS using a combined ULT/KLT approach.

- [ ] TRIX
- [ ] LINUX
- [x] Solaris
- [ ] Windows

Question 51

2 / 2 pts

A _____ is a single execution path with an execution stack, processor state, and scheduling information.

- [ ] strand
- [ ] message
- [x] thread
- [ ] domain

Question 52

2 / 2 pts

_____ are characterized by the presence of many single-threaded processes.

- (●) Multiprocess applications
- ( ) Java applications
- ( ) Multiinstance applications
- ( ) Multithreaded native applications

Question 53

2 / 2 pts

A _____ is a dispatchable unit of work that executes sequentially and is interruptible so that the processor can turn to another thread.

- ( ) port
- (●) thread
- ( ) process
- ( ) token

Question 54

2 / 2 pts

A _____ is an entity corresponding to a user job or application that owns resources such as memory and open files.

- thread
- process
- task
- token

Question 55

2 / 2 pts

A _____ is a user-created unit of execution within a process.

- ULT
- KLT
- lightweight process
- Kernel

Question 56

2 / 2 pts

A Windows process must contain at least _____ thread(s) to execute.

- one
- two
- four

- three

Incorrect

Question 57

0 / 2 pts

A thread enters the _____ state, after waiting, if it is ready to run but the resources are not available.

- Waiting
- Standby
- Transition
- Terminated

Question 58

2 / 2 pts

The _____ are the fundamental entities that can be scheduled and dispatched to run on one of the system processors.

- Kernel threads
- LWPs
- ULTs
- Processes

Question 59

2 / 2 pts

The _____ state is when the thread has terminated.

- (●) ZOMBIE
- ( ) STOP
- ( ) SLEEP
- ( ) FREE

Question 60

2 / 2 pts

The blocked state in which the process is waiting for an event, such as the end of an I/O operation, the availability of a resource, or a signal from another process, is the _____ state.

- ( ) Uninterruptible
- (●) Interruptible
- ( ) Stopped
- ( ) Times and timers

Quiz Score: **86** out of 90