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|---------------------|-----------------------------------|
| Started on | Wednesday, 19 June 2024, 12:15 PM |
| State | Finished |
| Completed on | Wednesday, 19 June 2024, 1:54 PM |
| Time taken | 1 hour 38 mins |
| Marks | 51.42/75.00 |
| Grade | 27.42 out of 40.00 (68.56%) |

Question 1

Correct

Mark 1.00 out of 1.00

The system stack must provide space for:

Select one or more:

- a. Processor registers in as many copies as there are devices in the system +1
- b. Processor registers in as many copies as there are interrupt lines and possible software interrupts
- c. CPU registers
- d. Processor registers in as many copies as there are interrupt lines +1 ✓

Twoja odpowiedź jest poprawna.

The correct answer is: Processor registers in as many copies as there are interrupt lines +1

Question 2

Correct

Mark 1.00 out of 1.00

Twice consecutive execution in one process of operation P on a raised binary semaphore:

Select one or more:

- a. It doesn't change anything
- b. Causes the semaphore to get down ✓
- c. If a semaphore guards a critical region, it leads to a deadlock ✓
- d. Decreases semaphore value by 2

Twoja odpowiedź jest poprawna.

The correct answers are: If a semaphore guards a critical region, it leads to a deadlock, Causes the semaphore to get down

Question 3

Correct

Mark 1.00 out of 1.00

In UNIX, access rights are attributes:

Select one or more:

- a. A special table specifying access rights
- b. User descriptor
- c. A directory entry for a file
- d. An entry in the I-node table ✓

Twoja odpowiedź jest poprawna.

The correct answer is: An entry in the I-node table

Question 4

Correct

Mark 1.00 out of 1.00

The kernel (microkernel) is responsible for:

Select one or more:

- a. memory allocation and freeing
- b. interrupt handling (at the elementary level, then they are passed on to other layers). ✓
- c. synchronization of processes and devices with processes ✓
- d. task control ✓

Twoja odpowiedź jest poprawna.

The correct answers are: task control, synchronization of processes and devices with processes, interrupt handling (at the elementary level, then they are passed on to other layers).

Question 5

Correct

Mark 1.00 out of 1.00

In multi-level interrupts (vectored interrupts) the jump is performed:

Select one or more:

- a. to the address specified in the given processor register
- b. to a fixed address
- c. to the address contained in the device driver, provided by the I/O instruction
- d. according to the table indexed by the interrupt number ✓

Twoja odpowiedź jest poprawna.

The correct answer is: according to the table indexed by the interrupt number

Question 6

Correct

Mark 1.00 out of 1.00

In UNIX, the disk contains the following areas:

Select one or more:

- a. Files data ✓
- b. I-node table ✓
- c. Directories
- d. SuperBlock ✓

Twoja odpowiedź jest poprawna.

The correct answers are: SuperBlock, I-node table, Files data

Question 7

Correct

Mark 1.00 out of 1.00

What is this technique where the operating system gathers programs and data together before processing?

- a. Batch processing ✓
- b. Real-time processing
- c. Distributed processing
- d. Interactive processing

The correct answer is: Batch processing

Question 8

Correct

Mark 1.00 out of 1.00

The page fault interrupt is used to:

Select one or more:

- a. Detection of an attempt to write outside the address space of the frame
- b. Whether the frame is empty or contains a page
- c. Downloads to the memory of the requested page ✓
- d. Detection of an access attempt from a frame not allocated to the program

Twoja odpowiedź jest poprawna.

The correct answer is: Downloads to the memory of the requested page

Question 9

Correct

Mark 1.00 out of 1.00

Scheduling algorithms can be:

- a. interrupting
- b. term changing
- c. indulgent ✓
- d. preemptive ✓

The correct answers are: indulgent, preemptive

Question 10

Partially correct

Mark 0.67 out of 1.00

The resources of the computer system are:

Select one or more:

- a. Primary memory ✓
- b. User programs
- c. Processor time
- d. Peripheral devices ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answers are: Primary memory, Peripheral devices, Processor time

Question 11

Correct

Mark 1.00 out of 1.00

When is the scheduler called?

Select one or more:

- a. at the request of a user task
- b. when the scheduler decides itself
- c. at the end of the execution of each kernel procedure ✓
- d. at the start of execution of each kernel procedure

Twoja odpowiedź jest poprawna.

The correct answer is: at the end of the execution of each kernel procedure

Question 12

Correct

Mark 1.00 out of 1.00

A memory management technique in which the system divides memory into equal-sized portions to easily manage relocation is called:

Select one or more:

- a. paging ✓
- b. mapping
- c. fragmentation
- d. swapping

Twoja odpowiedź jest poprawna.

The correct answer is: paging

Question 13

Correct

Mark 1.00 out of 1.00

What does the file system layer do?

- a. Manages files ✓
- b. Manages remote file systems
- c. Manages remote files
- d. Manages relationships between files

The correct answer is: Manages files

Question 14

Correct

Mark 1.00 out of 1.00

Indulgent scheduling is the best mechanism for:

Select one or more:

- a. system with many process classes
- b. time-sharing system
- c. real-time system ✓
- d. every system

Twoja odpowiedź jest poprawna.

The correct answer is: real-time system

Question 15

Correct

Mark 1.00 out of 1.00

What does the kernel do when there is no task (process) to run?

Select one or more:

- a. switches off the power supply
- b. resets the entire system
- c. executes an infinite loop in the kernel until a task arrives
- d. starts the idle task ✓

Twoja odpowiedź jest poprawna.

The correct answer is: starts the idle task

Question 16

Correct

Mark 1.00 out of 1.00

The internal state of the program supervisor layer is available for:

- a. OS kernel ✓
- b. Applications
- c. File system layer
- d. User programs

The correct answer is: OS kernel

Question 17

Correct

Mark 1.00 out of 1.00

Discontinuous allocation is the result of:

Select one or more:

- a. compacting
- b. paging ✓
- c. relocation
- d. segmentation ✓

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentation

Question 18

Correct

Mark 1.00 out of 1.00

Paging is in thrashing if:

- a. the system spends more time paging than execution ✓
- b. the system spends less time paging than execution
- c. page faults occur
- d. page cannot be swapped

The correct answer is: the system spends more time paging than execution

Question 19

Correct

Mark 1.00 out of 1.00

The return from interrupt instruction:

Select one or more:

- a. restores the process stack
- b. restores the conditions register ✓
- c. causes the processor to switch to a process other than the interrupted one
- d. restores the program counter ✓

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

Question 20

Incorrect

Mark 0.00 out of 1.00

Dynamic relocation requires the use of:

Select one or more:

- a. base register (DATUM) ✓
- b. status register
- c. program counter
- d. limit register ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: base register (DATUM)

Question 21

Incorrect

Mark 0.00 out of 1.00

A program compiled for execution in paged memory can be executed in regular memory.

True ✗

False

The correct answer is 'False'.

Question 22

Incorrect

Mark 0.00 out of 1.00

Page thrashing is a phenomenon involving:

Select one or more:

- a. frequent downloading of pages that have just been swapped out from memory ✓
- b. loading the same page over and over again ✗
- c. frequent context changes that require page index tables to be reloaded
- d. frequently changing the values of bits describing pages in frames

Twoja odpowiedź jest niepoprawna.

The correct answer is: frequent downloading of pages that have just been swapped out from memory

Question 23

Correct

Mark 1.00 out of 1.00

Semaphores are used to solve the problem:

- a. races
- b. mutual exclusion ✓
- c. process scheduling
- d. Belady problem

The correct answer is: mutual exclusion

Question 24

Correct

Mark 1.00 out of 1.00

Dirty frame is:

Select one or more:

- a. modified ✓
- b. candidate to be swapped first
- c. read-only frame, tried to be written to
- d. execute-only frame, tried to be read

Twoja odpowiedź jest poprawna.

The correct answer is: modified

Question 25

Correct

Mark 1.00 out of 1.00

The common allocation queue to fixed blocks of memory of equal size causes:

Select one or more:

- a. need for compaction
- b. external fragmentation
- c. internal fragmentation ✓

Twoja odpowiedź jest poprawna.

The correct answer is: internal fragmentation

Question 26

Correct

Mark 1.00 out of 1.00

Which scheduler needs to make a decision the fastest?

- a. medium-term
- b. long-term
- c. short-term ✓
- d. additional

The correct answer is: short-term

Question 27

Correct

Mark 1.00 out of 1.00

In operating system:

Select one or more:

- a. timer interrupt may not be handled
- b. some exceptions are handled, some not
- c. the decision to handle an exception or not is made dynamically
- d. every exception must be handled ✓

Twoja odpowiedź jest poprawna.

The correct answer is: every exception must be handled

Question 28

Partially correct

Mark 0.50 out of 1.00

Static relocation is performed by:

- a. Linker ✓
- b. Compiler
- c. Segment descriptors
- d. Paging system

The correct answers are: Compiler, Linker

Question 29

Correct

Mark 1.00 out of 1.00

Operation V on a raised binary semaphore:

Select one or more:

- a. Increases semaphore value by 1
- b. It does not change the value of the semaphore ✓
- c. It is stored in order to be able to perform as many operations P as there were V

Twoja odpowiedź jest poprawna.

The correct answer is: It does not change the value of the semaphore

Question 30

Partially correct

Mark 0.25 out of 1.00

Fragmentation is implied by:

Select one or more:

- a. Internal by partitioning into quantized blocks
- b. External by resizing allocated blocks
- c. External by segmentation
- d. Internal by paging
- e. External by freeing blocks in a deallocation order not reverse to allocation ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Internal by paging, Internal by partitioning into quantized blocks, External by freeing blocks in a deallocation order not reverse to allocation, External by resizing allocated blocks

Question 31

Correct

Mark 1.00 out of 1.00

A process can appear in the pool of scheduling processes as a result of:

Select one or more:

- a. Performing the P operation on the semaphore
- b. Performing V operation on the semaphore ✓
- c. Completing an I/O operation ✓
- d. Starting a new process ✓

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

Question 32

Partially correct

Mark 0.50 out of 1.00

External fragmentation can be avoided by:

Select one or more:

- a. Freeing memory blocks in the reverse order to allocation
- b. Freeing memory blocks in allocation order
- c. Application of the onion algorithm
- d. Allocation of fixed size static memory blocks ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Allocation of fixed size static memory blocks, Freeing memory blocks in the reverse order to allocation

Question 33

Correct

Mark 1.00 out of 1.00

The Test-And-Set or Compare-And-Swap instruction has the following characteristics:

Select one or more:

- a. It is possible to use only in 1-processor systems
- b. It is possible to use only on computers with common memory ✓
- c. Requires active waiting from tasks ✓
- d. It is possible to deadlock with TAS/CAS operations on multiple variables ✓

Twoja odpowiedź jest poprawna.

The correct answers are: Requires active waiting from tasks, It is possible to use only on computers with common memory, It is possible to deadlock with TAS/CAS operations on multiple variables

Question 34

Correct

Mark 1.00 out of 1.00

Using the Test-And-Set instruction in synchronization:

Select one or more:

- a. It requires processes to actively wait ✓
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. Requires the use of semaphores

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

Question 35

Incorrect

Mark 0.00 out of 1.00

Address translation is handled by a unit called (give the abbreviation):

Answer: MMU (Memory Management Unit)



The correct answer is: MMU

Question 36

Incorrect

Mark 0.00 out of 1.00

Dynamic relocation:

Select one or more:

- a. Requires hardware support in the form of a LIMIT register
- b. Requires hardware support in the form of a DATUM register
- c. Allows for temporal elimination of external fragmentation
- d. Requires relative references to be addressed when the program is loaded into memory ✗

Twoja odpowiedź jest niepoprawna.

The correct answers are: Requires hardware support in the form of a DATUM register, Allows for temporal elimination of external fragmentation

Question 37

Incorrect

Mark 0.00 out of 1.00

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select one or more:

- a. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry ✗
- c. Inserting a new item into the Table of Open Files of the Process ✓

Twoja odpowiedź jest niepoprawna.

The correct answers are: Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry, Inserting a new item into the Table of Open Files of the Process

Question 38

Correct

Mark 1.00 out of 1.00

What type of code can multiple processes execute simultaneously?

Select one or more:

- a. reentrant ✓
- b. dynamically relocated
- c. self-modifying
- d. binary

Twoja odpowiedź jest poprawna.

The correct answer is: reentrant

Question 39

Correct

Mark 1.00 out of 1.00

Address translation aims to:

Select one or more:

- a. detecting the phenomenon of locality of references
- b. converting a physical address to a virtual one
- c. Generating a "frame error" interrupt when the page is out of memory
- d. converting a virtual address to a physical one ✓

Twoja odpowiedź jest poprawna.

The correct answer is: converting a virtual address to a physical one

Question 40

Correct

Mark 1.00 out of 1.00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select one or more:

- a. SJF ✓
- b. time slicing
- c. priority
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answer is: SJF

Question 41

Correct

Mark 1.00 out of 1.00

Inter-process communication can be organized using:

Select one or more:

- a. messages ✓
- b. shared directly addressable memory fields ✓
- c. shared memory fields accessible through system calls ✓
- d. interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: messages, shared directly addressable memory fields, shared memory fields accessible through system calls

Question 42

Partially correct

Mark 0.50 out of 1.00

Which of the following memory allocation schemes can cause external fragmentation?

- a. Multiple contiguous fixed partitions of equal size
- b. Paging
- c. Sweeping
- d. Multiple contiguous fixed partitions of various sizes
- e. Segmentation ✓

The correct answers are: Segmentation, Sweeping

Question 43

Correct

Mark 1.00 out of 1.00

For concurrency in OS:

- a. timer interrupts are necessary
- b. interrupt handling is necessary ✓
- c. special processor support is required
- d. cache memory is necessary

The correct answer is: interrupt handling is necessary

Question 44

Correct

Mark 1.00 out of 1.00

Which of the following information is stored on task switching?

- a. I/O status information ✓
- b. contents of general purpose registers, program counter, and similar registers available to the program ✓
- c. Contents of the instruction register and similar registers
- d. scheduler data ✓

The correct answers are: I/O status information, scheduler data, contents of general purpose registers, program counter, and similar registers available to the program

Question 45

Correct

Mark 1.00 out of 1.00

The conversion of the effective address to the physical one takes place:

Select one or more:

- a. in the bus arbiter
- b. in the memory management unit ✓
- c. in the arithmetic-logic unit
- d. in the sequencer

Twoja odpowiedź jest poprawna.

The correct answer is: in the memory management unit

Question 46

Incorrect

Mark 0.00 out of 1.00

The logical address is also:

Select one or more:

- a. Relative address ✗
- b. Effective address ✓
- c. Absolute address
- d. Physical address

Twoja odpowiedź jest niepoprawna.

The correct answer is: Effective address

Question 47

Correct

Mark 1.00 out of 1.00

Which of the following statements is true for system level threads?

- a. Kernel-level threads require their descriptors in the kernel. ✓
- b. Multithreaded applications cannot use multiprocessing.
- c. User-level threads can be synchronized by the kernel.
- d. The threading implementation at the kernel level is done by the thread library attached to the program.

The correct answer is: Kernel-level threads require their descriptors in the kernel.

Question 48

Correct

Mark 1.00 out of 1.00

Address translation mechanism:

Select one or more:

- a. Concatenates the page number and page offset
- b. Concatenates the frame number and offset on the page ✓
- c. Adds the frame number to the page number
- d. Concatenates the frame number and page number

Twoja odpowiedź jest poprawna.

The correct answer is: Concatenates the frame number and offset on the page

Question 49

Correct

Mark 1.00 out of 1.00

The effective address is also:

Select one or more:

- a. Logical address ✓
- b. Physical address
- c. Indirect address
- d. Absolute address

Twoja odpowiedź jest poprawna.

The correct answer is: Logical address

Question 50

Partially correct

Mark 0.50 out of 1.00

Dynamic relocation is performed by:

- a. Loader
- b. Linker
- c. Paging system ✓
- d. Special registers (DATUM)

The correct answers are: Special registers (DATUM), Paging system

Question 51

Correct

Mark 1.00 out of 1.00

What is included in the context that must be maintained for a synchronous precision interrupt?

Select one or more:

- a. instruction register
- b. collective or individual interrupt mask ✓
- c. program counter ✓
- d. general purpose registers ✓

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective or individual interrupt mask

Question 52

Partially correct

Mark 0.50 out of 1.00

System/user threads:

Select one or more:

- a. User-level thread descriptors are stored in the address space of the program.
- b. User-level threads share the same stack.
- c. User-level threads share the same execution context. ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: User-level thread descriptors are stored in the address space of the program., User-level threads share the same execution context.

Question 53

Correct

Mark 1.00 out of 1.00

How is exception identification performed?

Select one or more:

- a. the specification of hardware interrupts and errors is given over the data bus
- b. the specification of hardware interrupts is given over the data bus ✓
- c. all exceptions are specified using the data bus
- d. the specification of hardware interrupts and traps is given over the data bus

Twoja odpowiedź jest poprawna.

The correct answer is: the specification of hardware interrupts is given over the data bus

Question 54

Correct

Mark 1.00 out of 1.00

The combination of paging and segmentation consists in:

Select one or more:

- a. the use of a segment table or a pool of segment registers treated as an additional, superior level of paging ✓
- b. Generating a "frame error" interrupt when the frame containing the page does not belong to the current segment
- c. dividing pages into segments
- d. identifying segments with pages

Twoja odpowiedź jest poprawna.

The correct answer is: the use of a segment table or a pool of segment registers treated as an additional, superior level of paging

Question 55

Incorrect

Mark 0.00 out of 1.00

Dynamic relocation is performed by:

- a. Segment descriptors
- b. Linker
- c. Loader
- d. Compiler ✗

The correct answer is: Segment descriptors

Question 56

Incorrect

Mark 0.00 out of 1.00

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Answer: Thrashing



The correct answer is: anomaly

Question 57

Correct

Mark 1.00 out of 1.00

The hardware resources of a computer system are:

Select one or more:

- a. Primary memory ✓
- b. Windows on the screen
- c. Processor time ✓
- d. Peripheral devices ✓

Twoja odpowiedź jest poprawna.

The correct answers are: Processor time, Primary memory, Peripheral devices

Question 58

Partially correct

Mark 0.50 out of 1.00

How does the operating system call the task completion subroutine?

3. recreates the context programmatically and executes the IRET instruction ✗
2. sets the trace in the terminating subroutine to the current position ✓
4. builds an interrupt vector on the system stack pointing to the terminating subroutine code ✗
1. builds the frame of the terminating subroutine on the task stack ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answer is: 3. → builds an interrupt vector on the system stack pointing to the terminating subroutine code, 2. → sets the trace in the terminating subroutine to the current position, 4. → recreates the context programmatically and executes the IRET instruction, 1. → builds the frame of the terminating subroutine on the task stack

Question 59

Correct

Mark 1.00 out of 1.00

What mechanism is part of time-sharing systems?

- a. short-term scheduler ✓
- b. swapping
- c. long-term scheduler
- d. medium-term scheduler

The correct answer is: short-term scheduler

Question 60

Partially correct

Mark 0.50 out of 1.00

On UNIX, the number of files is directly limited by:

Select one or more:

- a. The number of bits of the disk address
- b. The size of the space allocated for files
- c. I-node table size ✓
- d. The number of bits of the field describing the size of the file
- e. Allocation unit size

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: I-node table size, The size of the space allocated for files

Question 61

Correct

Mark 5.00 out of 5.00

What is the average time in the system for tasks in the batch, using SJF algorithm?

The system is equipped with 2 processors

| task | 1 | 2 | 3 | 4 |
|-----------------|-----|-----|---|-----|
| processing time | 3.4 | 5.5 | 3 | 1.1 |

Answer: 4.3 ✓

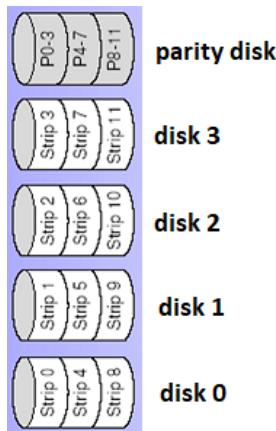
The correct answer is: 4.3

Question 62

Incorrect

Mark 0.00 out of 5.00

In RAID 4, data is placed in Strips that are "scattered" over the data disks, so that each subsequent strip is on the next data disk, modulo the number of disks. For this, there is a parity disk that holds the parity bits of zeroth bits, first bits, second bits, etc., equal-numbered strips divided by the number of data disks, for example, strips 0-3, 4-7, 8-11, etc.::



the beginning of strip 0,1,2,3 looks like this:

| | | | | | |
|---|---|---|---|---|-------------|
| 0 | 1 | 0 | 0 | 1 | Parity disk |
| 1 | 1 | 1 | 1 | 1 | Disk 3 |
| 1 | 0 | 1 | 1 | 0 | Disk 2 |
| 1 | 0 | 1 | 0 | 1 | Disk 1 |
| 0 | 1 | 1 | 0 | 0 | Disk 0 |

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odd.

Disk 3 has been corrupted and always reads 1. After replacing the disk with a new one, what values should be put in the strip on disk 3?

Answer: ×

The correct answer is: 11001

Question 63

Incorrect

Mark 0.00 out of 5.00

Assuming memory cells are 1-byte, the page number in the address field is 12 bits, the offset is 12 bits, the frame number is 10 bits, and all entries in the TIS page index table are on a 16-bit word boundary, enter:

- TIS maximum size of the program in kB

Answer: ×

The correct answer is: 8

Exam 1

| | |
|-------------------|--|
| Rozpoczęto | środa, 19 czerwca 2024, 12:16 |
| Stan | Ukończone |
| Ukończono | środa, 19 czerwca 2024, 14:13 |
| Wykorzystany czas | 1 godzina 57 min. |
| Punkty | 54,17/75,00 |
| Ocena | 28,89 pkt. na 40,00 pkt. możliwych do uzyskania (72,22%) |

Pytanie 1

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

In multi-level interrupts (vectored interrupts) the jump is performed:

Pytanie 1 Wybierz wszystkie poprawne:

- a.
to a fixed address
- b.
according to the table indexed by the interrupt number
- c.
to the address specified in the given processor register
- d.
to the address contained in the device driver, provided by the I/O instruction

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: according to the table indexed by the interrupt number

Pytanie 2

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

What are the functions of the kernel?

Pytanie 2 Odpowiedź

- a.
File management
- b.
Program management
- c.
Memory management

d.

Interrupt handling

Informacja zwrotna

Poprawna odpowiedź to: Interrupt handling

Pytanie 3

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

What type of code can be executed simultaneously on multiple processors?

Pytanie 3 Wybierz wszystkie poprawne:

- a.
dynamically relocated
- b.
reentrant
- c.
binary
- d.
self-modifying

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: reentrant

Pytanie 4

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Static relocation is performed by:

Pytanie 4 Odpowiedź

- a.
Compiler
- b.
Special registers (DATUM)
- c.
Paging system
- d.
Segment descriptors

Informacja zwrotna

Poprawna odpowiedź to: Compiler

Pytanie 5

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

MMU uses index tables to:

Pytanie 5Wybierz wszystkie poprawne:

- a.
generate a relative address
- b.
generate an effective address
- c.
generating a physical address
- d.
generate a logical address

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: generating a physical address

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

To end the interrupt service, use the following instruction:

Pytanie 6Wybierz wszystkie poprawne:

- a.
return from subroutine call
- b.
special return instruction
- c.
regular jump instruction
- d.
none - the processor will end the service automatically

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: special return instruction

Pytanie 7

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Physical address:

Pytanie 7Wybierz wszystkie poprawne:

- a.
indicates a relative address to the segment register

- b.
points to a cell in the process address space
- c.
points to a location in the address space of primary memory
- d.
is contained in the address field of the instruction

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: points to a location in the address space of primary memory

Pytanie 8

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

In a FAT-based disk system, file size is directly limited by:

Pytanie 8 Wybierz wszystkie poprawne:

- a.
The number of bits of the disk address
- b.
Allocation unit size
- c.
FAT table size
- d.
The number of bits of the field describing the size of the file
- e.
The size of the disk space

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Prawidłowymi odpowiedziami są: The size of the disk space, The number of bits of the field describing the size of the file

Pytanie 9

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The kernel (microkernel) is responsible for:

Pytanie 9 Wybierz wszystkie poprawne:

- a.
interrupt handling (at the elementary level, then they are passed on to other layers).
- b.
memory allocation and freeing

- c.
task control
- d.
synchronization of processes and devices with processes

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: task control, synchronization of processes and devices with processes, interrupt handling (at the elementary level, then they are passed on to other layers).

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Threads in operating system:

Pytanie 10 Wybierz wszystkie poprawne:

- a.
They share context except registers and stack
- b.
They share the entire context
- c.
They share context except stack

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: They share context except registers and stack

Pytanie 11

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

The effective address is also:

Pytanie 11 Wybierz wszystkie poprawne:

- a.
Physical address
- b.
Logical address
- c.
Indirect address
- d.
Absolute address

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: Logical address

Pytanie 12

Częściowo poprawnie

Punkty: 0,67 z 1,00

Oflaguj pytanie

Treść pytania

The page fault exception is specific in that:

Pytanie 12 Wybierz wszystkie poprawne:

- a.
there is no return to the program from it
- b.
is reported in the "middle" of an instruction execution
- c.
execution of the instruction may require decrementing the program counter
- d.
continuation of the instruction execution may require the saving of internal processor registers storing intermediate values

Informacja zwrotna

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 2.

Prawidłowymi odpowiedziami są: is reported in the "middle" of an instruction execution, execution of the instruction may require decrementing the program counter, continuation of the instruction execution may require the saving of internal processor registers storing intermediate values

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Virtual memory consists of:

Pytanie 13 Wybierz wszystkie poprawne:

- a.
cache and storage memory
- b.
main memory and cache
- c.
primary memory and cloud storage
- d.
primary memory and storage memory

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: primary memory and storage memory

Pytanie 14

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

The scheduling goal, which is to occupy processors as efficiently as possible, is:

Pytanie 14 Wybierz wszystkie poprawne:

- a.
throughput
- b.
utilization
- c.
response time

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: utilization

Pytanie 15

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

The use of timer interrupts is necessary:

Pytanie 15 Wybierz wszystkie poprawne:

- a.
In real-time systems
- b.
In multiuser systems
- c.
In multiprogram systems
- d.
In concurrent systems

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: In multiuser systems

Pytanie 16

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

Page thrashing is a phenomenon involving:

Pytanie 16 Wybierz wszystkie poprawne:

- a.
Frequent loading of pages that have just been ejected from memory
- b.
Loading the same page over and over again
- c.
Frequently changing the values of bits describing pages in frames
- d.
Frequent context changes that require page index tables to be reloaded to MMU cache

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: Frequent loading of pages that have just been ejected from memory

Pytanie 17

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

MMU uses index tables to:

Pytanie 17 Wybierz wszystkie poprawne:

- a.
generate an effective address
- b.
generate a logical address
- c.
generate a physical address
- d.
generate a relative address

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: generate a physical address

Pytanie 18

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

At the suspended state is a process that:

Pytanie 18 Wybierz wszystkie poprawne:

- a.
occupies a processor
- b.
fills the processor idle time

- c.
waits for a processor
- d.
waits for an I/O operation to complete

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: waits for an I/O operation to complete

Pytanie 19

Częściowo poprawnie
Punkty: 0,50 z 1,00

Oflaguj pytanie

Treść pytania

Which of the following memory allocation schemes causes external fragmentation?

Pytanie 19 Odpowiedź

- a.
Segmentation
- b.
Paging
- c.
Multiple contiguous fixed partitions of equal size
- d.
Multiple contiguous fixed partitions of various sizes

Informacja zwrotna

Prawidłowymi odpowiedziami są: Segmentation, Multiple contiguous fixed partitions of various sizes

Pytanie 20

Poprawnie
Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Pytanie 20 Wybierz wszystkie poprawne:

- a.
time slicing
- b.
FCFS
- c.
priority
- d.
SJF

Informacja zwrotna
Twoja odpowiedź jest poprawna.
Poprawna odpowiedź to: SJF

Pytanie 21

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania
Which of the following interrupts a running process?

Pytanie 21Odpowiedź

- a.
Power fail interrupt
- b.
Scheduler
- c.
Timer interrupts
- d.
Hardaware interrupt

Informacja zwrotna
Prawidłowymi odpowiedziami są: Hardaware interrupt, Timer interrupts, Power fail interrupt

Pytanie 22

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania
Conditional variables in a monitor
Pytanie 22Wybierz wszystkie poprawne:

- a.
They are used to check whether the conditions for process continuation are met
- b.
They are used to suspend processes that cannot run because the conditions for their continuation are not met
- c.
They guard access to the critical region of the monitor

Informacja zwrotna
Twoja odpowiedź jest poprawna.
Poprawna odpowiedź to: They are used to suspend processes that cannot run because the conditions for their continuation are not met

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Paging is in thrashing if:

Pytanie 23Odpowiedź

- a.
page faults occur
- b.
page cannot be swapped
- c.
the system spends more time paging than execution
- d.
the system spends less time paging than execution

Informacja zwrotna

Poprawna odpowiedź to: the system spends more time paging than execution

Pytanie 24

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Pytanie 24Wybierz wszystkie poprawne:

- a.
The number of bits of the field describing the size of the file
- b.
The number of bits of the disk address
- c.
The size of the disk space
- d.
Allocation unit size
- e.
FAT table size

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Prawidłowymi odpowiedziami są: FAT table size, The size of the disk space

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The common allocation queue to fixed blocks of memory of equal size causes:

Pytanie 25 Wybierz wszystkie poprawne:

- a.
need for compaction
- b.
internal fragmentation
- c.
external fragmentation

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: internal fragmentation

Pytanie 26

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The scheduler decisions take the form:

Pytanie 26 Wybierz wszystkie poprawne:

- a.
change from waiting to ready state
- b.
change from waiting to active state
- c.
change from active to ready state
- d.
change from ready to active state

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: change from ready to active state

Pytanie 27

Częściowo poprawnie

Punkty: 0,50 z 1,00

Oflaguj pytanie

Treść pytania

How does the operating system call the task completion subroutine?

- Odpowiedź 1 Pytanie 27 Wybierz...builds the frame of the terminating subroutine on the
4. task stacksets the trace in the terminating subroutine to the current positionbuilds an
interrupt vector on the system stack pointing to the terminating subroutine coderecreates
the context programmatically and executes the IRET instruction

- Odpowiedź 2 Pytanie 27 Wybierz...builds the frame of the terminating subroutine on the
1. task stacksets the trace in the terminating subroutine to the current positionbuilds an
interrupt vector on the system stack pointing to the terminating subroutine coderecreates
the context programmatically and executes the IRET instruction

Odpowiedź 3 Pytanie 27 Wybierz... builds the frame of the terminating subroutine on the task stack
sets the trace in the terminating subroutine to the current position
builds an interrupt vector on the system stack pointing to the terminating subroutine code
creates the context programmatically and executes the IRET instruction

Odpowiedź 4 Pytanie 27 Wybierz... builds the frame of the terminating subroutine on the task stack
sets the trace in the terminating subroutine to the current position
builds an interrupt vector on the system stack pointing to the terminating subroutine code
creates the context programmatically and executes the IRET instruction

Informacja zwrotna

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 2.

Poprawna odpowiedź to: 4. → recreates the context programmatically and executes the IRET instruction, 1. → builds the frame of the terminating subroutine on the task stack, 3. → builds an interrupt vector on the system stack pointing to the terminating subroutine code, 2. → sets the trace in the terminating subroutine to the current position

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Semaphores are used to solve the problem:

Pytanie 28 Odpowiedź

- a. process scheduling
- b. mutual exclusion
- c. races
- d. Belady problem

Informacja zwrotna

Poprawna odpowiedź to: mutual exclusion

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Interrupt vector is saved in a case of:

Pytanie 29 Wybierz wszystkie poprawne:

- a. accepting a non-maskable interrupt
- b. jump with trace

- c.
subroutine call
- d.
accepting a hardware interrupt

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: accepting a hardware interrupt, accepting a non-maskable interrupt, jump with trace

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Allocation unit for file storage:

Pytanie 30Odpowiedź

- a.
may be a variable in a partition
- b.
It should be selected to match the characteristics of the data
- c.
must be constant across the disk partition
- d.
may differ between files on a partition

Informacja zwrotna

Poprawna odpowiedź to: must be constant across the disk partition

Pytanie 31

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

FIRST-FIT algorithm:

Pytanie 31Wybierz wszystkie poprawne:

- a.
Causes external fragmentation
- b.
It allows for fast determining whether there is a free block of the required size
- c.
Avoids external fragmentation
- d.
Requires an ascending sorting of the list of free blocks

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.
Poprawna odpowiedź to: Causes external fragmentation

Pytanie 32

Częściowo poprawnie
Punkty: 0,50 z 1,00

Oflaguj pytanie

Treść pytania

On UNIX, the number of files is directly limited by:

Pytanie 32 Wybierz wszystkie poprawne:

- a. The number of bits of the field describing the size of the file
- b. Allocation unit size
- c. The size of the space allocated for files
- d. I-node table size
- e. The number of bits of the disk address

Informacja zwrotna

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

Prawidłowymi odpowiedziami są: I-node table size, The size of the space allocated for files

Pytanie 33

Poprawnie
Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Processor access scheduling decisions may be made under which of the following circumstances?

Pytanie 33 Wybierz wszystkie poprawne:

- a. When a task goes from the active state to the waiting state
- b. When a task transitions from the active state to the ready state
- c. When a task terminates
- d. When a task goes from the waiting state to the ready state

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: When a task goes from the active state to the waiting state, When a task transitions from the active state to the ready state, When a task goes from the waiting state to the ready state, When a task terminates

Pytanie 34

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

Allocation unit for file storage:

Pytanie 34 Odpowiedź

- a.
may vary between partitions
- b.
may be a variable in a partition
- c.
may differ between files in a partition
- d.
it should be selected to match the characteristics of the data

Informacja zwrotna

Poprawna odpowiedź to: may vary between partitions

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The following situations cause the exceptions (processor internal interrupts) of the "error" type:

Pytanie 35 Wybierz wszystkie poprawne:

- a.
memory reference beyond limit register value
- b.
memory reference in the area of the page that is not in memory
- c.
a reference to memory that is not in the address space
- d.
an attempt to write to the page for which the "read only" bit is set

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: a reference to memory that is not in the address space, memory reference beyond limit register value, an attempt to write to the page for which the "read only" bit is set

Pytanie 36

Poprawnie
Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Multiprogram systems:

Pytanie 36Odpowiedź

- a.
 - b.
 - c.
 - d.
- It does any job faster
- They are easier to develop than single-program systems
- It holds more than one program in primary memory at the same time
- They are only used on large mainframe computers

Informacja zwrotna

Poprawna odpowiedź to: It holds more than one program in primary memory at the same time

Pytanie 37

Poprawnie
Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The direct resume rule means that:

Pytanie 37Wybierz wszystkie poprawne:

- a.
 - b.
 - c.
- The resuming process loses the critical region
Proces wznowiający traci region krytyczny
- The resuming process gets a critical region after the resumed process exits the monitor
- The resuming process applies for the critical region just like other processes on monitor input

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: The resuming process loses the critical region
Proces wznowiający traci region krytyczny, The resuming process applies for the critical region just like other processes on monitor input

Pytanie 38

Poprawnie
Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

System/user threads:

Pytanie 38 Wybierz wszystkie poprawne:

- a.
- User-level threads share the same stack.

b.

System level thread descriptors are stored in the operating system kernel.

c.

User-level threads share the same execution context.

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: System level thread descriptors are stored in the operating system kernel., User-level threads share the same execution context.

Pytanie **39**

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

What is true for simultaneous execution in the same context?

Pytanie 39 Odpowiedź

a.

The use of threads ensures concurrency within the process.

b.

A multiprocessor kernel can be concurrent

c.

The shared context forces threads to run on the same processor

d.

Threads minimize context switch time.

Informacja zwrotna

Prawidłowymi odpowiedziami są: Threads minimize context switch time., The use of threads ensures concurrency within the process., A multiprocessor kernel can be concurrent

Pytanie **40**

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

What mechanism is part of time-sharing systems?

Pytanie 40 Odpowiedź

a.

short-term scheduler

b.

swapping

- c.
medium-term scheduler
- d.
long-term scheduler

Informacja zwrotna

Poprawna odpowiedź to: short-term scheduler

Pytanie 41

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The following situations trigger "error" exceptions:

Pytanie 41 Wybierz wszystkie poprawne:

- a.
extracode
- b.
attempting to execute in user mode an instruction that is only legal in system mode
- c.
page fault (also known as frame fault, frame error, page miss)
- d.
attempting to execute an illegal instruction

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: attempting to execute an illegal instruction, attempting to execute in user mode an instruction that is only legal in system mode

Pytanie 42

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

When an exception is raised in user mode, the operating system switches to the kernel system stack, and what happens when an exception is raised in system mode?

Pytanie 42 Wybierz wszystkie poprawne:

- a.
nothing special, it builds the context on the kernel system stack
- b.
switches to the next kernel system stack
- c.
initializes the kernel system stack from the scratch

- d.
switches back to the application program stack

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: nothing special, it builds the context on the kernel system stack

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The number of condition variables is by definition in the monitor:

Pytanie 43 Wybierz wszystkie poprawne:

- a.
as many as there are different conditions for the continuation of processes plus one for mutual exclusion
- b.
one
- c.
as many as there are different conditions for the continuation of processes
- d.
two

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: as many as there are different conditions for the continuation of processes

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Which of the following information is stored on task switching?

Pytanie 44 Odpowiedź

- a.
Contents of datum, limit and other registers inaccessible to the program
- b.
I/O status information
- c.
scheduler data
- d.
Contents of general purpose registers, program counter, and similar registers available to the program

Informacja zwrotna

Prawidłowymi odpowiedziami są: I/O status information, scheduler data, Contents of datum, limit and other registers inaccessible to the program, Contents of general purpose registers, program counter, and similar registers available to the program

Pytanie 45

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

What mechanism is used to desynchronize processes with different relative speeds?

Pytanie 45 Wybierz wszystkie poprawne:

- a.
preempting
- b.
scheduling
- c.
buffer
- d.
interrupts

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: buffer

Pytanie 46

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

Page thrashing is a phenomenon involving:

Pytanie 46 Wybierz wszystkie poprawne:

- a.
frequent context changes that require page index tables to be reloaded
- b.
frequently changing the values of bits describing pages in frames
- c.
frequent downloading of pages that have just been swapped out from memory
- d.
loading the same page over and over again

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: frequent downloading of pages that have just been swapped out from memory

Pytanie 47

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

Is IOW bit:

Pytanie 47 Wybierz wszystkie poprawne:

- a.
reference bit
- b.
protection bit
- c.
enable bit

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: protection bit

Pytanie 48

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Sequence of actions when starting a new task:

Odpowiedź 1 Pytanie 48 Wybierz...instruction to transfer control to the task initialize the

1. stack, fill the first frame memory allocation if this is the first task of the program filling in the descriptor in the kernel

Odpowiedź 2 Pytanie 48 Wybierz...instruction to transfer control to the task initialize the

2. stack, fill the first frame memory allocation if this is the first task of the program filling in the descriptor in the kernel

Odpowiedź 3 Pytanie 48 Wybierz...instruction to transfer control to the task initialize the

3. stack, fill the first frame memory allocation if this is the first task of the program filling in the descriptor in the kernel

Odpowiedź 4 Pytanie 48 Wybierz...instruction to transfer control to the task initialize the

4. stack, fill the first frame memory allocation if this is the first task of the program filling in the descriptor in the kernel

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: 1. → filling in the descriptor in the kernel, 2. → memory allocation if this is the first task of the program, 3. → initialize the stack, fill the first frame, 4. → instruction to transfer control to the task

Pytanie 49

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

A multiprogram system is one that, in principle:

Pytanie 49 Wybierz wszystkie poprawne:

- a.
Requires relocation or equivalent mechanism
- b.
It allows for running programs only one after another
- c.
It allows for storing many programs in primary memory
- d.
Requires dynamic relocation

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Prawidłowymi odpowiedziami są: It allows for storing many programs in primary memory, Requires relocation or equivalent mechanism

Pytanie 50

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The common allocation queue to fixed blocks of memory of different sizes causes:

Pytanie 50 Wybierz wszystkie poprawne:

- a.
need for compaction
- b.
external fragmentation
- c.
internal fragmentation

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: internal fragmentation, external fragmentation

Pytanie 51

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź: Pytanie 51

Informacja zwrotna

Poprawna odpowiedź to: anomaly

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

If the compiler prepares a program with absolute addresses to be loaded in a fixed address space, it is called:

Pytanie 52 Odpowiedź

- a.
Static compiling
- b.
Dynamic compiling
- c.
Static relocation
- d.
Dynamic relocation

Informacja zwrotna

Poprawna odpowiedź to: Static relocation

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

During the interrupt handling:

Pytanie 53 Wybierz wszystkie poprawne:

- a.
other interrupts can be accepted
- b.
other interrupts may or may not be accepted at the discretion of the programmer
- c.
other interrupts are disabled

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: other interrupts may or may not be accepted at the discretion of the programmer

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Scheduling aims to optimize:

Pytanie 54 Wybierz wszystkie poprawne:

- a.
wait time
- b.
reaction time
- c.
processor utilization
- d.
system throughput

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: processor utilization, system throughput, wait time, reaction time

Pytanie 55

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The page index table address is stored in:

Pytanie 55 Wybierz wszystkie poprawne:

- a.
page register
- b.
stack pointer
- c.
program counter
- d.
page table base register

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Poprawna odpowiedź to: page table base register

Pytanie 56

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

The file system layer plays the following role in the operating system:

Pytanie 56 Wybierz wszystkie poprawne:

- a.
It runs programs stored in files
- b.
Controls file access rights
- c.

- It performs directory services in the hierarchy of disk files
- d.
- Performs file opening and closing operations

Informacja zwrotna
Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

Pytanie 57

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

The algorithm in which the most recently loaded page is swapped out is called (enter the abbreviation if applicable):

Odpowiedź: Pytanie 57

Informacja zwrotna

Poprawna odpowiedź to: FIFO

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

In which swapping algorithms is the M bit value used?

Pytanie 58 Wybierz wszystkie poprawne:

- a.
working set
- b.
no algorithm
- c.
LFU
- d.
clock
- e.
FIFO
- f.
NRU
- g.
LRU
- h.
optimal

i.
second chance

Informacja zwrotna
Twoja odpowiedź jest poprawna.
Poprawna odpowiedź to: NRU

Pytanie **59**

Poprawnie

Punkty: 1,00 z 1,00

Oflaguj pytanie

Treść pytania

Using Test-And-Set or Compare-And-Swap in synchronization:

Pytanie 59 Wybierz wszystkie poprawne:

- a.
It can only be applied in systems with shared memory
- b.
Requires organizing inactive waiting in queues
- c.
It requires processes to actively wait
- d.
Stops the processor if 0 is read

Informacja zwrotna

Twoja odpowiedź jest poprawna.

Prawidłowymi odpowiedziami są: It requires processes to actively wait,
It can only be applied in systems with shared memory

Pytanie **60**

Niepoprawnie

Punkty: 0,00 z 1,00

Oflaguj pytanie

Treść pytania

Memory partitioning into blocks of any size:

Pytanie 60 Wybierz wszystkie poprawne:

- a.
It does not imply fragmentation
- b.
It implies external fragmentation
- c.
It implies internal fragmentation

Informacja zwrotna

Twoja odpowiedź jest niepoprawna.

Poprawna odpowiedź to: It does not imply fragmentation

Pytanie **61**

Poprawnie

Punkty: 5,00 z 5,00

Oflaguj pytanie

Treść pytania

What is the average time in the system for tasks in the batch, using SJF algorithm?

The system is equipped with 3 processors

| task | 1 | 2 | 3 | 4 |
|-----------------|-----|-----|-----|-----|
| processing time | 3,4 | 5,7 | 2,8 | 1,3 |

Odpowiedź:Pytanie 61

Informacja zwrotna

Poprawna odpowiedź to: 3,6

Pytanie 62

Poprawnie

Punkty: 5,00 z 5,00

Oflaguj pytanie

Treść pytania

In RAID 4, data is placed in Strips that are "scattered" over the data disks, so that each subsequent strip is on the next data disk, modulo the number of disks. For this, there is a parity disk that holds the parity bits of zeroth bits, first bits, second bits, etc., equal-numbered strips divided by the number of data disks, for example, strips 0-3, 4-7, 8-11, etc.:

the start of strips 0,1,2,3 looks like this:

| | | | | | |
|---|---|---|---|---|-------------|
| 1 | 1 | 1 | 0 | 0 | Parity disk |
| 1 | 1 | 1 | 1 | 1 | Disk 3 |
| 1 | 0 | 0 | 1 | 0 | Disk 2 |
| 1 | 0 | 1 | 0 | 1 | Disk 1 |
| 0 | 1 | 1 | 0 | 0 | Disk 0 |

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 even.

Disk 3 has been corrupted and always reads 1. After replacing the disk with a new one, what values should I put in the strip on disk 3?

Odpowiedź:Pytanie 62

Informacja zwrotna

Poprawna odpowiedź to: 10111

Pytanie 63

Poprawnie

Punkty: 5,00 z 5,00

Oflaguj pytanie

Treść pytania

The virtual address consists of 8b page number and 8b offset. The page index table is shown below (index, content). For decimal address 1432, binary 0000 0101 1001 1000, enter the physical address in the form: frame number.offset (as decimal numbers, offset in 3 digits). For example, for a physical address consisting of frame 0 and offset 18, specify 0.018. If there is no physical address for the given virtual address, then -1 should be specified.

| | |
|---|----|
| 7 | -1 |
| 6 | 5 |
| 5 | 7 |
| 4 | 11 |
| 3 | -1 |
| 2 | 9 |
| 1 | 2 |
| 0 | 1 |

Odpowiedź: Pytanie 63

Informacja zwrotna

Poprawna odpowiedź to: 7,152

Question 1

Correct

Mark 1.00 out of 1.00

[Flag question](#)**Question text**

The page fault interrupt is used to:

Question 1 Select one or more:

a.

Detection of an attempt to write outside the address space of the frame

b.

Whether the frame is empty or contains a page

c.

Downloads to the memory of the requested page

d.

Detection of an access attempt from a frame not allocated to the program

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Downloads to the memory of the requested page

Question 2

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)**Question text**

The following situations trigger "error" exceptions:

Question 2 Select one or more:

a.

memory reference in the area of the page that is not in memory

b.

memory reference beyond limit register value

c.

a reference to memory that is not in the program address space

d.

an attempt to execute an instruction from the area of the page for which the "no code" bit was set

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: a reference to memory that is not in the program address space, memory reference beyond limit register value, an attempt to execute an instruction from the area of the page for which the "no code" bit was set

Question 3

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Which of the following information is stored on task switching?

Question 3Answer

- a. Contents of the instruction register and similar registers
- b. contents of general purpose registers, program counter, and similar registers available to the program
- c. scheduler data
- d. I/O status information

Feedback

The correct answers are: I/O status information, scheduler data, contents of general purpose registers, program counter, and similar registers available to the program

Question 4

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

What can happen when a job leaves the critical section and more than 1 task is waiting for the critical section?

Question 4Select one or more:

- a. starvation awaiting a critical section
- b. letting both tasks into the critical section
- c. deadlock waiting for critical section
- d.

active waiting for a critical section

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: starvation awaiting a critical section

Question 5

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

The root directory of the disk should be located:

Question 5Answer

a.

in a place hard-coded in the structures of the operating system

b.

in a permanent place on the disk

c.

at a fixed address in main memory

d.

in a place designated by the data structure in a fixed location on the disk

Feedback

The correct answer is: in a place designated by the data structure in a fixed location on the disk

Question 6

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Which of the following information is stored on task switching?

Question 6Answer

a.

Contents of datum, limit and other registers inaccessible to the program

b.

Contents of general purpose registers, program counter, and similar registers available to the program

c.

I/O status information

d.

scheduler data

Feedback

The correct answers are: I/O status information, scheduler data, Contents of datum, limit and other registers inaccessible to the program, Contents of general purpose registers, program counter, and similar registers available to the program

Question 7

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

What mechanism is part of time-sharing systems?

Question 7 Answer

- a.
medium-level scheduler
- b.
low-level scheduler
- c.
swapping
- d.
high-level scheduler

Feedback

The correct answer is: low-level scheduler

Question 8

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

In a FAT-based disk system, file size is directly limited by:

Question 8 Select one or more:

- a.
The number of bits of the disk address
- b.
The number of bits of the field describing the size of the file
- c.
The size of the disk space
- d.
FAT table size

e.

Allocation unit size

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: The size of the disk space, The number of bits of the field describing the size of the file

Question 9

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Which technique was introduced because a single task could occupy both the CPU and I/O devices?

Question 9Select one or more:

a.

Buffering

b.

Multiprogramming

c.

Preemptive scheduling

d.

Interrupts

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Interrupts

Question 10

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Individual interrupt mask:

Question 10Select one or more:

a.

register in which addresses of devices reporting individual interrupts are stored

b.

a combinational circuit that calculates the number of the interrupt received

- c.
a register whose bits are ORed (alternative) with the bits from the interrupt request register
d.
a register whose bits are ANDed (conjunction) with the bits from the interrupt request register

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: a register whose bits are ANDed (conjunction) with the bits from the interrupt request register

Question 11

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Which swapping algorithms use the current time slice number?

Question 11Select one or more:

- a.
FIFO
- b.
LRU
- c.
no algorithm
- d.
clock
- e.
working set
- f.
LFU
- g.
optimal
- h.
second chance
- i.
NRU

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: second chance, working set

Question 12

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)**Question text**

Paging - two-level index tables mode of operation

Question 12Select one or more:

- a.
The content of a level 1 table element points to a level 2 table
- b.
The content of a level 1 table element is an index in a level 2 table
- c.
The content of a level 1 table element points to a level 2 table
- d.
The content of the level 1 table element is concatenated (combined) with the content of the level 2 table element

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: The content of a level 1 table element points to a level 2 table

Question 13

Correct

Mark 1.00 out of 1.00

[Flag question](#)**Question text**

What is a scheduler?

Question 13Select one or more:

- a.
the system process that allocates the processor
- b.
memory allocation procedure
- c.
a kernel routine that selects a task to execute
- d.
procedure that schedules frame release in the page replace algorithm

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: a kernel routine that selects a task to execute

Question 14

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

In indulgent scheduling, the process keeps the CPU until:

Question 14 Select one or more:

- a.
termination
- b.
waiving
- c.
next interrupt from the device
- d.
next interrupt from the timer

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

Question 15

Partially correct

Mark 0.50 out of 1.00

[Flag question](#)

Question text

How does the operating system call the task completion subroutine?

- Answer 1 Question 15 Choose...recreates the context programmatically and executes the IRET
2. instructionsets the trace in the terminating subroutine to the current positionbuilds the frame of the terminating subroutine on the task stackbuilds an interrupt vector on the system stack pointing to the terminating subroutine code

- Answer 2 Question 15 Choose...recreates the context programmatically and executes the IRET
4. instructionsets the trace in the terminating subroutine to the current positionbuilds the frame of the terminating subroutine on the task stackbuilds an interrupt vector on the system stack pointing to the terminating subroutine code

- Answer 3 Question 15 Choose...recreates the context programmatically and executes the IRET
3. instructionsets the trace in the terminating subroutine to the current positionbuilds the frame of the terminating subroutine on the task stackbuilds an interrupt vector on the system stack pointing to the terminating subroutine code

1. Answer 4 Question 15 Choose...recreates the context programmatically and executes the IRET

instruction sets the trace in the terminating subroutine to the current position
builds the frame of the terminating subroutine on the task stack
builds an interrupt vector on the system stack
pointing to the terminating subroutine code

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answer is: 2. → sets the trace in the terminating subroutine to the current position, 4. → recreates the context programmatically and executes the IRET instruction, 3. → builds an interrupt vector on the system stack pointing to the terminating subroutine code, 1. → builds the frame of the terminating subroutine on the task stack

Question 16

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Two successive executions of operation V in one process on a binary semaphore in down state:

Question 16 Select one or more:

- a.
Raises the semaphore if there are no suspended processes
- b.
Increases semaphore value by 2
- c.
It doesn't change anything
- d.
If the semaphore guards a critical region, it can let two processes enter the critical region

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can let two processes enter the critical region, Raises the semaphore if there are no suspended processes

Question 17

Correct

Mark 1.00 out of 1.00

Flag question

Question text

What does the kernel do when there is no task (process) to run?

Question 17 Select one or more:

- a.
resets the entire system
- b.
executes an infinite loop in the kernel until a task arrives
- c.
starts the idle task
- d.
switches off the power supply

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: starts the idle task

Question 18

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Address translation mechanism:

Question 18Select one or more:

- a.
concatenates the frame number and page number
- b.
concatenates the frame number and offset on the page
- c.
adds the frame number to the page number
- d.
concatenates the page number and page offset

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: concatenates the frame number and offset on the page

Question 19

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Physical address:

Question 19Select one or more:

- a.
indicates a relative address to the segment register
- b.
points to a location in the address space of primary memory
- c.
points to a cell in the process address space
- d.
is contained in the address field of the instruction

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: points to a location in the address space of primary memory

Question 20

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

The operating system plays the following role in a computer system:

Question 20 Select one or more:

- a.
relational database management
- b.
computer system resource management
- c.
compiling and running programs
- d.
Create a concurrent environment

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Create a concurrent environment, computer system resource management

Question 21

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

MMU uses index tables to:

Question 21Select one or more:

- a.
generate a relative address
- b.
generate a physical address
- c.
generate an effective address
- d.
generate a logical address

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: generate a physical address

Question 22

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

What mechanism is used to save and restore the task state?

Question 22Answer

- a.
context switch
- b.
task descriptor
- c.
scheduling data
- d.
applications counter

Feedback

The correct answer is: context switch

Question 23

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Discontinuous allocation is the result of:

Question 23Select one or more:

- a.
segmantation
- b.
paging
- c.
relocation
- d.
compaction

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

Question 24

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Internal fragmentation consists in:

Question 24 Select one or more:

- a.
Discontinuous program memory allocation
- b.
The program does not use all the memory allocated to it
- c.
Dividing the memory allocated to the program into a data area and a code area
- d.
Free memory blocks between allocated blocks

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: The program does not use all the memory allocated to it

Question 25

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

The following paging exceptions allow for returning to the program after they occur:

Question 25 Select one or more:

- a.
interrupt on write (IOW)
- b.
page fault
- c.
attempting to write to a write-protected frame
- d.
attempt to read from the frame storing the code

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: page fault, interrupt on write (IOW)

Question 26

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Static relocation is performed by:

Question 26Answer

- a.
Special registers (LIMIT)
- b.
Paging system
- c.
Segment descriptors
- d.
Loader

Feedback

The correct answer is: Loader

Question 27

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

For address translation, the following is used:

Question 27Select one or more:

- a.

- index table
- b.
reference and protection bits
- c.
translation register
- d.
associative translation buffer

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: index table, associative translation buffer

Question 28

Partially correct

Mark 0.50 out of 1.00

[Flag question](#)

Question text

Static relocation is performed by:

Question 28Answer

a.

Segment descriptors

b.

Paging system

c.

Linker

d.

Compiler

Feedback

The correct answers are: Compiler, Linker

Question 29

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

In UNIX, access rights are specified:

Question 29Select one or more:

a.

At the same time, for all files in a given directory owned by the user

- b.
Individually for each file
- c.
Separately for write, read and execute/search
- d.
Separately for the user, the group to which the user belongs and for all others

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Individually for each file, Separately for the user, the group to which the user belongs and for all others, Separately for write, read and execute/search

Question 30

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Calling the program with the "exec" operation results in (accurately to the result of the exec operation):

Question 30Select one or more:

- a.
Loading a code segment from disk, duplicating the data segment of the calling process
- b.
Loading code and data segments from disk, initializing a new stack segment
- c.
Loading a code segment from disk, duplicating data segments and the calling process stack

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Loading code and data segments from disk, initializing a new stack segment

Question 31

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Scheduler function is:

Question 31Answer

- a.
selecting a task to run
- b.
scheduling tasks on the processor
- c.
counting the CPU time used by tasks
- d.
changing task priorities

Feedback

The correct answer is: selecting a task to run

Question 32

Correct

Mark 1.00 out of 1.00

Flag question

Question text

In the philosophers problem, if there are 4 of them:

Question 32Select one or more:

- a.
Starvation is possible
- b.
Deadlock is possible
- c.
Deadlock is not possible
- d.
Starvation is not possible

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Deadlock is possible, Starvation is not possible

Question 33

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The kernel (microkernel) is responsible for:

Question 33Select one or more:

- a.
memory allocation and freeing
- b.
synchronization of processes and devices with processes
- c.
interrupt handling (at the elementary level, then they are passed on to other layers).
- d.
task control

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: task control, synchronization of processes and devices with processes, interrupt handling (at the elementary level, then they are passed on to other layers).

Question 34

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

The software resources of a computer system are:

Question 34 Select one or more:

- a.
Primary memory
- b.
Files
- c.
Semaphores
- d.
Buffers

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Files, Buffers, Semaphores

Question 35

Partially correct

Mark 0.50 out of 1.00

[Flag question](#)

Question text

Which of the following memory allocation schemes causes external fragmentation?

Question 35Answer

- a.
Sweeping
- b.
Multiple contiguous fixed partitions of equal size
- c.
Multiple contiguous fixed partitions of various sizes
- d.
Paging

Feedback

The correct answers are: Sweeping, Multiple contiguous fixed partitions of various sizes

Question 36

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Dynamic relocation is performed by:

Question 36Answer

- a.
Special registers (DATUM)
- b.
Loader
- c.
Linker
- d.
Compiler

Feedback

The correct answer is: Special registers (DATUM)

Question 37

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Can the exchange algorithm: selecting a frame to empty and loading a new page, be performed in user mode?

Question 37Answer

True

False

Feedback

The correct answer is 'True'.

Question 38

Correct

Mark 1.00 out of 1.00

Flag question

Question text

To end the interrupt service, use the following instruction:

Question 38Select one or more:

- a.
regular jump instruction
- b.
special return instruction
- c.
none - the processor will end the service automatically
- d.
return from subroutine call

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: special return instruction

Question 39

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Using the Test-And-Set instruction in synchronization:

Question 39Select one or more:

- a.
Stops the processor if 0 is read
- b.
Requires organizing inactive waiting in queues
- c.
It requires processes to actively wait

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

Question 40

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The Test-And-Set or Compare-And-Swap instruction has the following characteristics:

Question 40Select one or more:

a.

Requires active waiting from tasks

b.

It is possible to deadlock with TAS/CAS operations on multiple variables

c.

It is possible to use only on computers with common memory

d.

It is possible to use only in 1-processor systems

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Requires active waiting from tasks, It is possible to use only on computers with common memory, It is possible to deadlock with TAS/CAS operations on multiple variables

Question 41

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Interrupt mask:

Question 41Select one or more:

a.

must be part of the status register

b.

can unblock interrupts when the interrupt handler completes

c.

causes interrupts to be disabled when an interrupt is accepted

d.

can be set and reset by special processor instructions

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: causes interrupts to be disabled when an interrupt is accepted, can unblock interrupts when the interrupt handler completes, can be set and reset by special processor instructions

Question 42

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Allocation unit for file storage:

Question 42Answer

- a.
must be constant across the disk partition
- b.
may be a variable in a partition
- c.
may differ between files on a partition
- d.
It should be selected to match the characteristics of the data

Feedback

The correct answer is: must be constant across the disk partition

Question 43

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Allocation unit for storing files:

Question 43Answer

- a.
may vary between partitions
- b.
may differ between files in a partition
- c.
must be constant across the disk partition
- d.
it should be selected to match the characteristics of the data

Feedback

The correct answers are: must be constant across the disk partition, may vary between partitions

Question 44

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Which swapping algorithms use page reference history?

Question 44Select one or more:

- a.
NRU
- b.
LRU
- c.
FIFO
- d.
working set
- e.
working set clock
- f.
LFU
- g.
second chance

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: LRU, LFU

Question 45

Correct

Mark 1.00 out of 1.00

Flag question

Question text

What type of code can multiple processes execute simultaneously?

Question 45Select one or more:

- a.
dynamically relocated
- b.

reentrant

- c.
binary
- d.
self-modifying

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: reentrant

Question 46

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The thread is also called:

Question 46Answer

- a.
overlay process
- b.
lightweight process
- c.
heavy process
- d.
data process

Feedback

The correct answer is: lightweight process

Question 47

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Round-robin scheduling is the best mechanism for:

Question 47Select one or more:

- a.
time-sharing system
- b.
real-time system

- c. system with different classes of tasks
- d. every system

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: time-sharing system

Question 48

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Context switch is:

Question 48Select one or more:

- a. calling the kernel of the operating system
- b. switching to the system stack
- c. extracode execution
- d. writing registers to the task stack and retrieving them from another task stack

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: writing registers to the task stack and retrieving them from another task stack

Question 49

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

The following situations cause the exceptions (processor internal interrupts) of the "error" type:

Question 49Select one or more:

- a. memory reference beyond limit register value
- b.

an attempt to write to the page for which the "read only" bit is set

- c. memory reference in the area of the page that is not in memory
- d. a reference to memory that is not in the address space

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: a reference to memory that is not in the address space, memory reference beyond limit register value, an attempt to write to the page for which the "read only" bit is set

Question 50

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

A memory management technique in which the system divides memory into equal-sized portions to easily manage relocation is called:

Question 50 Select one or more:

- a. sweeping
- b. paging
- c. swapping
- d. mapping

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: paging

Question 51

Partially correct

Mark 0.50 out of 1.00

[Flag question](#)

Question text

Separate allocation queues for fixed memory blocks of equal size cause:

Question 51 Select one or more:

- a.
need for compaction
- b.
internal fragmentation
- c.
external fragmentation

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: internal fragmentation, external fragmentation

Question 52

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

A multiuser system is one that, in principle:

Question 52Select one or more:

- a.
Requires the use of timer interrupts
- b.
Must be multi-threaded
- c.
Allows multiple processes to actually run simultaneously
- d.
Must be concurrent

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: Must be concurrent, Requires the use of timer interrupts

Question 53

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

In which swapping algorithms is it necessary to collectively clear the M-bits?

Question 53Select one or more:

- a.

no algorithm

- b.
clock
- c.
FIFO
- d.
NRU
- e.
working set
- f.
LFU
- g.
second chance
- h.
LRU
- i.
working set clock

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is:

no algorithm

Question 54

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Interrupt request register is:

Question 54 Select one or more:

- a.
a register that blocks or unblocks all interrupts
- b.
a combinational circuit that calculates the number of the interrupt received
- c.
a register where interrupt line states are stored
- d.
a register that blocks or unblocks individual interrupts

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: a register where interrupt line states are stored

Question 55

Partially correct

Mark 0.50 out of 1.00

[Flag question](#)

Question text

The internal state of the file system layer is available for:

Question 55Answer

- a.
OS kernel
- b.
Program supervisor layer
- c.
User programs
- d.
Applications

Feedback

The correct answers are: OS kernel, Program supervisor layer

Question 56

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

"Soft" real-time system:

Question 56Select one or more:

- a.
Guaranteed response time
- b.
Guarantees average response time
- c.
Guarantees interrupt handling time

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Guarantees average response time

Question 57

Correct

Mark 1.00 out of 1.00

[Flag question](#)**Question text**

At the suspended state is a process that:

Question 57Select one or more:

- a.
waits for an I/O operation to complete
- b.
fills the processor idle time
- c.
waits for a processor
- d.
occupies a processor

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: waits for an I/O operation to complete

Question 58

Correct

Mark 1.00 out of 1.00

[Flag question](#)**Question text**

Processor access scheduling decisions may be made under which of the following circumstances?

Question 58Select one or more:

- a.
When a task goes from the waiting state to the ready state
- b.
When a task transitions from the active state to the ready state
- c.
When a task terminates
- d.
When a task goes from the active state to the waiting state

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: When a task goes from the active state to the waiting state, When a task transitions from the active state to the ready state, When a task goes from the waiting state to the ready state, When a task terminates

Question 59

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The key in associative memory is:

Question 59Select one or more:

- a.
Frame number
- b.
The frame number concatenated with the page number
- c.
Page number
- d.
The page number concatenated with the frame number

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Page number

Question 60

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

The sweeping mechanism consists in:

Question 60Select one or more:

- a.
Loading segments into primary memory and sending them to disk
- b.
Moving programs around in memory to eliminate fragmentation
- c.
Merging adjacent free memory blocks
- d.
Loading pages into the primary memory and sending them to the disk

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Loading segments into primary memory and sending them to disk

Question 61

Correct

Mark 5.00 out of 5.00

Flag question

Question text

What is the average time in the system for tasks in the batch, using SJF algorithm?

The system is equipped with 3 processors

| task | 1 | 2 | 3 | 4 |
|-----------------|-----|-----|-----|-----|
| processing time | 3.3 | 5.2 | 2.3 | 1.5 |

Answer: Question 61

Feedback

The correct answer is: 3.5

Question 62

Incorrect

Mark 0.00 out of 5.00

Flag question

Question text

In RAID 4, data is placed in Strips that are "scattered" over the data disks, so that each subsequent strip is on the next data disk, modulo the number of disks. For this, there is a parity disk that holds the parity bits of zeroth bits, first bits, second bits, etc., equal-numbered strips divided by the number of data disks, for example, strips 0-3, 4-7, 8-11, etc.:

the start of strips 0,1,2,3 looks like this:

| | | | | | |
|---|---|---|---|---|-------------|
| 1 | 1 | 1 | 0 | 0 | Parity disk |
| 0 | 0 | 0 | 0 | 0 | Disk 3 |
| 1 | 0 | 0 | 1 | 0 | Disk 2 |
| 1 | 0 | 1 | 1 | 0 | Disk 1 |
| 0 | 1 | 1 | 0 | 0 | Disk 0 |

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 even.

Disk 3 has been damaged and reads only 0. After replacing the disk with a new one, what values should be put in the strip on disk 3?

Answer:Question 62

[Feedback](#)

The correct answer is: 10100

Question **63**

Correct

Mark 5.00 out of 5.00

[Flag question](#)

[Question text](#)

Assuming that memory cells are 1-byte, the page number in the address field is 11 bits, the offset is 12 bits, the frame number is 12 bits, and all entries in the TIS page index table are on a 2-byte word boundary, specify:

- the maximum size of the program's virtual memory in MB

Answer:Question 63

[Feedback](#)

The correct answer is: 8

| | |
|---------------------|-----------------------------------|
| Started on | Wednesday, 19 June 2024, 12:16 PM |
| State | Finished |
| Completed on | Wednesday, 19 June 2024, 2:15 PM |
| Time taken | 1 hour 58 mins |
| Marks | 39.42/75.00 |
| Grade | 21.02 out of 40.00 (52.56%) |

Question 1

Correct

Mark 1.00 out of 1.00

The interrupt acceptance sequence consists of (in the sequence):

Select one or more:

- a. identification of the interrupt level, saving the interrupt vector, performing a jump with a trace according to the interrupt table ✓
- b. identification of the interrupt level, performing a jump according to the interrupt table, saving the interrupt vector
- c. identification of the interrupt level, performing a jump with the trace according to the interrupt table, saving the interrupt vector
- d. identification of the interrupt level, saving the interrupt vector, performing a jump according to the interrupt table

Twoja odpowiedź jest poprawna.

The correct answer is: identification of the interrupt level, saving the interrupt vector, performing a jump with a trace according to the interrupt table

Question 2

Correct

Mark 1.00 out of 1.00

Interrupt mask:

Select one or more:

- a. can unblock interrupts when the interrupt handler completes ✓
- b. causes interrupts to be disabled when an interrupt is accepted ✓
- c. must be part of the status register
- d. can be set and reset by special processor instructions ✓

Twoja odpowiedź jest poprawna.

The correct answers are: causes interrupts to be disabled when an interrupt is accepted, can unblock interrupts when the interrupt handler completes, can be set and reset by special processor instructions

Question 3

Correct

Mark 1.00 out of 1.00

Imprecise interrupts can be handled:

Select one or more:

- a. when new instructions are suspended to be fetched into the pipeline
- b. only when the program allows accepting interrupts
- c. after saving the full state of the pipeline ✓
- d. after clearing the pipeline from the instructions ✓

Twoja odpowiedź jest poprawna.

The correct answers are: after clearing the pipeline from the instructions, after saving the full state of the pipeline

Question 4

Correct

Mark 1.00 out of 1.00

What can happen when a job leaves the critical section and more than 1 task is waiting for the critical section?

Select one or more:

- a. active waiting for a critical section
- b. starvation awaiting a critical section ✓
- c. letting both tasks into the critical section
- d. deadlock waiting for critical section

Twoja odpowiedź jest poprawna.

The correct answer is: starvation awaiting a critical section

Question 5

Incorrect

Mark 0.00 out of 1.00

Separate allocation queues for fixed memory blocks of equal size cause:

Select one or more:

- a. need for compaction ✗
- b. external fragmentation
- c. internal fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers are: internal fragmentation, external fragmentation

Question 6

Correct

Mark 1.00 out of 1.00

Static relocation is performed by:

- a. Special registers (DATUM)
- b. Linker ✓
- c. Paging system
- d. Segment descriptors

The correct answer is: Linker

Question 7

Partially correct

Mark 0.50 out of 1.00

Logical address:

Select one or more:

- a. is converted to a physical address in the address translation mechanism ✓
- b. points to a location in the address space of primary memory
- c. points to a cell in the process address space
- d. is a relative address - relative to the program counter

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: points to a cell in the process address space, is converted to a physical address in the address translation mechanism

Question 8

Incorrect

Mark 0.00 out of 1.00

Virtual memory consists of:

Select one or more:

- a. primary memory and cache ✗
- b. cache memory and mass storage
- c. primary and mass memory
- d. primary memory and cloud storage

Twoja odpowiedź jest niepoprawna.

The correct answer is: primary and mass memory

Question 9

Partially correct

Mark 0.50 out of 1.00

For address translation, the following is used:

Select one or more:

- a. reference and protection bits
- b. index table ✓
- c. associative translation buffer
- d. translation register

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: index table, associative translation buffer

Question 10

Correct

Mark 1.00 out of 1.00

Conditional variables in a monitor

Select one or more:

- a. They are used to suspend processes that cannot run because the conditions for their continuation are not met ✓
- b. They guard access to the critical region of the monitor
- c. They are used to check whether the conditions for process continuation are met

Twoja odpowiedź jest poprawna.

The correct answer is: They are used to suspend processes that cannot run because the conditions for their continuation are not met

Question 11

Incorrect

Mark 0.00 out of 1.00

A multiprogram system is one that, in principle:

Select one or more:

- a. Allows for storing multiple programs in mass memory
- b. Allows for running programs only one after another
- c. It allows for storing many programs in the main memory
- d. Allows for running more than one program at the same time ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: It allows for storing many programs in the main memory

Question 12

Partially correct

Mark 0.50 out of 1.00

How does the operating system call the task completion subroutine?

- 2. sets the trace in the terminating subroutine to the current position ✓
- 1. builds an interrupt vector on the system stack pointing to the terminating subroutine code ✗
- 4. recreates the context programmatically and executes the IRET instruction ✓
- 3. builds the frame of the terminating subroutine on the task stack ✗

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answer is: 2. → sets the trace in the terminating subroutine to the current position, 1. → builds the frame of the terminating subroutine on the task stack, 4. → recreates the context programmatically and executes the IRET instruction, 3. → builds an interrupt vector on the system stack pointing to the terminating subroutine code

Question 13

Incorrect

Mark 0.00 out of 1.00

The sweeping mechanism consists in:

Select one or more:

- a. Merging adjacent free memory blocks
- b. Moving programs around in memory to eliminate fragmentation
- c. Loading pages into the primary memory and sending them to the disk ✗
- d. Loading segments into primary memory and sending them to disk

Twoja odpowiedź jest niepoprawna.

The correct answer is: Loading segments into primary memory and sending them to disk

Question 14

Partially correct

Mark 0.50 out of 1.00

The hardware resources of a computer system are:

Select one or more:

- a. Peripheral devices ✓
- b. Processor time
- c. Virtual memory
- d. Windows on the screen

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Processor time, Peripheral devices

Question 15

Incorrect

Mark 0.00 out of 1.00

In which swapping algorithms is it necessary to collectively clear the M-bits?

Select one or more:

- a. second chance
- b. clock
- c. working set clock
- d. FIFO
- e. no algorithm
- f. LRU ✗
- g. NRU ✗
- h. working set
- i. LFU ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is:

no algorithm

Question 16

Correct

Mark 1.00 out of 1.00

The key in associative memory is:

Select one or more:

- a. The frame number concatenated with the page number
- b. The page number concatenated with the frame number
- c. Frame number
- d. Page number ✓

Twoja odpowiedź jest poprawna.

The correct answer is: Page number

Question 17

Partially correct

Mark 0.50 out of 1.00

The internal state of the file system layer is available for:

- a. OS kernel ✓
- b. Program supervisor layer
- c. Applications
- d. User programs

The correct answers are: OS kernel, Program supervisor layer

Question 18

Incorrect

Mark 0.00 out of 1.00

Dirty frame is:

Select one or more:

- a. candidate to be swapped first
- b. read-only frame, tried to be written to ✗
- c. modified
- d. execute-only frame, tried to be read

Twoja odpowiedź jest niepoprawna.

The correct answer is: modified

Question 19

Partially correct

Mark 0.33 out of 1.00

In UNIX, access rights are specified:

Select one or more:

- a. At the same time, for all files in a given directory owned by the user
- b. Individually for each file ✓
- c. Separately for write, read and execute/search
- d. Separately for the user, the group to which the user belongs and for all others

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Individually for each file, Separately for the user, the group to which the user belongs and for all others, Separately for write, read and execute/search

Question 20

Incorrect

Mark 0.00 out of 1.00

The combination of paging and segmentation consists in:

Select one or more:

- a. identifying segments with pages ✗
- b. dividing pages into segments
- c. the use of a segment table or a pool of segment registers treated as an additional, superior level of paging
- d. Generating a "frame error" interrupt when the frame containing the page does not belong to the current segment

Twoja odpowiedź jest niepoprawna.

The correct answer is: the use of a segment table or a pool of segment registers treated as an additional, superior level of paging

Question 21

Correct

Mark 1.00 out of 1.00

Dynamic relocation requires the use of:

Select one or more:

- a. limit register
- b. program counter
- c. base register (DATUM) ✓
- d. status register

Twoja odpowiedź jest poprawna.

The correct answer is: base register (DATUM)

Question 22

Partially correct

Mark 0.50 out of 1.00

A multiprogram system is one that, in principle:

Select one or more:

- a. It allows for running programs only one after another
- b. It allows for storing many programs in primary memory ✓
- c. Requires dynamic relocation
- d. Requires relocation or equivalent mechanism

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: It allows for storing many programs in primary memory, Requires relocation or equivalent mechanism

Question 23

Correct

Mark 1.00 out of 1.00

Imprecise interrupts are:

Select one or more:

- a. unblocked in any state of the processor, not just between executions of instructions
- b. accepted in any state of the processor, not just between the execution of successive instructions ✓
- c. transferred in any state of the processor, not just between the execution of successive instructions
- d. issued in any state of the processor, not just between the execution of successive instructions

Twoja odpowiedź jest poprawna.

The correct answer is: accepted in any state of the processor, not just between the execution of successive instructions

Question 24

Incorrect

Mark 0.00 out of 1.00

Internal fragmentation can be removed by:

Select one or more:

- a. Movement of allocated blocks in memory
- b. Transferring allocated memory blocks to disk
- c. The use of the "onion" algorithm ✗
- d. Allocating unused portions of memory within blocks to other programs
- e. No response from the others

Twoja odpowiedź jest niepoprawna.

The correct answer is: No response from the others

Question 25

Incorrect

Mark 0.00 out of 1.00

The mechanism for moving programs between primary memory and mass storage is called:

- a. sweeping
- b. leaching
- c. leading out
- d. swapping ✗

The correct answer is: sweeping

Question 26

Correct

Mark 1.00 out of 1.00

Semaphore function is to:

- a. process scheduling
- b. memory management
- c. synchronize processes for better CPU utilization
- d. synchronize critical resources to prevent deadlock ✓

The correct answer is: synchronize critical resources to prevent deadlock

Question 27

Incorrect

Mark 0.00 out of 1.00

Between fork and exec operations, the following operations are performed:

Select one or more:

- a. Allocating the appropriate amount of memory for the program being started ✗
- b. Loading the program to be started into memory
- c. Opening the appropriate input/output files

Twoja odpowiedź jest niepoprawna.

The correct answer is: Opening the appropriate input/output files

Question 28

Correct

Mark 1.00 out of 1.00

"Soft" real-time system:

Select one or more:

- a. Guaranteed response time
- b. Guarantees interrupt handling time
- c. Guarantees average response time ✓

Twoja odpowiedź jest poprawna.

The correct answer is: Guarantees average response time

Question 29

Correct

Mark 1.00 out of 1.00

Context switch is:

Select one or more:

- a. extracode execution
- b. writing registers to the task stack and retrieving them from another task stack ✓
- c. calling the kernel of the operating system
- d. switching to the system stack

Twoja odpowiedź jest poprawna.

The correct answer is: writing registers to the task stack and retrieving them from another task stack

Question 30

Correct

Mark 1.00 out of 1.00

The kernel (microkernel) is responsible for:

Select one or more:

- a. interrupt handling (at the elementary level, then they are passed on to other layers). ✓
- b. task control ✓
- c. synchronization of processes and devices with processes ✓
- d. memory allocation and freeing

Twoja odpowiedź jest poprawna.

The correct answers are: task control, synchronization of processes and devices with processes, interrupt handling (at the elementary level, then they are passed on to other layers).

Question 31

Correct

Mark 1.00 out of 1.00

During the interrupt handling:

Select one or more:

- a. other interrupts are disabled
- b. other interrupts may or may not be accepted at the discretion of the programmer ✓
- c. other interrupts can be accepted

Twoja odpowiedź jest poprawna.

The correct answer is: other interrupts may or may not be accepted at the discretion of the programmer

Question 32

Incorrect

Mark 0.00 out of 1.00

The page fault interrupt is used to:

Select one or more:

- a. Downloads to the memory of the requested page
- b. Whether the frame is empty or contains a page
- c. Detection of an attempt to write outside the address space of the frame
- d. Detection of an access attempt from a frame not allocated to the program ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: Downloads to the memory of the requested page

Question 33

Partially correct

Mark 0.33 out of 1.00

The sweeping criteria include:

Select one or more:

- a. Segment referencing frequency
- b. Analysis of program execution history ✓
- c. Program state
- d. Priority

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Priority, Program state, Analysis of program execution history

Question 34

Correct

Mark 1.00 out of 1.00

The page index table address is stored in:

Select one or more:

- a. segment base register
- b. page register
- c. page table base register ✓
- d. instruction pointer

Twoja odpowiedź jest poprawna.

The correct answer is: page table base register

Question 35

Correct

Mark 1.00 out of 1.00

The number of tasks performed on the system in a given time is:

Select one or more:

- a. response time
- b. efficiency
- c. utilization
- d. throughput ✓

Twoja odpowiedź jest poprawna.

The correct answer is: throughput

Question 36

Correct

Mark 1.00 out of 1.00

By definition, a deadlock is a situation where:

Select one or more:

- a. any greater than zero number of processes are waiting for conditions that cannot be met ✓
- b. exactly one process is waiting for a condition that cannot be met
- c. at least two processes are waiting for conditions that cannot be met
- d. any greater than one number of processes are waiting for conditions that cannot be met

Twoja odpowiedź jest poprawna.

The correct answer is: any greater than zero number of processes are waiting for conditions that cannot be met

Question 37

Correct

Mark 1.00 out of 1.00

SJF selects the task:

- a. who waited the longest in the queue
- b. with the least CPU requirement ✓
- c. which was first placed in the queue
- d. which was last placed in the queue

The correct answer is: with the least CPU requirement

Question 38

Partially correct

Mark 0.50 out of 1.00

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select one or more:

- a. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry ✓
- b. Inserting a new item into the Table of Open Files of the Process
- c. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry, Inserting a new item into the Table of Open Files of the Process

Question 39

Incorrect

Mark 0.00 out of 1.00

Which swapping algorithms use the history of page references (when was it last used or in which time slices was it used)?

Select one or more:

- a. FIFO ✗
- b. second chance
- c. working set
- d. LFU
- e. NRU ✗
- f. clock
- g. LRU
- h. no algorithm

Twoja odpowiedź jest niepoprawna.

The correct answers are: second chance, LRU, LFU, working set

Question 40

Partially correct

Mark 0.25 out of 1.00

Sequence of actions when starting a new task:

1. memory allocation if this is the first task of the program ✗
2. initialize the stack, fill the first frame ✗
3. filling in the descriptor in the kernel ✗
4. instruction to transfer control to the task ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answer is: 1. → filling in the descriptor in the kernel, 2. → memory allocation if this is the first task of the program, 3. → initialize the stack, fill the first frame, 4. → instruction to transfer control to the task

Question 41

Incorrect

Mark 0.00 out of 1.00

The page reference and modification bits are used to:

Select one or more:

- a. address translation support ✗
- b. locality of references detection
- c. checking whether the frame is empty or contains a page
- d. counting references for swapping optimization

Twoja odpowiedź jest niepoprawna.

The correct answer is: counting references for swapping optimization

Question 42

Correct

Mark 1.00 out of 1.00

For concurrency in OS:

- a. special processor support is required
- b. interrupt handling is necessary ✓
- c. timer interrupts are necessary
- d. cache memory is necessary

The correct answer is: interrupt handling is necessary

Question 43

Correct

Mark 1.00 out of 1.00

When the processor is released, the scheduler selects one of the queued processes:

Select one or more:

- a. running
- b. waiting
- c. suspended
- d. ready ✓

Twoja odpowiedź jest poprawna.

The correct answer is: ready

Question 44

Incorrect

Mark 0.00 out of 1.00

The page error (page fault) interrupt is used to:

Select one or more:

- a. checking whether the frame is empty or contains a page
- b. download the requested page to the primary memory
- c. detection of an attempt to write outside the address space of the frame
- d. detection of an access attempt from a frame not allocated to the program X

Twoja odpowiedź jest niepoprawna.

The correct answer is: download the requested page to the primary memory

Question 45

Correct

Mark 1.00 out of 1.00

Logical address is:

Select one or more:

- a. indirect address
- b. physical address
- c. effective address ✓
- d. relative address

Twoja odpowiedź jest poprawna.

The correct answer is: effective address

Question 46

Incorrect

Mark 0.00 out of 1.00

In UNIX, the disk contains the following areas:

Select one or more:

- a. Files data
- b. SuperBlock ✓
- c. I-node table ✓
- d. Directories ✗

Twoja odpowiedź jest niepoprawna.

The correct answers are: SuperBlock, I-node table, Files data

Question 47

Incorrect

Mark 0.00 out of 1.00

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select one or more:

- a. FAT table size
- b. The number of bits of the field describing the size of the file
- c. The size of the disk space
- d. Allocation unit size ✗
- e. The number of bits of the disk address ✗

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

Question 48

Correct

Mark 1.00 out of 1.00

What mechanism is part of time-sharing systems?

- a. long-term scheduler
- b. swapping
- c. medium-term scheduler
- d. short-term scheduler ✓

The correct answer is: short-term scheduler

Question 49

Correct

Mark 1.00 out of 1.00

In what states can a task occur?

Select one or more:

- a. current ✓
- b. resetted
- c. ready ✓
- d. blocked ✓

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

Question 50

Incorrect

Mark 0.00 out of 1.00

Dynamic relocation is performed by:

- a. Loader ✗
- b. Special registers (DATUM)
- c. Segment descriptors
- d. Compiler

The correct answers are: Special registers (DATUM), Segment descriptors

Question 51

Incorrect

Mark 0.00 out of 1.00

What does the file system layer do?

- a. Manages remote files
- b. Manages remote file systems
- c. Manages free storage space
- d. Manages relationships between files ✘
- e. Manages directories

The correct answers are: Manages directories, Manages free storage space

Question 52

Correct

Mark 1.00 out of 1.00

Scheduling algorithms can be:

- a. term changing
- b. interrupting
- c. preemptive ✓
- d. indulgent ✓

The correct answers are: indulgent, preemptive

Question 53

Correct

Mark 1.00 out of 1.00

Which of the following information is stored on task switching?

- a. I/O status information ✓
- b. contents of general purpose registers, program counter, and similar registers available to the program ✓
- c. Contents of the instruction register and similar registers
- d. scheduler data ✓

The correct answers are: I/O status information, scheduler data, contents of general purpose registers, program counter, and similar registers available to the program

Question 54

Correct

Mark 1.00 out of 1.00

If the compiler prepares a program with absolute addresses to be loaded in a fixed address space, it is called:

- a. Static relocation ✓
- b. Static compiling
- c. Dynamic compiling
- d. Dynamic relocation

The correct answer is: Static relocation

Question 55

Correct

Mark 1.00 out of 1.00

Semaphores are used to solve the problem:

- a. process scheduling
- b. Belady problem
- c. mutual exclusion ✓
- d. races

The correct answer is: mutual exclusion

Question 56

Correct

Mark 1.00 out of 1.00

The effective address is at the same time:

Select one or more:

- a. logical address ✓
- b. physical address
- c. relative address
- d. indirect address

Twoja odpowiedź jest poprawna.

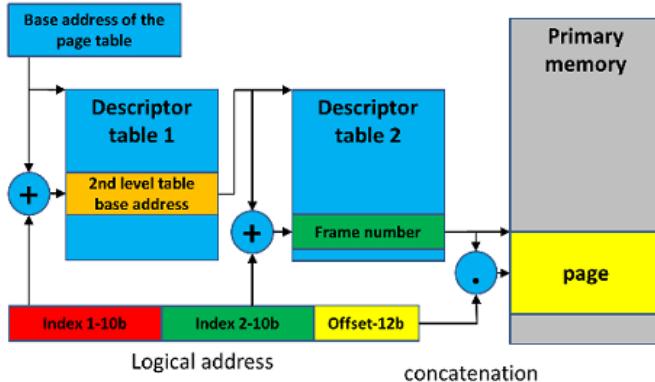
The correct answer is: logical address

Question 57

Incorrect

Mark 0.00 out of 1.00

Two-level TIS - place frame no:



Select one or more:

- a. in the table of the second level - on the right in the figure
- b. in the table of the first level - on the left in the figure
- c. part in the first level table and part in the second level table ✗
- d. none of the above answers

Twoja odpowiedź jest niepoprawna.

The correct answer is: in the table of the second level - on the right in the figure

Question 58

Correct

Mark 1.00 out of 1.00

The environment in which the process is executed includes:

Select one or more:

- a. A set of environment variables ✓
- b. Contents of the interrupt request register
- c. General purpose registers content ✓
- d. The content in the memory management unit
- e. Process address space ✓
- f. Open files ✓

Twoja odpowiedź jest poprawna.

The correct answers are: A set of environment variables, Process address space, General purpose registers content, Open files

Question 59

Incorrect

Mark 0.00 out of 1.00

Which of the following applies to user-level threads?

- a. User-level threads cost no execution time in system mode.
- b. User-level threads can themselves be multi-threaded. ✗
- c. The organization of user-level threads is specific to the operating system.
- d. User-level threads require their descriptors in the kernel.

The correct answer is: User-level threads cost no execution time in system mode.

Question 60

Correct

Mark 1.00 out of 1.00

What mechanism is used to save and restore the task state?

- a. context switch ✓
- b. applications counter
- c. task descriptor
- d. scheduling data

The correct answer is: context switch

Question 61

Correct

Mark 5.00 out of 5.00

What is the average time in the system for tasks in the batch, using SJF algorithm?

The system is equipped with 2 processors

| task | 1 | 2 | 3 | 4 |
|-----------------|-----|-----|-----|-----|
| processing time | 3.9 | 4.6 | 2.1 | 1.2 |

Answer: 3.8 ✓

The correct answer is: 3.8

Question 62

Incorrect

Mark 0.00 out of 5.00

In RAID 4, data is placed in Strips that are "scattered" over the data disks, so that each subsequent strip is on the next data disk, modulo the number of disks. For this, there is a parity disk that holds the parity bits of zeroth bits, first bits, second bits, etc., equal-numbered strips divided by the number of data disks, for example, strips 0-3, 4-7, 8-11, etc.:



the start of strips 0,1,2,3 looks like this:

| | | | | | |
|---|---|---|---|---|-------------|
| 1 | 1 | 1 | 0 | 0 | Parity disk |
| 1 | 1 | 1 | 1 | 1 | Disk 3 |
| 1 | 0 | 0 | 1 | 0 | Disk 2 |
| 1 | 0 | 1 | 1 | 0 | Disk 1 |
| 0 | 1 | 1 | 0 | 0 | Disk 0 |

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 even.

Disk 3 has been corrupted and always reads 1. After replacing the disk with a new one, what values should I put in the strip on disk 3?

Answer: ×

The correct answer is: 10100

Question 63

Incorrect

Mark 0.00 out of 5.00

Assuming that the instruction is 1-15 bytes, the data accessed in the instructions is 2, 4 or 8 bytes, the memory access addressing is on the alignment of a word (2 bytes), and the page size is 4kB, one instruction can cause the following number of exceptions "page fault":

Answer: ×

The correct answer is: 4

WORST-FIT algorithm:

Question 1 Select one or more:

- a.
Requires sorting the cut part into the list of free blocks
- b.
It is designed to reduce external fragmentation
- c.
It allows for fast determining whether there is a free block of the required size
- d.
Requires a descending sort of the list of free blocks

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answers are: Requires a descending sort of the list of free blocks, It allows for fast determining whether there is a free block of the required size, It is designed to reduce external fragmentation, Requires sorting the cut part into the list of free blocks

Question 2

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Question 2 Select one or more:

- a.
address translation, page index tables, "frame error" interrupt
- b.
address translation, page index tables, page reference bits, "frame error" interrupt
- c.
address translation, page index tables, "frame error" interrupt, associative memory, page swapper
- d.
address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: address translation, page index tables, "frame error" interrupt

Question 3

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

For address translation, the following is used:

Question 3Select one or more:

- a.
translation register
- b.
reference and protection bits
- c.
index table
- d.
associative translation buffer

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: index table, associative translation buffer

Question 4

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The hardware resources of a computer system are:

Question 4Select one or more:

- a.
Virtual memory
- b.
Peripheral devices
- c.
Processor time
- d.
Windows on the screen

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Processor time, Peripheral devices

Question 5

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The following paging exceptions allow for returning to the program after they occur:

Question 5 Select one or more:

- a. interrupt on write (IOW)
- b. attempting to write to a write-protected frame
- c. attempt to read from the frame storing the code
- d. page fault

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: page fault, interrupt on write (IOW)

Question 6

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The content of the last (lowest in the hierarchy) page index table is:

Answer: Question 6

Feedback

The correct answer is: frame

Question 7

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Using the Test-And-Set instruction in synchronization:

Question 7 Select one or more:

- a. It requires processes to actively wait
- b. Stops the processor if 0 is read
- c. Requires the use of semaphores
- d. Requires organizing inactive waiting in queues

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

Question 8

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

On UNIX, the number of files is directly limited by:

Question 8Select one or more:

- a.
The size of the space allocated for files
- b.
Allocation unit size
- c.
The number of bits of the field describing the size of the file
- d.
FAT size
- e.
The number of bits of the disk address

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: The size of the space allocated for files

Question 9

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Having two-level page index tables:

Question 9Select one or more:

- a.
the content of the level I table element is concatenated (combined) with the content of the level II table element
- b.
the content of a level I table element is added to the content of a level II table element
- c.
the content of a level I table element points to a level II table
- d.
the content of a level I table element is an index in a level II table

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: the content of a level I table element points to a level II table

Question 10

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Which swapping algorithms use information about a reference to pages in the last k periods of time?

Question 10Select one or more:

- a. FIFO
- b. working set clock
- c. optimal
- d. working set
- e. LRU
- f. drugiej szansy
- g. LFU
- h. no algorithm
- i. NRU

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

Question 11

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

When a suspended program is moved to auxiliary memory, its process state is called:

Question 11Answer

- a.
rinsed out
- b.
swept away
- c.
exchanged
- d.
moved out

Feedback

The correct answer is: swept away

Question 12

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The common allocation queue to fixed blocks of memory of equal size causes:

Question 12Select one or more:

- a.
need for compaction
- b.
external fragmentation
- c.
internal fragmentation

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: internal fragmentation

Question 13

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

The effective address is also:

Question 13Select one or more:

- a.
Indirect address
- b.
Absolute address
- c.
Logical address

d.

Physical address

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Logical address

Question 14

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

In which swapping algorithms is it necessary to collectively clear the M-bits?

Question 14Select one or more:

- a. second chance
- b. NRU
- c. LFU
- d. no algorithm
- e. LRU
- f. working set
- g. working set clock
- h. clock
- i. FIFO

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is:

no algorithm

Question 15

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Dynamic relocation requires the use of:

Question 15 Select one or more:

- a.
limit register
- b.
base register (DATUM)
- c.
status register
- d.
program counter

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: base register (DATUM)

Question **16**

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

In UNIX, access rights are attributes:

Question 16 Select one or more:

- a.
An entry in the I-node table
- b.
User descriptor
- c.
A special table specifying access rights
- d.
A directory entry for a file

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: An entry in the I-node table

Question **17**

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Which of the following facilities or abilities are required to provide mutual exclusion support?

Question 17Select one or more:

- a.
A task that is performed outside the critical section must not affect the behavior of a task in the critical section.
- b.
The relative speeds of the tasks must be taken into account.
- c.
The task stays in its critical section only for a finite amount of time.
- d.
Task scheduling must be considered.

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: A task that is performed outside the critical section must not affect the behavior of a task in the critical section., The task stays in its critical section only for a finite amount of time.

Question 18

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

How is exception identification performed?

Question 18Select one or more:

- a.
the specification of hardware interrupts and errors is given over the data bus
- b.
the specification of hardware interrupts and traps is given over the data bus
- c.
all exceptions are specified using the data bus
- d.
the specification of hardware interrupts is given over the data bus

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: the specification of hardware interrupts is given over the data bus

Question 19

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Paging is in thrashing if:

Question 19Answer

- a.
the system spends less time paging than execution
- b.
page cannot be swapped
- c.
the system spends more time paging than execution
- d.
page faults occur

Feedback

The correct answer is: the system spends more time paging than execution

Question 20

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Allocation unit for file storage:

Question 20Answer

- a.
may differ between files in a partition
- b.
it should be selected to match the characteristics of the data
- c.
may be a variable in a partition
- d.
may vary between partitions

Feedback

The correct answer is: may vary between partitions

Question 21

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

If a linker prepares a program with absolute addresses to be loaded in a fixed address space, it is called:

Question 21Answer

- a.
Dynamic linking
- b.
Dynamic relocation

- c.
Static linking
- d.
Static relocation

Feedback

The correct answer is: Static relocation

Question 22

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

At the blocked state is a process that:

Question 22Select one or more:

- a.
occupies a processor
- b.
waits for a processor
- c.
fills the processor idle time
- d.
waits for an I/O operation to complete

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: waits for an I/O operation to complete

Question 23

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Question 23Select one or more:

- a.
priority
- b.
FCFS
- c.
time slicing
- d.

SJF

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: SJF

Question 24

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Allocation unit for storing files:

Question 24Answer

a.

may vary between partitions

b.

it should be selected to match the characteristics of the data

c.

must be constant across the disk partition

d.

may differ between files in a partition

Feedback

The correct answers are: must be constant across the disk partition, may vary between partitions

Question 25

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Is IOW bit:

Question 25Select one or more:

a.

protection bit

b.

enable bit

c.

reference bit

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: protection bit

Question 26

Correct

Mark 1.00 out of 1.00

[Flag question](#)**Question text**

The Test-And-Set or Compare-And-Swap instruction has the following characteristics:

Question 26Select one or more:

a.

It is possible to use only in 1-processor systems

b.

Requires active waiting from tasks

c.

It is possible to deadlock with TAS/CAS operations on multiple variables

d.

It is possible to use only on computers with common memory

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Requires active waiting from tasks, It is possible to use only on computers with common memory, It is possible to deadlock with TAS/CAS operations on multiple variables

Question 27

Correct

Mark 1.00 out of 1.00

[Flag question](#)**Question text**

Collective interrupt mask is:

Question 27Select one or more:

a.

a register that blocks or unblocks all interrupts

b.

a combinational circuit that calculates the number of the interrupt received

c.

register in which the address of the interrupt controller is stored

d.

a register that blocks or unlocks a non-maskable interrupt

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: a register that blocks or unblocks all interrupts

Question 28

Incorrect
Mark 0.00 out of 1.00

Flag question

Question text

Which swapping algorithms can be implemented based on hardware support in the form of a collective reading of reference bits and collective clearing of these bits?

Question 28Select one or more:

- a.
LRU
- b.
FIFO
- c.
working set clock
- d.
optimal
- e.
no algorithm
- f.
LFU
- g.
NRU
- h.
working set
- i.
second chance

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: LRU, LFU

Question 29

Correct
Mark 1.00 out of 1.00

Flag question

Question text

The scheduler decisions take the form:

Question 29Select one or more:

- a.
change from active to ready state
- b.
change from waiting to ready state

- c.
change from ready to active state
- d.
change from waiting to active state

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: change from ready to active state

Question 30

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Address translation aims to:

Question 30Select one or more:

- a.
Generating a "frame error" interrupt when the page is out of memory
- b.
detecting the phenomenon of locality of references
- c.
converting a virtual address to a physical one
- d.
converting a physical address to a virtual one

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: converting a virtual address to a physical one

Question 31

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

Fragmentation is implied by:

Question 31Select one or more:

- a.
Internal by partitioning into quantized blocks
- b.
External by resizing allocated blocks
- c.
Internal by paging

d.

External by freeing blocks in a deallocation order not reverse to allocation

e.

External by segmentation

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: Internal by paging, Internal by partitioning into quantized blocks, External by freeing blocks in a deallocation order not reverse to allocation, External by resizing allocated blocks

Question 32

Correct

Mark 1.00 out of 1.00

Flag question

Question text

"Soft" real-time system:

Question 32Select one or more:

a.

Guarantees interrupt handling time

b.

Guarantees average response time

c.

Guaranteed response time

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Guarantees average response time

Question 33

Correct

Mark 1.00 out of 1.00

Flag question

Question text

During the interrupt handling:

Question 33Select one or more:

a.

other interrupts may or may not be accepted at the discretion of the programmer

b.

other interrupts can be accepted

c.

other interrupts are disabled

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: other interrupts may or may not be accepted at the discretion of the programmer

Question 34

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

A multiprogram system is one that, in principle:

Question 34Select one or more:

- a.
Requires relocation or equivalent mechanism
- b.
It allows for storing many programs in primary memory
- c.
Requires dynamic relocation
- d.
It allows for running programs only one after another

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: It allows for storing many programs in primary memory, Requires relocation or equivalent mechanism

Question 35

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

A multiuser system is one that, in principle:

Question 35Select one or more:

- a.
Must be concurrent
- b.
Requires the use of timer interrupts
- c.
Must be multi-threaded
- d.
Allows multiple processes to actually run simultaneously

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: Must be concurrent, Requires the use of timer interrupts

Question 36

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The scheduling goal, which is to occupy processors as efficiently as possible, is:

Question 36Select one or more:

- a.
response time
- b.
throughput
- c.
utilization

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: utilization

Question 37

Correct

Mark 1.00 out of 1.00

Flag question

Question text

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

Question 37Answer

- a.
traffic control
- b.
task timetable management
- c.
task management
- d.
task scheduling

Feedback

The correct answer is: task scheduling

Question 38

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Which of the following statements is true for system level threads?

Question 38Answer

a.

Multithreaded applications cannot use multiprocessing.

b.

User-level threads can be synchronized by the kernel.

c.

The threading implementation at the kernel level is done by the thread library attached to the program.

d.

Kernel-level threads require their descriptors in the kernel.

Feedback

The correct answer is: Kernel-level threads require their descriptors in the kernel.

Question 39

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Interrupt mask:

Question 39Select one or more:

a.

causes interrupts to be disabled when an interrupt is accepted

b.

must be part of the status register

c.

can be set and reset by special processor instructions

d.

can unblock interrupts when the interrupt handler completes

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: causes interrupts to be disabled when an interrupt is accepted, can unblock interrupts when the interrupt handler completes, can be set and reset by special processor instructions

Question 40

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

What does the kernel do when there is no task (process) to run?

Question 40Select one or more:

- a.
switches off the power supply
- b.
resets the entire system
- c.
starts the idle task
- d.
executes an infinite loop in the kernel until a task arrives

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: starts the idle task

Question 41

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Is memory protection useless in a non-concurrent system?

Question 41Answer

True

False

Feedback

The correct answer is 'False'.

Question 42

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

The program supervisor layer in the operating system has the following role:

Question 42Select one or more:

- a.
Deals with the management of primary memory (memory allocation to programs)
- b.
Intercepts all program system calls and routes them to the appropriate layers
- c.
Runs programs
- d.

Deals with buffering data written and read from mass memory

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Intercepts all program system calls and routes them to the appropriate layers, Runs programs, Deals with the management of primary memory (memory allocation to programs)

Question 43

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

A process always transitions from the "user" state to the "system" state as a result of:

Question 43Select one or more:

- a.
Debugger trap
- b.
Hardware interrupt
- c.
Process suspension
- d.
A software interrupt that calls a system function

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: A software interrupt that calls a system function, Debugger trap

Question 44

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

The key in associative memory is:

Question 44Select one or more:

- a.
The page number concatenated with the frame number
- b.
The frame number concatenated with the page number
- c.
Frame number
- d.
Page number

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Page number

Question 45

Correct

Mark 1.00 out of 1.00

Flag question

Question text

At the ready state is a process that:

Question 45Select one or more:

- a. fills the processor idle time
- b. occupies a processor
- c. waits for a processor
- d. waits for an I/O operation to complete

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: waits for a processor

Question 46

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Between fork and exec operations, the following operations are performed:

Question 46Select one or more:

- a. Loading the program to be started into memory
- b. Allocating the appropriate amount of memory for the program being started
- c. Opening the appropriate input/output files

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Opening the appropriate input/output files

Question 47

Correct

Mark 1.00 out of 1.00

Flag question

Question text

How does the operating system call the task completion subroutine?

- Answer 1 Question 47 Choose...sets the trace in the terminating subroutine to the current position
4. builds an interrupt vector on the system stack pointing to the terminating subroutine code
builds the frame of the terminating subroutine on the task stack
recreates the context programmatically and executes the IRET instruction

- Answer 2 Question 47 Choose...sets the trace in the terminating subroutine to the current position
2. builds an interrupt vector on the system stack pointing to the terminating subroutine code
builds the frame of the terminating subroutine on the task stack
recreates the context programmatically and executes the IRET instruction

- Answer 3 Question 47 Choose...sets the trace in the terminating subroutine to the current position
1. builds an interrupt vector on the system stack pointing to the terminating subroutine code
builds the frame of the terminating subroutine on the task stack
recreates the context programmatically and executes the IRET instruction

- Answer 4 Question 47 Choose...sets the trace in the terminating subroutine to the current position
3. builds an interrupt vector on the system stack pointing to the terminating subroutine code
builds the frame of the terminating subroutine on the task stack
recreates the context programmatically and executes the IRET instruction

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: 4. → recreates the context programmatically and executes the IRET instruction, 2. → sets the trace in the terminating subroutine to the current position, 1. → builds the frame of the terminating subroutine on the task stack, 3. → builds an interrupt vector on the system stack pointing to the terminating subroutine code

Question 48

Partially correct

Mark 0.50 out of 1.00

Flag question

Question text

Which of the following memory allocation schemes causes external fragmentation?

Question 48 Answer

- a.
Multiple contiguous fixed partitions of equal size
- b.
Paging
- c.
Segmentation
- d.
Multiple contiguous fixed partitions of various sizes

Feedback

The correct answers are: Segmentation, Multiple contiguous fixed partitions of various sizes

Question 49

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

The kernel is _____ user-level threads.

Question 49Answer

- a.
unaware
- b.
aware
- c.
part
- d.
creator

Feedback

The correct answer is: unaware

Question 50

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Context switch is:

Question 50Select one or more:

- a.
calling the kernel of the operating system
- b.
switching to the system stack
- c.
extracode execution
- d.
writing registers to the task stack and retrieving them from another task stack

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: writing registers to the task stack and retrieving them from another task stack

Question 51

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Operation V on a raised binary semaphore:

Question 51 Select one or more:

a.

It does not change the value of the semaphore

b.

Increases semaphore value by 1

c.

It is stored in order to be able to perform as many operations P as there were V

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: It does not change the value of the semaphore

Question 52

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

The combination of paging and segmentation consists in:

Question 52 Select one or more:

a.

identifying segments with pages

b.

the use of a segment table or a pool of segment registers treated as an additional, superior level of paging

c.

Generating a "frame error" interrupt when the frame containing the page does not belong to the current segment

d.

dividing pages into segments

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: the use of a segment table or a pool of segment registers treated as an additional, superior level of paging

Question 53

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Scheduling algorithms can be:

Question 53Answer

- a. indulgent
- b. interrupting
- c. term changing
- d. preemptive

Feedback

The correct answers are: indulgent, preemptive

Question **54**

Incorrect

Mark 0.00 out of 1.00

[Flag question](#)

Question text

MMU uses index tables to:

Question 54Select one or more:

- a. generate an effective address
- b. generate a relative address
- c. generate a logical address
- d. generate a physical address

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: generate a physical address

Question **55**

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

When is the scheduler called?

Question 55Select one or more:

- a.

- at the request of a user task
- b.
when the scheduler decides itself
- c.
at the end of the execution of each kernel procedure
- d.
at the start of execution of each kernel procedure

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: at the end of the execution of each kernel procedure

Question 56

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

After performing the mount(/dev/hd5,/usr/x/bin/hd5) operation, the file /usr/z/a on the mounted disk should be referenced by:

Question 56 Select one or more:

- a.
`/dev/hd5/usr/z/a`
- b.
`/usr/x/bin/hd5/usr/z/a`
- c.
`/usr/x/bin/dev/hd5/usr/z/a`

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: `/usr/x/bin/hd5/usr/z/a`

Question 57

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

Interrupt vector is saved in a case of:

Question 57 Select one or more:

- a.
jump with trace
- b.
accepting a non-maskable interrupt
- c.

subroutine call

d.

accepting a hardware interrupt

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: accepting a hardware interrupt, accepting a non-maskable interrupt, jump with trace

Question 58

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

What are the functions of the kernel?

Question 58Answer

a.

File management

b.

Memory management

c.

Interrupt handling

d.

Program management

Feedback

The correct answer is: Interrupt handling

Question 59

Correct

Mark 1.00 out of 1.00

[Flag question](#)

Question text

By definition, a deadlock is a situation where:

Question 59Select one or more:

a.

at least two processes are waiting for conditions that cannot be met

b.

any greater than zero number of processes are waiting for conditions that cannot be met

c.

any greater than one number of processes are waiting for conditions that cannot be met

d.

exactly two processes are waiting for conditions that cannot be met

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: any greater than zero number of processes are waiting for conditions that cannot be met

Question 60

Correct

Mark 1.00 out of 1.00

Flag question

Question text

In a concurrent environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

Question 60Answer

a.

task scheduling

b.

traffic management

c.

task management

d.

task timetable planning

Feedback

The correct answer is: task scheduling

Question 61

Correct

Mark 5.00 out of 5.00

Flag question

Question text

What is the average time in the system for tasks in the batch, using SJF algorithm?

| | | | | |
|-----------------|-----|-----|-----|-----|
| task | 1 | 2 | 3 | 4 |
| processing time | 3.1 | 6.7 | 2.8 | 1.1 |

Answer:Question 61

Feedback

The correct answer is: 6.4

Question 62

Incorrect

Mark 0.00 out of 5.00

Flag question

Question text

In RAID 4, data is placed in Strips that are "scattered" over the data disks, so that each subsequent strip is on the next data disk, modulo the number of disks. For this, there is a parity disk that holds the parity bits of zeroth bits, first bits, second bits, etc., equal-numbered strips divided by the number of data disks, for example, strips 0-3, 4-7, 8-11, etc.:

the start of strips 0,1,2,3 looks like this:

| | | | | | |
|---|---|---|---|---|-------------|
| 0 | 1 | 0 | 0 | 1 | Parity disk |
| 0 | 0 | 0 | 0 | 0 | Disk 3 |
| 1 | 0 | 1 | 1 | 0 | Disk 2 |
| 1 | 1 | 0 | 0 | 1 | Disk 1 |
| 0 | 1 | 1 | 0 | 0 | Disk 0 |

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odd.

Disk 3 has been damaged and reads only 0. After replacing the disk with a new one, what values should be put in the strip on disk 3?

Answer:Question 62

Feedback

The correct answer is: 10101

Question **63**

Incorrect

Mark 0.00 out of 5.00

Flag question

Question text

Assuming memory cells are 1-byte, the page number in the address field is 12 bits, the offset is 12 bits, the frame number is 10 bits, and all entries in the TIS page index table are on a 16-bit word boundary, enter:

- the maximum size of the program's virtual memory in MB

Answer:Question 63

Feedback

The correct answer is: 4

| | |
|---------------------|-----------------------------------|
| Started on | Wednesday, 19 June 2024, 12:16 PM |
| State | Finished |
| Completed on | Wednesday, 19 June 2024, 1:40 PM |
| Time taken | 1 hour 23 mins |
| Marks | 39.83/75.00 |
| Grade | 21.24 out of 40.00 (53.11%) |

Question 1

Correct

Mark 1.00 out of 1.00

The conversion of the effective address to the physical one takes place:

Select one or more:

- a. in the arithmetic-logic unit
- b. in the sequencer
- c. in the bus arbiter
- d. in the memory management unit ✓

Twoja odpowiedź jest poprawna.

The correct answer is: in the memory management unit

Question 2

Incorrect

Mark 0.00 out of 1.00

The following situations trigger "error" exceptions:

Select one or more:

- a. memory reference beyond limit register value ✓
- b. a reference to memory that is not in the program address space ✓
- c. memory reference in the area of the page that is not in memory ✗
- d. an attempt to execute an instruction from the area of the page for which the "no code" bit was set ✓

Twoja odpowiedź jest niepoprawna.

The correct answers are: a reference to memory that is not in the program address space, memory reference beyond limit register value, an attempt to execute an instruction from the area of the page for which the "no code" bit was set

Question 3

Correct

Mark 1.00 out of 1.00

Consider the following sequence of address references:

123, 215, 600, 1234, 76, 96.

If the page size is 100, the order of page references is as follows:

- a. 0,2,6,12,0,0
- b. 1,2,6,12
- c. 12,21,60,123,7,9
- d. 1,2,6,12,0,0 ✓

The correct answer is: 1,2,6,12,0,0

Question 4

Incorrect

Mark 0.00 out of 1.00

FIRST-FIT algorithm:

Select one or more:

- a. Requires an ascending sorting of the list of free blocks
- b. Avoids external fragmentation
- c. Causes external fragmentation ✓
- d. It allows for fast determining whether there is a free block of the required size ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: Causes external fragmentation

Question 5

Incorrect

Mark 0.00 out of 1.00

The multi-level interrupt controller includes:

Select one or more:

- a. Collective interrupt mask ✓
- b. The register of interrupts being serviced ✗
- c. Interrupt request register ✓
- d. Individual interrupt mask ✓

Twoja odpowiedź jest niepoprawna.

The correct answers are: Collective interrupt mask, Interrupt request register, Individual interrupt mask

Question 6

Correct

Mark 1.00 out of 1.00

Which of the following facilities or abilities are required to provide mutual exclusion support?

Select one or more:

- a. A task that is performed outside the critical section must not affect the behavior of a task in the critical section. ✓
- b. The relative speeds of the tasks must be taken into account.
- c. The task stays in its critical section only for a finite amount of time. ✓
- d. Task scheduling must be considered.

Twoja odpowiedź jest poprawna.

The correct answers are: A task that is performed outside the critical section must not affect the behavior of a task in the critical section., The task stays in its critical section only for a finite amount of time.

Question 7

Incorrect

Mark 0.00 out of 1.00

Conditional variables in a monitor

Select one or more:

- a. They are used to check whether the conditions for process continuation are met ✗
- b. They guard access to the critical region of the monitor
- c. They are used to suspend processes that cannot run because the conditions for their continuation are not met ✓

Twoja odpowiedź jest niepoprawna.

The correct answer is: They are used to suspend processes that cannot run because the conditions for their continuation are not met

Question 8

Correct

Mark 1.00 out of 1.00

When an exception is raised in user mode, the operating system switches to the kernel system stack, and what happens when an exception is raised in system mode?

Select one or more:

- a. initializes the kernel system stack from the scratch
- b. switches back to the application program stack
- c. switches to the next kernel system stack
- d. nothing special, it builds the context on the kernel system stack ✓

Twoja odpowiedź jest poprawna.

The correct answer is: nothing special, it builds the context on the kernel system stack

Question 9

Incorrect

Mark 0.00 out of 1.00

In which swapping algorithms is it necessary to collectively clear the M-bits?

Select one or more:

- a. LRU ✗
- b. working set clock ✗
- c. second chance ✗
- d. NRU ✗
- e. LFU
- f. no algorithm
- g. working set ✗
- h. clock ✗
- i. FIFO

Twoja odpowiedź jest niepoprawna.

The correct answer is:

no algorithm

Question 10

Partially correct

Mark 0.50 out of 1.00

System/user threads:

Select one or more:

- a. System level thread descriptors are stored in the operating system kernel. ✓
- b. User-level threads share the same execution context.
- c. User-level threads share the same stack.

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: System level thread descriptors are stored in the operating system kernel., User-level threads share the same execution context.

Question 11

Partially correct

Mark 0.50 out of 1.00

Sequence of actions when starting a new task:

1. memory allocation if this is the first task of the program ✗
2. filling in the descriptor in the kernel ✗
3. initialize the stack, fill the first frame ✓
4. instruction to transfer control to the task ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answer is: 1. → filling in the descriptor in the kernel, 2. → memory allocation if this is the first task of the program, 3. → initialize the stack, fill the first frame, 4. → instruction to transfer control to the task

Question 12

Incorrect

Mark 0.00 out of 1.00

Which scheduling is used to organize concurrency?

Select one or more:

- a. short-term ✓
- b. long-term
- c. medium-term ✗
- d. preempting ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: short-term

Question 13

Incorrect

Mark 0.00 out of 1.00

During the interrupt handling:

Select one or more:

- a. other interrupts are disabled ✗
- b. other interrupts may or may not be accepted at the discretion of the programmer ✓
- c. other interrupts can be accepted ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: other interrupts may or may not be accepted at the discretion of the programmer

Question 14

Correct

Mark 1.00 out of 1.00

Which of the following memory allocation schemes causes external fragmentation?

- a. Sweeping ✓
- b. Multiple contiguous fixed partitions of equal size
- c. Paging
- d. Multiple contiguous fixed partitions of various sizes ✓

The correct answers are: Sweeping, Multiple contiguous fixed partitions of various sizes

Question 15

Partially correct

Mark 0.50 out of 1.00

The direct resume rule means that:

Select one or more:

- a. The resuming process loses the critical region
- b. The resuming process applies for the critical region just like other processes waiting to enter the critical region ✓
- c. The resuming process gets a critical region after the resumed process exits the critical region

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: The resuming process loses the critical region, The resuming process applies for the critical region just like other processes waiting to enter the critical region

Question 16

Incorrect

Mark 0.00 out of 1.00

Which technique was introduced because a single task could occupy both the CPU and I/O devices?

Select one or more:

- a. Interrupts
- b. Buffering
- c. Multiprogramming ✗
- d. Preemptive scheduling ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: Interrupts

Question 17

Incorrect

Mark 0.00 out of 1.00

The page reference and modification bits are used to:

Select one or more:

- a. Indication whether the frame is empty or contains a page
- b. Detection of locality of references ✗
- c. Counting references to optimize exchanges ✓
- d. Address translation support

Twoja odpowiedź jest niepoprawna.

The correct answer is: Counting references to optimize exchanges

Question 18

Partially correct

Mark 0.50 out of 1.00

Which mechanisms are supported by the phenomenon of locality of references?

Select one or more:

- a. page swapping ✓
- b. multilevel page index tables
- c. address translation
- d. reverse page index tables
- e. associative memory of page references ✓

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

Question 19

Incorrect

Mark 0.00 out of 1.00

In operating system:

Select one or more:

- a. timer interrupt may not be handled
- b. the decision to handle an exception or not is made dynamically ✗
- c. every exception must be handled
- d. some exceptions are handled, some not ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: every exception must be handled

Question 20

Correct

Mark 1.00 out of 1.00

The operating system plays the following role in a computer system:

Select one or more:

- a. Create a concurrent environment ✓
- b. computer system resource management ✓
- c. creating abstraction (virtualization) of hardware ✓
- d. relational database management

Twoja odpowiedź jest poprawna.

The correct answers are: Create a concurrent environment, computer system resource management, creating abstraction (virtualization) of hardware

Question 21

Incorrect

Mark 0.00 out of 1.00

Scheduling disk access involves deciding on the following:

- a. the order in which disk access requests should be handled ✓
- b. about the physical location of the files
- c. which drive should be used next ✗
- d. about the type of disks the system should have

The correct answer is: the order in which disk access requests should be handled

Question 22

Incorrect

Mark 0.00 out of 1.00

The scheduler decisions take the form:

Select one or more:

- a. change from active to ready state ✗
- b. change from ready to active state ✓
- c. change from waiting to ready state ✗
- d. change from ready to waiting state ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: change from ready to active state

Question 23

Partially correct

Mark 0.50 out of 1.00

What mechanism is part of batch systems?

- a. high-level scheduler ✓
- b. no scheduler is needed
- c. medium-level scheduler
- d. low-level scheduler

The correct answers are: high-level scheduler, medium-level scheduler

Question 24

Incorrect

Mark 0.00 out of 1.00

A multiprogram system is one that, in principle:

Select one or more:

- a. It allows you to store many programs in mass memory ✗
- b. It allows for running programs only one after another
- c. It allows for storing many programs in primary memory ✓
- d. Allows more than one program to run simultaneously ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: It allows for storing many programs in primary memory

Question 25

Correct

Mark 1.00 out of 1.00

The operating system plays the following role in a computer system:

Select one or more:

- a. compiling and running programs
- b. computer system resource management ✓
- c. Create a concurrent environment ✓
- d. relational database management

Twoja odpowiedź jest poprawna.

The correct answers are: Create a concurrent environment, computer system resource management

Question 26

Incorrect

Mark 0.00 out of 1.00

What does the file system layer do?

- a. Manages remote file systems
- b. Manages remote files
- c. Manages files ✓
- d. Manages relationships between files ✗

The correct answer is: Manages files

Question 27

Incorrect

Mark 0.00 out of 1.00

The system stack must provide space for:

Select one or more:

- a. CPU registers ✗
- b. Processor registers in as many copies as there are devices in the system +1
- c. Processor registers in as many copies as there are interrupt lines and possible software interrupts ✗
- d. Processor registers in as many copies as there are interrupt lines +1

Twoja odpowiedź jest niepoprawna.

The correct answer is: Processor registers in as many copies as there are interrupt lines +1

Question 28

Incorrect

Mark 0.00 out of 1.00

A multiuser system is one that, in principle:

Select one or more:

- a. Must be concurrent ✓
- b. Allows multiple processes to actually run simultaneously ✗
- c. Requires the use of timer interrupts ✓
- d. Must be multi-threaded

Twoja odpowiedź jest niepoprawna.

The correct answers are: Must be concurrent, Requires the use of timer interrupts

Question 29

Correct

Mark 1.00 out of 1.00

A typical collection of program segments includes (some of them can be combined):

Select one or more:

- a. stack segment ✓
- b. Code segment ✓
- c. data segment ✓
- d. processor registers segment
- e. page index tables segment

Twoja odpowiedź jest poprawna.

The correct answers are: Code segment, data segment, stack segment

Question 30

Incorrect

Mark 0.00 out of 1.00

In UNIX, the disk contains the following areas:

Select one or more:

- a. Directories ✕
- b. I-node table ✓
- c. SuperBlock ✓
- d. Files data ✓

Twoja odpowiedź jest niepoprawna.

The correct answers are: SuperBlock, I-node table, Files data

Question 31

Incorrect

Mark 0.00 out of 1.00

A single-program system is one that, in principle:

Select one or more:

- a. Runs on a uniprocessor computer ✕
- b. Needs relocation
- c. Allows for storing only one program in primary memory ✓
- d. Allows for storing only one program in mass memory

Twoja odpowiedź jest niepoprawna.

The correct answer is: Allows for storing only one program in primary memory

Question 32

Correct

Mark 1.00 out of 1.00

Which task queue can never be empty?

Select one or more:

- a. swept away tasks
- b. running tasks ✓
- c. ready tasks
- d. suspended tasks

Twoja odpowiedź jest poprawna.

The correct answer is: running tasks

Question 33

Incorrect

Mark 0.00 out of 1.00

Semaphore function is to:

- a. memory management
- b. synchronize critical resources to prevent deadlock ✓
- c. synchronize processes for better CPU utilization ✗
- d. process scheduling

The correct answer is: synchronize critical resources to prevent deadlock

Question 34

Incorrect

Mark 0.00 out of 1.00

Which swapping algorithms use the current time slice number?

Select one or more:

- a. NRU
- b. clock
- c. FIFO
- d. second chance
- e. no algorithm
- f. LFU
- g. working set ✓
- h. optimal
- i. LRU ✗

Twoja odpowiedź jest niepoprawna.

The correct answers are: second chance, working set

Question 35

Correct

Mark 1.00 out of 1.00

Page Index Table address is kept in:

Select one or more:

- a. program counter
- b. stack pointer
- c. page table base register ✓
- d. page register

Twoja odpowiedź jest poprawna.

The correct answer is: page table base register

Question 36

Partially correct

Mark 0.33 out of 1.00

Which of the following information is stored on task switching?

- a. contents of general purpose registers, program counter, and similar registers available to the program ✓
- b. Contents of the instruction register and similar registers
- c. I/O status information
- d. scheduler data

The correct answers are: I/O status information, scheduler data, contents of general purpose registers, program counter, and similar registers available to the program

Question 37

Incorrect

Mark 0.00 out of 1.00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select one or more:

- a. address translation, page index tables, page reference bits, "frame error" interrupt ✗
- b. address translation, page index tables, "frame error" interrupt
- c. address translation, page index tables, "frame error" interrupt, associative memory, page swapper ✗
- d. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory ✗

Twoja odpowiedź jest niepoprawna.

The correct answer is: address translation, page index tables, "frame error" interrupt

Question 38

Correct

Mark 1.00 out of 1.00

The relocating loader generates addresses as the program is loaded into primary memory. These addresses are:

- a. Relative
- b. Absolute ✓
- c. Symbolic
- d. Indirect

The correct answer is: Absolute

Question 39

Incorrect

Mark 0.00 out of 1.00

When starting a program, how is control passed to it from the operating system?

Select one or more:

- a. jump with trace
- b. extracode
- c. jump ✗
- d. return from interrupt handler IRET ✓

Twoja odpowiedź jest niepoprawna.

The correct answer is: return from interrupt handler IRET

Question 40

Partially correct

Mark 0.50 out of 1.00

What does the file system layer do?

- a. Manages remote files
- b. Manages files ✓
- c. Manages remote file systems
- d. Tracks the status of information

The correct answers are: Tracks the status of information, Manages files

Question 41

Correct

Mark 1.00 out of 1.00

What type of code can be executed simultaneously on multiple processors?

Select one or more:

- a. dynamically relocated
- b. self-modifying
- c. reentrant ✓
- d. binary

Twoja odpowiedź jest poprawna.

The correct answer is: reentrant

Question 42

Correct

Mark 1.00 out of 1.00

The page index table address is stored in:

Select one or more:

- a. page table base register ✓
- b. instruction pointer
- c. segment base register
- d. page register

Twoja odpowiedź jest poprawna.

The correct answer is: page table base register

Question 43

Correct

Mark 1.00 out of 1.00

Virtual memory consists of:

Select one or more:

- a. primary memory and cloud storage
- b. cache memory and mass storage
- c. primary memory and cache
- d. primary and mass memory ✓

Twoja odpowiedź jest poprawna.

The correct answer is: primary and mass memory

Question 44

Correct

Mark 1.00 out of 1.00

Dynamic relocation is performed by:

- a. Linker
- b. Loader
- c. Compiler
- d. Special registers (DATUM) ✓

The correct answer is: Special registers (DATUM)

Question 45

Correct

Mark 1.00 out of 1.00

Compaction solves the problem:

Select one or more:

- a. external fragmentation ✓
- b. internal fragmentation
- c. page fault
- d. swapping

Twoja odpowiedź jest poprawna.

The correct answer is: external fragmentation

Question 46

Incorrect

Mark 0.00 out of 1.00

Internal fragmentation can be removed by:

Select one or more:

- a. Movement of allocated blocks in memory
- b. Transferring allocated memory blocks to disk
- c. The use of the "onion" algorithm
- d. Allocating unused portions of memory within blocks to other programs ✗
- e. No response from the others

Twoja odpowiedź jest niepoprawna.

The correct answer is: No response from the others

Question 47

Incorrect

Mark 0.00 out of 1.00

The combination of paging and segmentation consists in:

Select one or more:

- a. identifying segments with pages ✗
- b. dividing pages into segments
- c. the use of a segment table or a pool of segment registers treated as an additional, superior level of paging ✓
- d. Generating a "frame error" interrupt when the frame containing the page does not belong to the current segment

Twoja odpowiedź jest niepoprawna.

The correct answer is: the use of a segment table or a pool of segment registers treated as an additional, superior level of paging

Question 48

Correct

Mark 1.00 out of 1.00

Scheduling algorithms can be:

- a. preemptive ✓
- b. interrupting
- c. indulgent ✓
- d. term changing

The correct answers are: indulgent, preemptive

Question 49

Correct

Mark 1.00 out of 1.00

Discontinuous allocation is the result of:

Select one or more:

- a. relocation
- b. segmantation ✓
- c. compaction
- d. paging ✓

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

Question 50

Correct

Mark 1.00 out of 1.00

Multi-threading on a multi-processor machine:

- a. increases concurrency ✓
- b. can increase or decrease concurrency
- c. does not affect concurrency
- d. reduces concurrency

The correct answer is: increases concurrency

Question 51

Correct

Mark 1.00 out of 1.00

The environment in which the process is executed includes:

Select one or more:

- a. A set of environment variables ✓
- b. The content in the memory management unit
- c. Process address space ✓
- d. Contents of the interrupt request register

Twoja odpowiedź jest poprawna.

The correct answers are: A set of environment variables, Process address space

Question 52

Incorrect

Mark 0.00 out of 1.00

The algorithm in which the most recently used page is swapped out is called (enter the abbreviation if applicable):

Answer: MRU(Most Recently Used)



The correct answer is: LRU

Question 53

Correct

Mark 1.00 out of 1.00

What does the kernel do when there is no task (process) to run?

Select one or more:

- a. switches off the power supply
- b. executes an infinite loop in the kernel until a task arrives
- c. resets the entire system
- d. starts the idle task ✓

Twoja odpowiedź jest poprawna.

The correct answer is: starts the idle task

Question 54

Partially correct

Mark 0.50 out of 1.00

On UNIX, the number of files is directly limited by:

Select one or more:

- a. The number of bits of the field describing the size of the file
- b. The number of bits of the disk address
- c. The size of the space allocated for files
- d. I-node table size ✓
- e. Allocation unit size

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: I-node table size, The size of the space allocated for files

Question 55

Incorrect

Mark 0.00 out of 1.00

The following situations trigger "error" exceptions:

Select one or more:

- a. extracode ✗
- b. attempting to execute in user mode an instruction that is only legal in system mode
- c. attempting to execute an illegal instruction ✓
- d. page fault (also known as frame fault, frame error, page miss)

Twoja odpowiedź jest niepoprawna.

The correct answers are: attempting to execute an illegal instruction, attempting to execute in user mode an instruction that is only legal in system mode

Question 56

Correct

Mark 1.00 out of 1.00

Round-robin scheduling is the best mechanism for:

Select one or more:

- a. real-time system
- b. time-sharing system ✓
- c. every system
- d. system with different classes of tasks

Twoja odpowiedź jest poprawna.

The correct answer is: time-sharing system

Question 57

Correct

Mark 1.00 out of 1.00

The internal state of the program supervisor layer is available for:

- a. OS kernel ✓
- b. File system layer
- c. User programs
- d. Applications

The correct answer is: OS kernel

Question 58

Correct

Mark 1.00 out of 1.00

The following situations cause the exceptions (processor internal interrupts) of the "error" type:

Select one or more:

- a. memory reference in the area of the page that is not in memory
- b. an attempt to write to the page for which the "read only" bit is set ✓
- c. memory reference beyond limit register value ✓
- d. a reference to memory that is not in the address space ✓

Twoja odpowiedź jest poprawna.

The correct answers are: a reference to memory that is not in the address space, memory reference beyond limit register value, an attempt to write to the page for which the "read only" bit is set

Question 59

Correct

Mark 1.00 out of 1.00

Semaphores are used to solve the problem:

- a. process scheduling
- b. races
- c. Belady problem
- d. mutual exclusion ✓

The correct answer is: mutual exclusion

Question 60

Correct

Mark 1.00 out of 1.00

A memory management technique in which the system divides memory into equal-sized portions to easily manage relocation is called:

Select one or more:

- a. mapping
- b. sweeping
- c. swapping
- d. paging ✓

Twoja odpowiedź jest poprawna.

The correct answer is: paging

Question 61

Correct

Mark 5.00 out of 5.00

What is the average time in the system for tasks in the batch, using SJF algorithm?

| task | 1 | 2 | 3 | 4 |
|-----------------|-----|-----|-----|-----|
| processing time | 3.7 | 5.3 | 2.3 | 1.3 |

Answer:

6.2



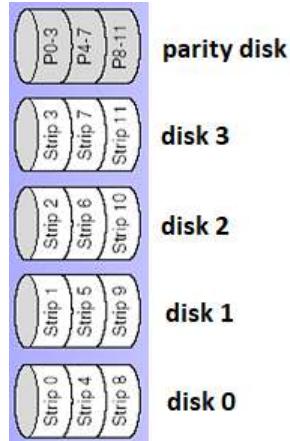
The correct answer is: 6.2

Question 62

Incorrect

Mark 0.00 out of 5.00

In RAID 4, data is placed in Strips that are "scattered" over the data disks, so that each subsequent strip is on the next data disk, modulo the number of disks. For this, there is a parity disk that holds the parity bits of zeroth bits, first bits, second bits, etc., equal-numbered strips divided by the number of data disks, for example, strips 0-3, 4-7, 8-11, etc.:



the start of strips 0,1,2,3 looks like this:

| 1 | 1 | 1 | 0 | 0 | Parity disk |
|---|---|---|---|---|-------------|
| 0 | 0 | 0 | 0 | 0 | Disk 3 |
| 1 | 0 | 0 | 1 | 0 | Disk 2 |
| 1 | 1 | 0 | 1 | 0 | Disk 1 |
| 0 | 1 | 1 | 0 | 0 | Disk 0 |

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 even.

Disk 3 has been damaged and reads only 0. After replacing the disk with a new one, what values should be put in the strip on disk 3?

Answer: ×

The correct answer is: 11000

Question 63

Correct

Mark 5.00 out of 5.00

The virtual address consists of 8b page number and 8b offset. The page index table is shown below (index, content). For decimal address 416, binary 0000 0001 1010 0000, enter the physical address in the form: frame number.offset (as decimal numbers, offset in 3 digits). For example, for a physical address consisting of frame 0 and offset 18, specify 0.018. If there is no physical address for the given virtual address, then -1 should be specified.

| | |
|---|----|
| 7 | 4 |
| 6 | 5 |
| 5 | -1 |
| 4 | 11 |
| 3 | 6 |
| 2 | 9 |
| 1 | -1 |
| 0 | 1 |

Answer: 

The correct answer is: -1.000