New Microsoft Word Document

Kiến trúc máy tính _ hợp ngữ (Trường Đại học Sư phạm Kỹ thuật Thành phố Hồ Chí Minh)

Process aging:

Increases the priority of a process if it sits in the ready state for a long time.

Decreases the priority of a process as it gets older

Decrease the priority of a process each time the process gets to run.

Increases the priority of a process as it gets older.

Phản hồi

Your answer is incorrect.

The correct answer is:
Increases the priority of a process if it sits in the ready state for a long time.

Câu hỏi 2

Sai
Đạt điểm 0,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

To implement a user-level threads package, it helps if the operating system provides:

Non-blocking system calls.

Kernel threads

Direct memory access

An execve mechanism

Phản hồi

Your answer is incorrect.

The correct answer is:
Non-blocking system calls.

Câu hỏi 3

Đúng một phần
Đạt điểm 3,33 trên 5,00

Xóa cờ

Đoạn văn câu hỏi

Describe the differences among short-term, medium-term, and long-term scheduling.

Medium-term

Answer 1: performmany architecture-specific operations, including flushing data and instruction caches.

Long-term

Answer 2: determines which jobs are brought into memory for processing.

Short-term

Answer 3: selects from jobs in memory those jobs that are ready to execute and allocates the CPU to them.

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 2.
The correct answer is:
Medium-term → used especially with time-sharing systems as an intermediate scheduling level. A swapping scheme is implemented to remove partially run programs from memory and reinstate them later to continue where they left off,

Long-term → determines which jobs are brought into memory for processing.,

Short-term → selects from jobs in memory those jobs that are ready to execute and allocates the CPU to them.

Câu hỏi 4

Đúng một phần
Đạt điểm 1,00 trên 5,00

Đặt cờ

Đoạn văn câu hỏi

List **at least five** actions the operating system must accomplish to **create** a new process

1. Answer 1: Assign space for a Process Control Block (PCB) in the memory space of the operating system;
4. Answer 2: The process terminates itself with a call to exit()
3. Answer 3: Copy contents of the memory space of the current process to the memory space allocated for the new process
5. Answer 4: Assign appropriate values to fields in the PCB
2. Answer 5: Allocate memory space for the process

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 1.
The correct answer is:

1. → Assign space for a Process Control Block (PCB) in the memory space of the operating system;,

4. → Allocate memory space for the process,

3. → Assign appropriate values to fields in the PCB,

5. → Copy contents of the memory space of the current process to the memory space allocated for the new process,

2. → Insert the PCB for the new process in the Ready list

Câu hỏi 5

Sai
Đạt điểm 0,00 trên 2,00

Xóa cờ

Đoạn văn câu hỏi

Multiprogramming is:

An executable program that is composed of modules built using different programming languages

When a program has multiple threads that run concurrently

Having multiple processors execute different programs at the same time.

Keeping several programs in memory at once and switching between them.

Phản hồi

Your answer is incorrect.

The correct answer is:
Keeping several programs in memory at once and switching between them.

Câu hỏi 6

Đúng một phần
Đạt điểm 1,00 trên 4,00

Đặt cờ

Đoạn văn câu hỏi

Give **careful definitions** for each term (in the context of computer operating systems):

a. Protection

b. Virtual machine

c. Message passing systems

d. IPC

c. Answer 1
Controls access to computer system resources

a. Answer 2
A mechanism to allow processes to communicate and to synchronize their actions without sharing the same address space

d. Answer 3
Typically time-sensitive interaction with external devices

b. Answer 4
Abstract the hardware of a single computer into several different execution environments

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 1.
The correct answer is:
c. → A mechanism to allow processes to communicate and to synchronize their actions without sharing the same address space,

a. → Controls access to computer system resources,

d. → Shared memory and message passing,

b. → Abstract the hardware of a single computer into several different execution environments

Câu hỏi 7

Đúng một phần
Đạt điểm 0,75 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

Describe the steps, in order, taken by a kernel to context-switch between processes.

2. Answer 1
Save state of old process on the stack

1. Answer 2
Save Stack Pointer into the Process Control Block of the old process

4. Answer 3
Restore the state

3. Answer 4
Context switch changes which process holds the CPU. It does not interrupt a running process, nor does it do the work of the scheduler to de

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 1.
The correct answer is:

2. → Save Stack Pointer into the Process Control Block of the old process,

1. → Save state of old process on the stack,

4. → Restore the state,

3. → Load Stack Pointer from the Process Control Block of the new process

Câu hỏi 8

Đúng một phần
Đạt điểm 1,00 trên 5,00

Đặt cờ

Đoạn văn câu hỏi

Describe the actions taken by a kernel to context-switch between kernel-level threads

3 Answer 1
. Move outgoing thread to Ready or a Waiting queue

1 Answer 2
. Depends on the hardware architecture. Often, the stack for a thread is in the thread's main memory

4 Answer 3
. Select incoming thread

5 Answer 4
. Load Program Counter with previous Program Counter from incoming thread (after restoring registers)

2 Answer 5
. Save certain registers in Thread Control Block

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 1.
The correct answer is:
3. → Select incoming thread,

1. → Save certain registers in Thread Control Block,

4. → Restore registers from incoming Thread Control Block,

5. → Load Program Counter with previous Program Counter from incoming thread (after restoring registers),

2. → Move outgoing thread to Ready or a Waiting queue

Câu hỏi 9

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

A Thread Control Block (TCB) stores:

- User (owner) ID
- Open file descriptors
- Memory map
- The machine state (registers, program counter)

Phản hồi

Your answer is correct.

The correct answer is:
The machine state (registers, program counter)

Câu hỏi 10

Đúng một phần
Đạt điểm 2,00 trên 5,00

Đặt cờ

Đoạn văn câu hỏi

Scheduling algorithms

RR	Answer 1	Easy to understand
SJF	Answer 2	Provably optimal
Priority	Answer 3	starvation ==>aging
FCFS	Answer 4	Processes move between queues
Multilevel queue	Answer 5	Quantum

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 2.
The correct answer is:
RR → Quantum,

SJF → Provably optimal,

Priority → starvation ==> aging,

FCFS → Easy to understand,

Multilevel queue → Strict, time-slice, aging

Câu hỏi 11

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

Every process gets the same share of the CPU with a:

Shortest remaining time first scheduler.

Round-robin scheduler

Priority scheduler.

Multilevel feedback queues.

Phản hồi

Your answer is correct.

The correct answer is:
Round-robin scheduler

Câu hỏi 12

Sai
Đạt điểm 0,00 trên 6,00

Đặt cờ

Đoạn văn câu hỏi

Give **careful definitions** for each term (in the context of computer operating systems):

a. Symmetric multiprocessing (SMP)

b. Operating system calls

c. Protection

d. Virtual machine

bAnswer 1
. A region of memory residing in the address space of two or more cooperating processes

aAnswer 2
. Mechanisms for controlling access to the resources provided by a computer system

cAnswer 3
. Abstract the hardware of a single computer into several different execution environments, creating the illusion that each separate execution en

dAnswer 4

. Multiprocessing system in which each processor performs all tasks within the operating system

Phản hồi

Your answer is incorrect.

The correct answer is:
b. → An interface to operating system services made available to applications software by an operating system,

a. → Multiprocessing system in which each processor performs all tasks within the operating system,

c. → Mechanisms for controlling access to the resources provided by a computer system,

d. → Abstract the hardware of a single computer into several different execution environments, creating the illusion that each separate execution environment is running its own private computer

Câu hỏi 13

Sai
Đạt điểm 0,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

Which state transition is not valid?

Ready → Running

Ready → Blocked

Running → Ready

Running → Blocked

Phản hồi

Your answer is incorrect.

The correct answer is:
Ready → Blocked

Câu hỏi 14

Sai
Đạt điểm 0,00 trên 10,00

Đặt cờ

Đoạn văn câu hỏi

Consider the following processes with given arrival times and times to completion

Process	Arrival	Length
P_1	0	3
P_2	1	6
P_3	2	2
P_4	6	3
P_5	10	1

a. Compute the turnaround time for each process if using (non-preemptive) Shortest Job First, breaking ties in favor of the process that arrived earliest.

b. Compute the turnaround time for each process if using Shortest Remaining Time First where jobs can be preempted when other jobs arrive. This time, break ties in favor of the process that arrived latest

a Answer 1: 3 14 3 3 1 24

b Answer 2: 3 11 3 9 2 28

Phản hồi

Your answer is incorrect.

The correct answer is: a → 3 10 3 9 2 27, b → 3 14 3 3 1 24

Câu hỏi **15**

Sai

Đạt điểm 0,00 trên 10,00

Đặt cờ

Đoạn văn câu hỏi

Assume three jobs arrive at approximately the same time, but Job A arrives slightly before Job B, and Job B arrives slightly before job C. Job A requires 2 sec of CPU, Job B is 8 secs, and Job C is 7 secs. Assume a time-slice of 1 sec

Given a SJF scheduler, what is the turnaround time of job B?

- 16 seconds
- 12 seconds
- 2 seconds
- 17 seconds

9 seconds

Phản hồi

Your answer is incorrect.

The correct answer is:
17 seconds

Câu hỏi 16

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

A context switch always takes place when:

A process makes a function call

The operating system saves the state of one process and loads another

A process makes a system call.

A hardware interrupt takes place.

Phản hồi

Your answer is correct.

The correct answer is:
The operating system saves the state of one process and loads another

Câu hỏi 17

Sai
Đạt điểm 0,00 trên 5,00

Đặt cờ

Đoạn văn câu hỏi

Consider a set of 5 processes whose arrival time. CPU time needed and the priority are given below

Process Priority	Arrival Time (ms)	CPU Time Needed (ms)	Priority
P1	0	10	5
P2	0	5	2

P3	**2**	**3**	**1**
P4	**5**	**20**	**4**
P5	**10**	**2**	**3**

Smaller the number, higher the priority. If the CPU scheduling policy is priority scheduling without pre-emption, the average waiting time [ms] will be

Answer: 6,8

Phản hồi

The correct answer is: 10,8

Câu hỏi 18

Đúng một phần
Đạt điểm 2,80 trên 4,00

Đặt cờ

Đoạn văn câu hỏi

What are two advantages of threads over processes?

☐ Creating threads and switching among threads is more efficient

☑ Some programming is easier since all memory is shared among threads –no need to use messaging or create shared memory segments

☐ Some programming is easier since all memory is shared among processes –no need to use messaging or create shared memory segments

☐ Depending on Process, a separate (or custom) scheduler may be used to schedule threads. This is more common for user threads

☑ Depending on the implementation, a separate (or custom) scheduler may be used to schedule threads. This is more common for user threads

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 2.
The correct answers are:
Creating threads and switching among threads is more efficient,

Some programming is easier since all memory is shared among threads –no need to use messaging or create shared memory segments,

Depending on the implementation, a separate (or custom) scheduler may be used to schedule threads. This is more common for user threads

Câu hỏi 19

Đúng
Đạt điểm 3,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

A shortest remaining time first scheduler:

Dynamically adjusts the quantum based on the process

Favors processes that use the CPU for long stretches of time

Tries to optimize mean response time for processes

Gives each process an equal share of the CPU

Phản hồi

Your answer is correct.

The correct answer is:
Tries to optimize mean response time for processes

Câu hỏi 20

Sai
Đạt điểm 0,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

Mailboxes:

Make it possible to support multiple writers.

Improve efficiency since messages do not have to copied to an intermediate entity

All of these

Make it easy to support multiple readers.

Phản hồi

Your answer is incorrect.

The correct answer is:
Make it easy to support multiple readers.

Câu hỏi 21

Sai
Đạt điểm 0,00 trên 10,00

Đặt cờ

Đoạn văn câu hỏi

You are asked to choose a dispatch algorithm to run the following processes:

- P1 requires 1 CPU hour to complete

- P2 requires 2 CPU hours to complete

- P3 requires 1 minute of CPU to complete

Assume all processes are available at the same time

Suppose you use the FCFS algorithm to coordinate these processes. Which coordination sequence has the greatest mean completion time? minimum average completion time. Calculate the average completion time in each case.

Smallest time P3 terminates:	Answer 1	1m
Largest time P2 terminates at:	Answer 2	181m
Smallest time P1 terminates:	Answer 3	160m20s
Largest time P3 terminates at:	Answer 4	120 m
Largest complete time: order	Answer 5	180 m
Largest time P1 terminates at:	Answer 6	181m
Smallest time P2 terminates:	Answer 7	P3 P1 P2
Largest Average complete time	Answer 8	P2 P1 P3
Smallest completion time	Answer 9	61m

Phản hồi

Your answer is incorrect.

The correct answer is: Smallest time P3 terminates: → 181m, Largest time P2 terminates at: → 120 m, Smallest time P1 terminates: → 61m, Largest time P3 terminates at: → 181m, Largest complete time: order → P2 P1 P3, Largest time P1 terminates at: → 180 m, Smallest time P2 terminates: → 1m, Largest Average complete time → 160m20s, Smallest completion time → P3 P1 P2

Câu hỏi 22

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

The downside to using a small quantum is:

A process might not get time to complete.

The interactive performance of applications decreases

Some processes will not get a chance to run.

Context switch overhead becomes significant

Phản hồi

Your answer is correct.

The correct answer is:
Context switch overhead becomes significant

Câu hỏi **23**

Sai
Đạt điểm 0,00 trên 4,00

Đặt cờ

Đoạn văn câu hỏi

What is the average waiting time for the following processes with preemptive SJF (Shortest Job First).

Process	Arrival Time	Burst Time
P1	0	8
P2	1	4
P3	2	9
P4	3	5

Answer: 10

Phản hồi

The correct answer is: 6,5

Câu hỏi **24**

Đúng
Đạt điểm 1,00 trên 1,00

Đặt cờ

Đoạn văn câu hỏi

An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of process is ...

Select one:

a.
Shortest job first scheduling algorithm

b.
Round robin scheduling algorithm

c.
Priority scheduling algorithm

d.
FCFS scheduling

Phản hồi

Your answer is correct.

The correct answer is: Shortest job first scheduling algorithm

Câu hỏi 25

Sai
Đạt điểm 0,00 trên 10,00

Xóa cờ

Đoạn văn câu hỏi

Assume three jobs arrive at approximately the same time, but Job A arrives slightly before Job B, and Job B arrives slightly before job C. Job A requires 2 sec of CPU, Job B is 8 secs, and Job C is 7 secs. Assume a time-slice of 1 sec

Given a RR scheduler, what is the average response time of the three jobs?

3 seconds

12.33 seconds

1 second

12 seconds

2 seconds

Phản hồi

Your answer is incorrect.

The correct answer is:
1 second

Câu hỏi 26

Sai
Đạt điểm 0,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

Differing from a soft deadline, a hard deadline:

Is one where there is no value to the computation if the deadline is missed.

Is one where it is difficult to predict when the CPU burst period will end

Is one where it is difficult to predict when the thread will exit

Applies to periodic (nonterminating) rather than terminating processes.

Phản hồi

Your answer is incorrect.

The correct answer is:
Is one where there is no value to the computation if the deadline is missed.

Câu hỏi 27

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

CPU utilization tends to be lower when:

There are more processes in memory.

There are fewer processes in memory.

Processes perform very little I/O.

There is a higher degree of multiprogramming

Phản hồi

Your answer is correct.

The correct answer is:
There are fewer processes in memory.

Câu hỏi 28

Đúng một phần
Đạt điểm 5,00 trên 10,00

Đặt cờ

Đoạn văn câu hỏi

There are 5 processes A, B, C, D, E arrive to the same time with CPU time and progress as shown in the following table. Smaller values mean higher priority

	CPU Burst	*Priority*
A	3	3
B	7	5
C	5	1
D	2	4
E	6	2

What are the average waiting time and average waiting time for each coordinated policy. skip context switching time

Scheduling Policy	*Waiting Time*					*Average Waiting Time*
	A	*B*	*C*	*D*	*E*	
First-Come-First-Served						
Non-Preemptive Shortest-Job First						
Priority						
Round-Robin (time quantum=2)						

Round Robin q=2 — Answer 1: 8 16 15 6 16 12.2

Non preemptive Shortest job first — Answer 2: 2 16 5 0 10 6.6

Priority — Answer 3: 0 3 10 13 15 12.7

FCFS — Answer 4: 11 16 0 14 5 9.2

Phản hồi

Your answer is partially correct.

Bạn đã chọn đúng 2.

The correct answer is: Round Robin q=2 → 8 16 15 6 16 12.2, Non preemptive Shortest job first → 2 16 5 0 10 6.6, Priority → 11 16 0 14 5 9.2, FCFS → 0 3 10 15 17 9

Câu hỏi 29

Đúng
Đạt điểm 3,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

Implementing preemption in operating systems relies on:

Being able to switch to kernel mode

A programmable interval timer

Having a modular operating system design

Programmable I/O

Some programming is easier since all memory is shared among processes –no need to use messaging or create shared memory segments

Phản hồi

Your answer is correct.

The correct answer is:
A programmable interval timer

Câu hỏi 30

Đúng một phần
Đạt điểm 2,40 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

What is the purpose of a **context switch**?

It does not interrupt a running process

To efficient in multiprogramming

Minimum turn around time

Minimum average time of processes

Context switch changes which process holds the CPU

Phản hồi

Your answer is partially correct.

You have selected too many options.
The correct answer is:
Context switch changes which process holds the CPU

Câu hỏi 31

Đúng
Đạt điểm 3,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

When does preemption take place?

When a quantum expires.

When a process exits.

All of these

When a process issues an I/O request.

Phản hồi

Your answer is correct.

The correct answer is:
When a quantum expires.

Câu hỏi 32

Sai
Đạt điểm 0,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

In an Intel PC architecture, the Master Boot Record (MBR): contains code that...

Loads the Volume Boot Record (VBR).

Allows the user to choose which operating system to load

Loads the system BIOS.

Loads the operating system.

Phản hồi

Your answer is incorrect.

The correct answer is:
Loads the Volume Boot Record (VBR).

Câu hỏi **33**

Đúng
Đạt điểm 5,00 trên 5,00

Đặt cờ

Đoạn văn câu hỏi

Processes P1, P2, P3 arrive at the same time, but enter the job queue in the order presented in the table.FCFS, draw gantt chart, What is average waiting time ?

- [x] 19 ms
- [x] 17 ms
- [x] 15 ms
- [ ] 18 ms
- [ ] 16 ms

Phản hồi

Your answer is correct.

The correct answer is:
17 ms

Câu hỏi **34**

Đúng
Đạt điểm 3,00 trên 3,00

Xóa cờ

Đoạn văn câu hỏi

What does a time-sharing system need that a multiprogramming system does not?

Shorter time slices

Interval Timer

Kernel mode execution privileges

Trap mechanism

Phản hồi

Your answer is correct.

The correct answer is:
Interval Timer

Câu hỏi 35

Đúng
Đạt điểm 3,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

Computing the weighted exponential average of previous CPU cycles is used for:

Determining the length of a quantum for the process

Estimating the length of the next cycle

Having a round-robin scheduler sort processes in its queue

Allowing a priority scheduler to assign a priority to the process.

Phản hồi

Your answer is correct.

The correct answer is:
Estimating the length of the next cycle

Câu hỏi 36

Sai
Đạt điểm 0,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

Switching between user level threads of the same process is often more efficient than switching between kernel threads because:

Execution stays within the same process with user level threads

User level threads require tracking less state.

Mode switching is not necessary

User level threads share the same memory address space.

Phản hồi

Your answer is incorrect.

The correct answer is:
Mode switching is not necessary

Câu hỏi 37

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

The wait system call on UNIX systems puts a process to sleep until:

A semaphore wakes it up.

The specified elapsed time expires

A child process terminates.

The process is preempted by another process.

Phản hồi

Your answer is correct.

The correct answer is:
A child process terminates.

Câu hỏi 38

Sai
Đạt điểm 0,00 trên 4,00

Đặt cờ

Đoạn văn câu hỏi

Why is the kernel usually **maintained in primary storage**?

Parts that are brought into memory as needed. In many OS's, that is MOST of the OS

Only one part of OS need in main memory, the rest on Disk

If it were only kept on the disk, its execution would require about fastest

If it were only kept on the disk, its execution would require about 1000 times as long

Phản hồi

Your answer is incorrect.

The correct answer is:
If it were only kept on the disk, its execution would require about 1000 times as long

Câu hỏi 39

Đúng
Đạt điểm 10,00 trên 10,00

Đặt cờ

Đoạn văn câu hỏi

Assume three jobs arrive at approximately the same time, but Job A arrives slightly before Job B, and Job B arrives slightly before job C. Job A requires 2 sec of CPU, Job B is 8 secs, and Job C is 7 secs. Assume a time-slice of 1 sec

Given a FIFO scheduler, what is the average response time of the three jobs?

None of these

4 second

2 second

1 second

9.67 seconds

Phản hồi

Your answer is correct.

The correct answer is:
4 second

Câu hỏi **40**

Sai
Đạt điểm 0,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

A dedicated system call instruction, such as SYSCALL, is:

All of these

More secure than a software interrupt.

More flexible than a software interrupt.

Faster than a software interrupt

Phản hồi

Your answer is incorrect.

The correct answer is:
Faster than a software interrupt

Câu hỏi **41**

Đúng
Đạt điểm 3,00 trên 3,00

Đặt cờ

Đoạn văn câu hỏi

A hard deadline is one:

With an unknown termination time.

That cannot be missed

That is difficult to estimate.

Where the computation has diminishing value if it is missed.

Phản hồi

Your answer is correct.

The correct answer is:
That cannot be missed

Câu hỏi 42

Đúng
Đạt điểm 2,00 trên 2,00

Đặt cờ

Đoạn văn câu hỏi

On POSIX systems, one process can send a signal to another process via:

signal

wait

notify

kill

Phản hồi

Your answer is correct.

The correct answer is:
kill