

Question 1

0.5 out of 0.5 points

- Thread shares with other threads belonging to the same process its
- A. Thread ID
 - B. Program counter
 - C. Register set and a stack
 - D. Code section and data section

Answers: A
 B
 C
 D

Question 2

0.5 out of 0.5 points

- Maximum concurrency can be achieved by
- A. Many to One model
 - B. One to Many model
 - C. Many to Many model
 - D. One to One model

Answers: A
 B
 C
 D

Question 3

0.5 out of 0.5 points

- A multiple threaded process can
- A. Do more than one task at a time
 - B. Do only one task at a time, but much faster
 - C. Use only one thread per process
 - D. Run in parallel

Answers: A
 B
 C
 D

Question 4

0.5 out of 0.5 points

- What is true about a thread?
- A. Threads do not require context switching.
 - B. Threads can share ID, same set of open files, child processes.
 - C. Threads are CPU efficient.
 - D. Cannot be part of multiple processes.

Answers: A
 B
 C
 D

Question 5

0 out of 0.5 points

- Amdahl's Law tells us that speed up of performance is
- A. Directly proportional to serial portion of a program
 - B. Directly proportional to parallel part of a program

- C. Indirectly proportional to serial portion of a program
D. Indirectly proportional to parallel portion of a program

Answers: A
B
C
D

Question 6

0.5 out of 0.5 points

- Termination of the process terminates
A. First thread of the process
B. First two threads of the process
C. All threads within the process
D. No thread within the process

Answers: A
B
C
D

Question 7

0.5 out of 0.5 points

- Multithreading increases responsiveness by
A. Continuing to run even if a part of it is blocked
B. Waiting for one part to finish before the other begins
C. Asking the user to decide the order of multithreading
D. Having more kernel threads.

Answers: A
B
C
D

Question 8

0.5 out of 0.5 points

- Lightweight process (LWP) is an intermediate data structure between user and kernel threads on which
A. Process can schedule user thread to run.
B. Process can schedule kernel thread to run.
C. Process can schedule both user thread and kernel thread to run.
D. None of the above.

Answers: A
B
C
D

Question 9

0.5 out of 0.5 points

- Thread created entirely in user space
A. Does not invoke system call.
B. Invokes a system call.
C. Invokes a kernel call.
D. Invokes java method.

Answers: A
B
C
D

Question 10

0.5 out of 0.5 points

- Thread cancellation is
A. The task of destroying the thread once its work is done
B. The task of removing a thread once its work is done
C. The task of terminating a thread before it has completed
D. Deferring the thread

Answers: A
B
C
D

Question 11

0.5 out of 0.5 points

Which memory management technique breaks the process address space into same size blocks?

- A. Segmentation
- B. Paging
- C. Address translation
- D. Frames

Answers: A
B
C
D

Question 12

0.5 out of 0.5 points

Consider a machine with 64 MB physical memory and a 32-bit virtual address space. If the page size is 4KB, what is the approximate size of the page table?

- A. 16 MB
- B. 8 MB
- C. 2 MB
- D. 24 MB

Answers: A
B
C
D

Question 13

0.5 out of 0.5 points

If there are 32 segments, each size 1K bytes, then the logical address should have

- A. 13 bits
- B. 14 bits
- C. 15 bits
- D. 16 bits

Answers: A
B
C
D

Question 14

0.5 out of 0.5 points

What is the swap space in the disk used for?

- A. Saving temporary html pages
- B. Saving process data
- C. Storing the super-block
- D. Storing device drivers

Answers: A
B
C
D

Question 15

0.5 out of 0.5 points

The operating system and the other processes are protected from being modified by an already running process because

- A. they are in different memory spaces
- B. they are in different logical addresses
- C. they have a protection algorithm
- D. every address generated by the CPU is being checked against the relocation and limit registers

Answers: A
B
C
D

Question 16

0.5 out of 0.5 points

In a system with 32 bit virtual addresses and 4 KB page size, use of one-level page tables for virtual to physical address translation is not practical because of

- A. the large amount of internal fragmentation
- B. the large amount of external fragmentation
- C. the large memory overhead in maintaining page tables
- D. the large computation overhead in the translation process

Answers: A
B
C
D

Question 17

0.5 out of 0.5 points

Page table is kept in the main memory and points to the page table.

- A. Stack pointer
- B. Page pointer
- C. Program counter
- D. Page table base register

Answers: A
B
C
D

Question 18

0.5 out of 0.5 points

External fragmentation will not occur when

- A. first fit is used
- B. worst fit is used
- C. best fit is used
- D. no matter which algorithm is used, it will always occur

Answers: A
B
C
D

Question 19

0.5 out of 0.5 points

A multilevel page table is preferred in comparison to a single level page table for translating virtual address to physical address because

- A. It reduces the memory access time to read or write a memory location.
- B. It helps to reduce the size of page table needed to implement the virtual address space of a process.
- C. It is required by the translation lookaside buffer.
- D. It helps to reduce the number of page faults in page replacement algorithms.

Answers: A
B
C
D

Question 20

0.5 out of 0.5 points

Consider a segment table that has segment ID 2 with base 1527 and limit 498. What happens if the logical address requested is – Segment ID 2 and offset 1000?

- A. Physical address 2527 for segment ID 2
- B. Trap - segmentation error
- C. Deadlock
- D. Physical address 27 in Segment ID 2

Answers: A
B
C
D

Question 21

0.5 out of 0.5 points

The scheduling in which CPU is allocated to the process with least CPU-burst time is called

- A. Priority Scheduling
- B. Shortest job first Scheduling
- C. Round Robin Scheduling
- D. Multilevel Queue Scheduling

Answers: A
B
C
D

Question 22

0.5 out of 0.5 points

Short-term scheduler selects from among the processes in and allocates the CPU to one of them

- A. waiting queue
- B. I/O queue

- C. ready queue
- D. Job queue

Answers: A
B
C
D

Question 23

0.5 out of 0.5 points

CPU scheduling decisions may take place when a process:

1. Switches from running to waiting state
2. Switches from running to ready state
3. Switches from waiting to ready
4. Terminates

Which statement is true among the following?

- A. Scheduling under 1 and 4 is preemptive
- B. Scheduling under 1 and 4 is nonpreemptive
- C. Scheduling under 2 and 3 is nonpreemptive
- D. Scheduling under 1 , 2, 3 and 4 is nonpreemptive

Answers: A
B
C
D

Question 24

0.5 out of 0.5 points

Among the scheduling algorithm optimization criteria is the

- A. Minimization of the CPU utilization
- B. Maximization of the throughput
- C. Maximization of the turnaround time.
- D. Maximization of the response time.

Answers: A
B
C
D

Question 25

0.5 out of 0.5 points

The next CPU burst of the newly arrived process may be shorter than what is left of the current executing process. Awill preempt the current executing process.

- A. Preemptive priority scheduling algorithm
- B. Nonpreemptive SJF algorithm
- C. Preemptive SJF algorithm
- D. First-come, First-Served scheduling

Answers: A
B
C
D

Question 26

0.5 out of 0.5 points

Suppose that the following processes arrive for execution at the times indicated. Each process will run for the amount of time listed. In answering the questions, use non-preemptive scheduling, and base all decisions on the information you have at the time the decision must be made.

Process	Arrival Time	Burst Time
P1	0	8
P2	4	4
P3	10	10

What is the average turnaround time for these processes with the FCFS scheduling algorithm?

- A. 10.20
- B. 9.33
- C. 10.02
- D. 10.35

Answers: A
B
C
D

Question 27

0.5 out of 0.5 points

Consider the below table of processes with their respective CPU burst times and the priorities. Suppose all of the processes come at the same time zero.

Process	Burst Time	Priority
P1	21	2
P2	3	1
P3	6	4
P4	2	3

P2 has the highest priority here.

The GANTT chart following processes based on priority scheduling will be:

P2 (0-----3); P1 (3 ----- 24); P4 (24 ----- 26); P3 (26 ----- 32);

The average waiting time will be:

- A. 15.35
- B. 16.25
- C. 13.25
- D. 14.25

Answers: A
B
C
D

Question 28

0.5 out of 0.5 points

Round Robin scheduling falls under the category of _____

- A. Nonpreemptive scheduling
- B. Preemptive scheduling
- C. All the above mentioned
- D. None of the above mentioned

Answers: A
B
C
D

Question 29

0.5 out of 0.5 points

In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of _____

- A. All processes
- B. Current running process
- C. Parent process
- D. Initial process

Answers: A
B
C
D

Question 30

0.5 out of 0.5 points

Process are classified into different groups in

- A. Shortest job scheduling algorithm
- B. Round robin scheduling algorithm
- C. Priority scheduling algorithm
- D. Multilevel queue scheduling algorithm

Answers: A
B
C
D

Question 31

0.5 out of 0.5 points

Mutual exclusion

- A. if one process is in a critical region others are excluded
- B. Prevents deadlock
- C. Requires semaphores to implement
- D. Is found only in the Windows NT operating system

Answers: A
B
C

Question 32

0.5 out of 0.5 points

The section of code which accesses shared variables is called

- A. Block
- B. Critical section
- C. Semaphore
- D. Deadlock

Answers: A
B
C
D

Question 33

0.5 out of 0.5 points

Semaphore can be used for solving

- A. Wait & signal
- B. Deadlock
- C. Priority
- D. Synchronization

Answers: A
B
C
D

Question 34

0.5 out of 0.5 points

Several processes access and manipulate the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place, is called a (n)

- A. Shared Memory Segments
- B. Entry Section
- C. Race condition
- D. Process Synchronization

Answers: A
B
C
D

Question 35

0.5 out of 0.5 points

A semaphore is:

- A. Integer
- B. Shared integer
- C. Binary number
- D. Compute number

Answers: A
B
C
D

Question 36

0.5 out of 0.5 points

A semaphore S is an integer variable that, apart from initialization, is accessed only through two standard atomic operations:

- A. exec() and exit()
- B. exec() and signal()
- C. wait() and exit()
- D. wait() and signal()

Answers: A
B
C
D

Question 37

0.5 out of 0.5 points

Preemptive kernels, are not free from race conditions because

- A. They share kernel data
- B. They share user data
- C. They share semaphore data
- D. They use multiple CPUs

Answers: A
B
C
D

Question 38

0.5 out of 0.5 points

- What is not true about `test_and_set` instruction?
- A. Atomically executed.
 - B. Returns the original value of passed parameter
 - C. Set the new value of passed parameter to "TRUE".
 - D. Set the variable "value" the value of the passed parameter "new_value" but only if "value" == "expected"

Answers:

- A
- B
- C
- D

Question 39

0.5 out of 0.5 points

The advantage of spin lock is that

- A. It does not require context switching
- B. It does not require value update
- C. It does not require semaphores
- D. It's a hardware solution.

Answers:

- A
- B
- C
- D

Question 40

0.5 out of 0.5 points

Block and wait operations are used to avoid

- A. Deadlock
- B. Race condition
- C. Busy waiting
- D. Critical section

Answers:

- A
- B
- C
- D