Chapter 4

https://quizlet.com/_5q6uq5

1.	**_____ is a thread library for Solaris that maps many user-level threads to one kernel thread.** **A) Pthreads** **B) Green threads** **C) Sthreads** **D) Java threads**	B) Green threads
2.	**Pthreads refers to ____.** **A) the POSIX standard.** **B) an implementation for thread behavior.** **C) a specification for thread behavior.** **D) an API for process creation and synchronization.**	C) a specification for thread behavior.
3.	**The ____ multithreading model multiplexes many user-level threads to a smaller or equal number of kernel threads.** **A) many-to-one model** **B) one-to-one model** **C) many-to-many model** **D) many-to-some model**	C) many-to-many model
4.	**Cancellation points are associated with ____ cancellation.** **A) asynchronous** **B) deferred** **C) synchronous** **D) non-deferred**	B) deferred
5.	**Which of the following would be an acceptable signal handling scheme for a multithreaded program?** **A) Deliver the signal to the thread to which the signal applies.** **B) Deliver the signal to every thread in the process.** **C) Deliver the signal to only certain threads in the process.** **D) All of the above**	D) All of the above
6.	**Signals can be emulated in windows through ____.** **A) asynchronous procedure calls**	A) asynchronous procedure calls

B) local procedure calls
C) remote procedure calls
D) none of the above

7. **Thread-local storage is data that ____.**
A) is not associated with any process
B) has been modified by the thread, but not yet updated to the parent process
C) is generated by the thread independent of the thread's process
D) is unique to each thread

D) is unique to each thread

8. **LWP is ____.**
A) short for lightweight processor
B) placed between system and kernel threads
C) placed between user and kernel threads
D) common in systems implementing one-to-one multithreading models

C) placed between user and kernel threads

9. **Windows uses the ____.**
A) one-to-one model
B) many-to-one model
C) one-to many-model
D) many-to-many model

A) one-to-one model

10. **In multithreaded programs, the kernel informs an application about certain events using a procedure known as a(n) ____.**
A) signal
B) upcall
C) event handler
D) pool

B) upcall

11. **_____ is not considered a challenge when designing applications for multicore systems.**
A) Deciding which activities can be run in parallel
B) Ensuring there is a sufficient number of cores
C) Determining if data can be separated so that it is accessed on separate cores
D) Identifying data dependencies between tasks.

B) Ensuring there is a sufficient number of cores

12. **A _____ provides an API for creating and managing threads.**
    A) set of system calls
    B) multicore system
    C) thread library
    D) multithreading model

    C) thread library

13. **The _____ model multiplexes many user-level threads to a smaller or equal number of kernel threads.**
    A) many-to-many
    B) two-level
    C) one-to-one
    D) many-to-one

    A) many-to-many

14. **The _____ model maps many user-level threads to one kernel thread.**
    A) many-to-many
    B) two-level
    C) one-to-one
    D) many-to-one

    D) many-to-one

15. **The _____ model maps each user-level thread to one kernel thread.**
    A) many-to-many
    B) two-level
    C) one-to-one
    D) many-to-one

    C) one-to-one

16. **The _____ model allows a user-level thread to be bound to one kernel thread.**
    A) many-to-many
    B) two-level
    C) one-to-one
    D) many-to-one

    B) two-level

17. **The most common technique for writing multithreaded Java programs is _____.**
    A) extending the Thread class and overriding the run() method

    B) implementing the Runnable interface and defin-

	B) implementing the Runnable interface and defining its run() method **C) designing your own Thread class** **D) using the CreateThread() function**	ing its run() method
18.	**In Pthreads, a parent uses the pthread_join() function to wait for its child thread to complete. What is the equivalent function in Win32?** **A) win32_join()** **B) wait()** **C) WaitForSingleObject()** **D) join()**	C) WaitForSingleObject()
19.	**Which of the following statements regarding threads is false?** **A) Sharing is automatically provided in Java threads.** **B) Both Pthreads and Win32 threads share global data.** **C) The start() method actually creates a thread in the Java virtual machine.** **D) The Java method join() provides similar functionality as the WaitForSingleObject in Win32.**	A) Sharing is automatically provided in Java threads.
20.	**A _____ uses an existing thread — rather than creating a new one — to complete a task.** **A) lightweight process** **B) thread pool** **C) scheduler activation** **D) asynchronous procedure call**	B) thread pool
21.	**According to Amdahl's Law, what is the speedup gain for an application that is 60% parallel and we run it on a machine with 4 processing cores?** **A) 1.82** **B) .7** **C) .55** **D) 1.43**	D) 1.43
22.	**_____ involves distributing tasks across multiple computing cores.**	B) Task parallelism

A) Concurrency
B) Task parallelism
C) Data parallelism
D) Parallelism

23. **_____ is a formula that identifies potential performance gains from adding additional computing cores to an application that has a parallel and serial component.**
A) Task parallelism
B) Data parallelism
C) Data splitting
D) Amdahl's Law

D) Amdahl's Law

24. **When OpenMP encounters the #pragma omp parallel directive, it**
A) constructs a parallel region
B) creates a new thread
C) creates as many threads as there are processing cores
D) parallelizes for loops

C) creates as many threads as there are processing cores

25. **Grand Central Dispatch handles blocks by**
A) placing them on a dispatch queue
B) creating a new thread
C) placing them on a dispatch stack
D) constructing a parallel region

A) placing them on a dispatch queue