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##### File: Ubaid Test2.txt #####

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Interrupt vector:

Question 1Select all correct:

and.  
contains the instruction counter, condition bits, interrupt mask, and general purpose registers

b.  
it is saved automatically when an interrupt is accepted

c.  
contains minimal information that cannot be saved programmatically

d.  
contains the ID of the process that should be restarted

Feedback  
Your answer is correct.

The correct answers are: it is saved automatically when an interrupt is accepted, contains minimal information that cannot be saved programmatically

In what states can a task occur?

Question 2Select all correct:

and.  
ready

b.  
current

c.  
blocked

d.  
resetted  
Feedback

Your answer is correct.

The correct answers are: current, ready, blocked

Which of the following are affected by the thrashing phenomenon?

### Question 3Answer

and.  
program structure

b.  
mass memory

c.  
primary memory

d.  
program size

#### Feedback

The correct answer is: primary memory

The kernel is \_\_\_\_\_ user-level threads.

### Question 4Answer

and.  
part

b.  
creator.creator

c.  
aware

d.  
unaware

#### Feedback

The correct answer is: unaware

Indulgent scheduling is the best mechanism for:

### Question 5Select all correct:

and.  
real-time system

b.  
system with many process classes

c.  
time-sharing system

d.  
every system

Feedback  
Your answer is correct.

The correct answer is: real-time system

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

Question 6 Select all correct:

a.  
identification of the interrupt level, saving the interrupt vector, performing a jump 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, saving the interrupt vector, performing a jump with a trace according to the interrupt table

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

Feedback  
Your answer is incorrect.

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

MMU uses index tables to:

Question 7 Select all correct:

a.  
generate an effective address

b.  
generate a relative address

c.  
generating a physical address

d.  
generate a logical address

Feedback

Your answer is correct.

The correct answer is: generating a physical address

Which scheduler needs to make a decision the fastest?

Question 8Answer

and.  
medium-term

b.  
additional

c.  
short-term

d.  
long-term

Feedback

The correct answer is: short-term

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

Question 9Select all correct:

and.  
interrupt on write (IOW)

b.  
pagefault

c.  
attempting to write to a write-protected frame

d.  
attempt to read from the frame storing the code

Feedback

Your answer is correct.

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

Which of the following memory allocation schemes causes external fragmentation?

Question 10Answer

a.

Multiple contiguous fixed partitions of various sizes

b.

Multiple contiguous fixed partitions of equal size

c.

Sweeping

d.

Paging

Feedback

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

Discontinuous allocation:

Question 11Select all correct:

a.

increases internal fragmentation

b.

reduces external fragmentation

c.

reduces internal fragmentation

d.

increases external fragmentation

Feedback

Your answer is incorrect.

The correct answer is: reduces external fragmentation

Round-robin scheduling is the best mechanism for:

Question 12 Select all correct:

a.  
system with different classes of tasks

b.  
time-sharing system

c.  
every system

d.  
real-time system

Feedback  
Your answer is correct.

The correct answer is: time-sharing system

In a four-level page index table, the page number is:

Question 13 Select all correct:

a.  
in the first level table - the leftmost in the figure

b.  
in the table of the last level - the rightmost in the figure

c.  
part in the table of each level

d.  
none of the above answers

Feedback  
Your answer is incorrect.

The correct answer is: none of the above answers

Sequence of actions when starting a new task:

1.

Answer 1 Question 14

filling in the descriptor in the kernel

2.

Answer 2 Question 14

memory allocation if this is the first task of the program

3.

Answer 3 Question 14

initialize the stack, fill the first frame

4.

Answer 4 Question 14

instruction to transfer control to the task

Feedback

Your answer is correct.

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

Paging - two-level index tables mode of operation

Question 15 Select all correct:

a.

The content of the level 1 table element is concatenated (combined) with the content of the level 2 table element

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 a level 1 table element points to a level 2 table

Feedback

Your answer is incorrect.

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

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

Answer: Question 16

thrashing

Feedback

The correct answer is: anomalies

MMU uses index tables to:

Question 17 Select all correct:

a.

generate a physical address

b.

generate a relative address

c.

generate an effective address

d.

generate a logical address

Feedback

Your answer is incorrect.

The correct answer is: generate a physical address

Using the Test-And-Set instruction in synchronization:

Question 18 Select all correct:

a.

Stops the processor if 0 is read

b.

Requires organizing inactive waiting in queues

c.

Requires the use of semaphores



d.  
It requires processes to actively wait

Feedback  
Your answer is correct.

The correct answer is: It requires processes to actively wait

Physical address:

Question 19Select all correct:

and.  
points to a location in the address space of primary memory

b.  
points to a cell in the process address space

c.  
indicates a relative address to the segment register

d.  
is contained in the address field of the instruction

Feedback  
Your answer is correct.

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

What mechanism is part of batch systems?

Question 20Answer

and.  
medium-tevel scheduler

b.  
no scheduler is needed

c.  
low-level scheduler

d.  
high-level scheduler

Feedback

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

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

Question 21 Select all correct:

a.

Process suspension

b.

A software interrupt that calls a system function

c.

Hardware interrupt

d.

Debugger trap

Feedback

Your answer is partially correct.

You correctly selected: 1.

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

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

Question 22 Select all correct:

a.

active waiting for a critical section

b.

deadlock waiting for critical section

c.

starvation awaiting a critical section

d.

letting both tasks into the critical section

Feedback

Your answer is correct.

The correct answer is: starvation awaiting a critical section

In operating system:

Question 23Select all correct:

a.  
the decision to handle an exception or not is made dynamically

b.  
some exceptions are handled, some not

c.  
timer interrupt may not be handled

d.  
every exception must be handled

Feedback

Your answer is correct.

The correct answer is: every exception must be handled

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?

Question 24Select all correct:

a.  
initializes the kernel system stack from the scratch

b.  
switches to the next kernel system stack

c.  
nothing special, it builds the context on the kernel system stack

d.  
switches back to the application program stack

Feedback

Your answer is correct.

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

The direct resume rule means that:

Question 25 Select all correct:

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 summing process gets a critical region after the resumed process exits the critical region

Feedback

Your answer is correct.

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

Is memory protection useless on a single-user system?

Question 26 Answer

True

Falsehood

Feedback

The correct answer is "False".

The effective address is also:

Question 27 Select all correct:

a.

Absolute address

b.

Physical address

c.

Logical address

d.  
Indirect address

Feedback  
Your answer is correct.

The correct answer is: Logical address

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

Question 28 Select all correct:

and.  
Requires active waiting from tasks

b.  
It is possible to use only on computers with common memory

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

d.  
It is possible to use only in 1-processor systems

Feedback  
Your answer is correct.

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

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

Question 29 Select all correct:

and.  
Doesn't allow you to delete the program from memory (uses non-volatile memory)

b.  
Requires static relocation

c.  
Runs on a uniprocessor computer

d.  
Allows for storing only one program in primary memory

Feedback  
Your answer is correct.

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

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

Question 30Answer

a.  
Batch processing

b.  
Real-time processing

c.  
Interactive processing

d.  
Distributed processing

Feedback  
The correct answer is: Batch processing

The system stack must provide space for:

Question 31Select all correct:

a.  
Processor registers in as many copies as there are interrupt lines +1

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.

CPU registers

Feedback

Your answer is correct.

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

System/user threads:

Question 32 Select all correct:

and.

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

b.

User-level threads share the same stack.

c.

User-level threads share the same execution context.

Feedback

Your answer is correct.

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

By definition , a deadlock is a situation where:

Question 33 Select all correct:

and.

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

b.

at least two 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 one process is waiting for a condition that cannot be met

Feedback

Your answer is correct.

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

be met

Allocation unit for file storage:

Question 34Answer

and.  
it should be selected to match the characteristics of the data

b.  
may differ between files in a partition

c.  
may be a variable in a partition

d.  
may vary between partitions

Feedback  
The correct answer is: may vary between partitions

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

Question 35Select all correct:

and.  
internal fragmentation

b.  
external fragmentation

c.  
need for compaction

Feedback  
Your answer is correct.

The correct answers are: internal fragmentation, external fragmentation

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:

Question 36Answer

a.

0,2,6,12,0,0

b.

12,21,60,123,7,9

c.

1,2,6,12,0,0

d.

1,2,6,12

Feedback

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

In UNIX, access rights are attributes:

Question 37Select all correct:

a.

A directory entry for a file

b.

A special table specifying access rights

c.

User descriptor

d.

An entry in the I-node table

Feedback

Your answer is incorrect.

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

In the four-level page index table, the frame number is:

Question 38Select all correct:

a.

part in the table of each level

b.

in the table of the last level - the rightmost in the figure

c.

in the first level table - the leftmost in the figure

d.

none of the above answers

Which of the following few common services can be partially provided by software other than the operating system?

Question 39Answer

a.

Running programs

b.

I/O operations

c.

Security and protection

d.

Manipulating the file system

Feedback

The correct answers are: Security and protection, Manipulating the file system

Memory partitioning into blocks of any size:

Question 40Select all correct:

a.

It implies external fragmentation

b.

It implies internal fragmentation

c.  
It does not imply fragmentation

Feedback  
Your answer is incorrect.

The correct answer is: It does not imply fragmentation

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

Question 41 Select all correct:

and.  
efficiency

b.  
throughput

c.  
utilization

d.  
response time

Feedback  
Your answer is correct.

The correct answer is: throughput

The sequence of actions in interrupt handling:

- 1.
- 2.
- 3.
- 4.

Feedback  
Your answer is correct.

The correct answer is:  
The sequence of actions in interrupt handling:

- 1.[saving a copy of the interrupt vector (PC and SR)]

2.[switching to system mode (modification of PC and status register)]

3.[programmatic context saving]

4. [switching to the system stack]

Scheduling disk access involves deciding on the following:

Question 43Answer

a.  
the order in which disk access requests should be handled

b.  
about the type of disks the system should have

c.  
which drive should be used next

d.  
about the physical location of the files

Feedback

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

Which of the following information is stored on task switching?

Question 44Answer

a.  
scheduler data

b.  
I/O status information

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

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

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

The hardware resources of a computer system are:

Question 45 Select all correct:

a.  
Virtual memory

b.  
Windows on the screen

c.  
Processor time

d.  
Peripheral devices

Feedback  
Your answer is correct.

The correct answers are: Processor time , Peripheral devices

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

Answer: Question 46  
MMU

Feedback  
The correct answer is: MMU

At the suspended state is a process that:

Question 47 Select all correct:

a.  
waits for an I/O operation to complete

b.  
waits for a processor

c.  
fills the processor idle time

d.  
occupations and processor

Feedback

Your answer is correct.

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

Address translation mechanism:

Question 48 Select all correct:

a.

adds the frame number to the page number

b.

concatenates the frame number and page number

c.

concatenates the frame number and offset on the page

d.

concatenates the page number and page offset

Feedback

Your answer is correct.

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

Address translation aims to:

Question 49 Select all correct:

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

#### Feedback

Your answer is incorrect.

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

In the "current" state, there is a process that:

Question 50 Select all correct:

a.  
waits for a processor

b.  
fills the CPU idle time

c.  
waits for an I/O operation to complete

d.  
occupies the processor

#### Feedback

Your answer is correct.

The correct answer is: occupies a processor

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

Question 51 Select all correct:

a.  
FAT table size

b.  
Allocation unit size

c.  
The number of bits of the field describing the size of the file

d.  
The number of bits of the disk address

e.  
The size of the disk space

Feedback  
Your answer is partially correct.

You correctly selected: 1.  
The correct answers are: The size of the disk space , The number of bits of the field describing the size of the file

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

Question 52Select all correct:

and.  
FAT size

b.  
The number of bits of the disk address

c.  
Allocation unit size

d.  
The number of bits of the field describing the size of the file

e.  
The size of the space allocated for files

Feedback  
Your answer is incorrect.

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

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

Question 53Select all correct:

and.  
Intercepts all program system calls and routes them to the appropriate layers

b.



Deals with the management of primary memory (memory allocation to programs)

c.  
Runs programs

d.  
Deals with buffering data written and read from mass memory

Feedback  
Your answer is partially correct.

You chose correctly: 2.

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)

The multi-level interrupt controller includes :

Question 54Select all correct:

and.  
Individual interrupt mask

b.  
Priority encoder

c.  
The register of interrupt being serviced

d.  
Collective interrupt mask

Feedback  
Your answer is correct.

The correct answers are: Collective interrupt mask , Individual interrupt mask , Priority encoder

A concurrent system is one that, in principle :

Question 55Select all correct:

and.  
It allows multiple programs/processes/threads to run physically simultaneously

b.  
Requires the use of timer interrupts

c.  
Allows multiple programs/processes/threads to run simultaneously or seemingly simultaneously

d.  
It runs on a multiprocessor computer

Feedback  
Your answer is incorrect.

The correct answer is: Allows multiple programs/processes/threads to run simultaneously or seemingly simultaneously

Address translation aims to:

Question 56 Select all correct:

and.  
Converting a virtual address to a physical one

b.  
Detecting the phenomenon of locality of references

c.  
Converting a physical address to a virtual one

d.  
Generating a "frame error" interrupt when the page is out of memory

Feedback  
Your answer is incorrect.

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

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

Question 57 Select all correct:

and.  
working set

b.

LRU

c.  
clock

d.  
LFU

e.  
second chance

f.  
no algorithm

g.  
NRU

h.  
FIFO

Feedback  
Your answer is incorrect.

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

If the loader inserts a program with absolute addresses into a fixed address space, it is called:

Question 58Answer

and.  
Dynamic loading

b.  
Static relocation

c.  
Static loading

d.  
Dynamic relocation

Feedback  
The correct answer is: Dynamic relocation

Static relocation is performed by:

Question 59 Answer

a.  
Loader

b.  
Linker

c.  
Paging system

d.  
Special registers (DATUM)

Feedback

The correct answers are: Linker, Loader

What is a scheduler?

Question 60 Select all correct:

a.  
the system process that allocates the processor

b.  
memory allocation procedure

c.  
procedure that schedules frame release in the page replace algorithm

d.  
a kernel routine that selects a task to execute

Feedback

Your answer is correct.

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

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

3.2

6.2

2.7

1.6

Answer:Question 61

3.82

Feedback

The correct answer is: 3.8

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 zero 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 odds.

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:Question 62

1, 1, 0, 1

Feedback

The correct answer is: 11001

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

16

Feedback

The correct answer is: 2

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##### File: Example 1.txt #####

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Question 1

Correct

Points: 1.00 out of 1.00

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

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%%%%%%%%%

Question 2

Correct

Points: 1.00 out of 1.00

What are the functions of the kernel?

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

Program management

- d. Interrupt handling

The correct answer is: Interrupt handling

1/32

%%%%%%%%%

Question 3

Correct

Points: 1.00 out of 1.00

The root directory of the disk should be located:

- a. in a permanent place on the disk
- b. at a fixed address in main memory
- c.

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

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

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

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Question 4

Correct

Points: 1.00 out of 1.00

Virtual memory consists of:

Select all correct:

- 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 poprawna.

The correct answer is: primary and mass memory

2/32

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Pytanie 5

Niepoprawnie

Punkty: 0,00 z 1,00

The page fault interrupt is used to:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest niepoprawna.

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

%%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

3/32



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#### Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

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#### Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

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

4/32

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#### Pytanie 9

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest niepoprawna.

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

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Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answer is: Batch processing

5/32

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Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

The correct answer is: occupies a processor

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Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

6/32

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Wybierz wszystkie poprawne:

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Wybierz wszystkie poprawne:

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

7/32

%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Wybierz wszystkie poprawne:

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%

Pytanie 16

Niepoprawnie

Punkty: 0,00 z 1,00

Page thrashing is a phenomenon involving:

Wybierz wszystkie poprawne:

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

a.

Applications

b. OS kernel

c.

File system layer

d. User programs

The correct answer is: OS kernel

%%

Pytanie 18

Niepoprawnie

Punkty: 0,00 z 1,00

Dynamic relocation:

Wybierz wszystkie poprawne:

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

Tvoja odpowiedź jest niepoprawna.

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

9/32

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Wybierz wszystkie poprawne:

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answer is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Wybierz wszystkie poprawne:

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

10/32

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Wybierz wszystkie poprawne:

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Punkty: 0,00 z 1,00

Scheduling disk access involves deciding on the following:

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

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

11/32

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 24

Niepoprawnie

Punkty: 0,00 z 1,00

The resources of the computer system are:

Wybierz wszystkie poprawne:

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

12/32

%%%%%%%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

The correct answer is: external fragmentation

%%%%%%%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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?

Wybierz wszystkie poprawne:

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

Tvoja odpowiedź jest poprawna.

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

13/32

%%

Pytanie 27

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Tvoja 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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Wybierz wszystkie poprawne:

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

Tvoja odpowiedź jest poprawna.

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

14/32

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Wybierz wszystkie poprawne:

- 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).

15/32

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

Punkty: 0,00 z 1,00

a page fault interrupt occurs when:

Wybierz wszystkie poprawne:

- a. the program accesses the page
- b. an error has occurred on the current page
- c. the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory



Twoja odpowiedź jest niepoprawna.

The correct answer is: the program accesses a page that is not in the primary memory

16/32

%%

Pytanie 33

Niepoprawnie

Punkty: 0,00 z 1,00

Fragmentation is implied by:

Wybierz wszystkie poprawne:

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

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

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

17/32

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

- a.  
traffic control
- b. task management
- c.

The correct answer is: task shedding

The correct answer is: blocked

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

The correct answer is: context switch

%%%%%%%%%%

Pytanie 39

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest niepoprawna.

The correct answer is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

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

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

20/32

%%%%%%%%%

Pytanie 41

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU

- f.no algorithm
- g.clock
- h. working set
- i.

FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

21/32

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

%%%

Poprawnie

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

Kernel-level threads require their descriptors in the kernel.

C.

d. Multithreaded applications cannot use multiprocessing.

22/32

%%%

## Niepoprawnie

## Which swapping algorithms use the last reference time?

a.

b. NRU

**C.**

d. FIFO

f.second chance

Tvoja odpowiedź jest niepoprawna.

% %

Poprawnie

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

a.

b. running

C.

d. waiting

The correct answer is: ready

% %

Pytanie 48

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest niepoprawna.

The correct answer is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Wybierz wszystkie poprawne:

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

24/32

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Wybierz wszystkie poprawne:

- a. address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.

address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answer is: address of the segment page index table of the top-level (first level) in the hierarchy

25/32

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

The correct answer is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/32

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest poprawna.

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

an I/O operation

%%

Pytanie 55

Niepoprawnie

Punkty: 0,00 z 1,00

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

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest niepoprawna.

The correct answer is: internal fragmentation

27/32

%%

Pytanie 56

Niepoprawnie

Punkty: 0,00 z 1,00

MMU uses index tables to:

Wybierz wszystkie poprawne:

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

Twoja odpowiedź jest niepoprawna.

The correct answer is: generate a physical address

%%

Pytanie 57

Niepoprawnie

Punkty: 0,00 z 1,00

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

Odpowiedź:

thrashing

The correct answer is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Wybierz wszystkie poprawne:

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





Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

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

0

The correct answer is: 10110

31/32

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:  
- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32

#####

#####

##### File: .~lock.Document.rtf# #####

#####

,mafzal,mafzal,23.06.2024 02:50,file:///home/mafzal/.config/libreoffice/4;

#####

#####

##### File: AtharTEst2.txt #####

#####

Is memory protection useless on a single-user system?

Question 1Answer

True

False

Feedback

The correct answer is 'False'.

Question 2

Partially correct

Mark 0.50 out of 1.00

Flag question

Question text

Dynamic relocation is performed by:

Question 2Answer

a.  
Special registers (DATUM)

b.  
Paging system

c.  
Loader

d.  
Linker

Feedback

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

Question 3

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

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

Question 3Select one or more:

a.  
Allows for storing only one program in primary memory

b.  
Runs on a uniprocessor computer

c.  
Needs relocation

d.  
Allows for storing only one program in mass memory

Feedback

Twoja odpowiedź jest niepoprawna.

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

Question 4

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 4Select one or more:

- a.  
The number of bits of the disk address
- b.  
The size of the disk space
- c.  
The number of bits of the field describing the size of the file
- d.  
Allocation unit size
- e.  
FAT table 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 5

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 5Select one or more:

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

Feedback

Twoja odpowiedź jest poprawna.

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

Question 6

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Twins algorithm:

Question 6 Select one or more:

- a.  
Causes external fragmentation
- b.  
Causes less fragmentation than static division into equal blocks
- c.  
Causes internal fragmentation

Feedback

Tvoja odpowiedź jest poprawna.

The correct answers are: Causes internal fragmentation, Causes external fragmentation, Causes less fragmentation than static division into equal blocks

Question 7

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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?

Question 7 Select one or more:

- 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

Feedback

Twoja odpowiedź jest poprawna.

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

Question 8

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 8 Select one or more:

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

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: return from interrupt handler IRET

Question 9

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The return from interrupt instruction:

Question 9 Select one or more:

- a.  
always jumps to the process that was interrupted
- b.  
restores the stack pointer
- c.  
restores the interrupt vector
- d.  
restores general purpose registers

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: restores the interrupt vector

Question 10

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The multi-level interrupt controller includes:

Question 10 Select one or more:

a.

Priority encoder

b.

Individual interrupt mask

c.

Collective interrupt mask

d.

The register of interrupt being serviced

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Collective interrupt mask, Individual interrupt mask, Priority encoder

Question 11

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

In which swapping algorithms is it necessary to clear the R bits individually?

Question 11 Select one or more:

a.

clock

b.

working set

c.

optimal

d.

no algorithm

e.  
second chance

f.  
LFU

g.  
FIFO

h.  
LRU

i.  
NRU

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answers are: second chance, working set,  
clock

Question 12

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Which scheduler needs to make a decision the fastest?

Question 12Answer

a.  
additional

b.  
medium-term

c.  
short-term

d.  
long-term

Feedback  
The correct answer is: short-term

Question 13

Incorrect



Mark 0.00 out of 1.00

Flag question

Question text

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

Question 13Select one or more:

a.

Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

b.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

c.

Inserting a new item into the Table of Open Files of the Process

Feedback

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 14

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Connection with segmentation consists in:

Question 14Select one or more:

a.

Dividing pages into segments

b.

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

c.

Identifying segments with pages

d.

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

Feedback

Twoja odpowiedź jest poprawna.

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

Question 15

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Scheduling disk access involves deciding on the following:

Question 15Answer

a.  
the order in which disk access requests should be handled

b.  
about the type of disks the system should have

c.  
about the physical location of the files

d.  
which drive should be used next

Feedback

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

Question 16

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 16Select one or more:

a.  
page fault

b.  
attempting to write to a write-protected frame

c.  
attempt to read from the frame storing the code

d.  
interrupt on write (IOW)

Feedback

Tvoja odpowiedź jest niepoprawna.

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

Question 17

Partially correct

Mark 0.75 out of 1.00

Flag question

Question text

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

Question 17 Select one or more:

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

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 3.

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

Question 18

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

The page reference and modification bits are used to:

Question 18 Select one or more:

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

Address translation support

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Counting references to optimize exchanges

Question 19

Partially correct

Mark 0.50 out of 1.00

Flag question

Question text

External fragmentation can be avoided by:

Question 19 Select one or more:

a.

Application of the onion algorithm

b.

Freeing memory blocks in the reverse order to allocation

c.

Allocation of fixed size static memory blocks

d.

Freeing memory blocks in allocation order

Feedback

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 20

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 20 Select one or more:

a.

efficiency

b.

response time

c.

utilization

d.  
throughput

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: throughput

Question 21

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

The segment descriptor table contains:

Question 21 Select one or more:

a.  
address of the segment page index table of the top-level (first level) in the hierarchy

b.  
addresses of all segment page index tables

c.  
address of the segment page index table of the bottom-level (last level) in the hierarchy

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: address of the segment page index table of the top-level (first level) in the hierarchy

Question 22

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Using the Test-And-Set instruction in synchronization:

Question 22 Select one or more:

a.  
Stops the processor if 0 is read

b.  
It requires processes to actively wait

c.  
Requires organizing inactive waiting in queues

d.  
Requires an explicit relinquishment of the processor to another process

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: It requires processes to actively wait

Question 23

Correct

Mark 1.00 out of 1.00

Flag question

Question text

What mechanism is part of batch systems?

Question 23Answer

a.  
medium-term scheduler

b.  
no scheduler is needed

c.  
short-term scheduler

d.  
long-term scheduler

Feedback

The correct answers are: long-term scheduler, medium-term scheduler

Question 24

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 24Select one or more:

a.  
in the bus arbiter

b.  
in the memory management unit

c.  
in the sequencer

d.

in the arithmetic-logic unit

Feedback

Tvoja odpowiedź jest poprawna.

The correct answer is: in the memory management unit

Question 25

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The system stack must provide space for:

Question 25 Select one or more:

a.  
Processor registers in as many copies as there are interrupt lines +1

b.  
CPU registers

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 devices in the system +1

Feedback

Tvoja odpowiedź jest poprawna.

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

Question 26

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The following situations trigger "error" exceptions:

Question 26 Select one or more:

a.  
attempting to execute in user mode an instruction that is only legal in system mode

b.  
extracode

c.  
attempting to execute an illegal instruction

d.  
page fault (also known as frame fault, frame error, page miss)

#### Feedback

Twoja odpowiedź jest poprawna.

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 27

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

What does the file system layer do?

#### Question 27Answer

a.  
Manages relationships between files

b.  
Manages files

c.  
Manages remote file systems

d.  
Manages remote files

#### Feedback

The correct answer is: Manages files

#### Question 28

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The root directory of the disk should be located:

#### Question 28Answer

a.  
at a fixed address in main memory

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

c.  
in a permanent place on the disk



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

#### Feedback

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

#### Question 29

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Scheduler function is:

Question 29Answer

a.  
counting the CPU time used by tasks

b.  
changing task priorities

c.  
selecting a task to run

d.  
scheduling tasks on the processor

#### Feedback

The correct answer is: selecting a task to run

#### Question 30

Correct

Mark 1.00 out of 1.00

Flag question

Question text

System/user threads:

Question 30Select one or more:

a.  
User-level threads share the same execution context.

b.  
System level thread descriptors are stored in the program address space.

c.  
User-level threads share the same stack.

#### Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: User-level threads share the same execution context.

Question 31

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 31 Select one or more:

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

Feedback

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 32

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Static relocation is performed by:

Question 32 Answer

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

Feedback

The correct answer is: Linker

Question 33

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

How does the operating system call the task completion subroutine?

1.

Answer 1 Question 33

sets the trace in the terminating subroutine to the current position

3.

Answer 2 Question 33

builds the frame of the terminating subroutine on the task stack

2.

Answer 3 Question 33

recreates the context programmatically and executes the IRET instruction

4.

Answer 4 Question 33

builds an interrupt vector on the system stack pointing to the terminating subroutine code

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: 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, 4. → recreates the context programmatically and executes the IRET instruction

Question 34

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Frame access bits (reference and modification):

Question 34Select one or more:

a.

must be readable

b.

must be group readable

c.

must be available for writing

d.  
must be available for group clear

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: must be readable, must be available for group clear, must be group readable

Question 35

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Which of the following statements applies to the process?

Question 35Answer

a.  
The execution of the process must proceed in a sequential manner.

b.  
A process is code and data loaded into main memory.

c.  
A process is defined as a set of resources needed to run a program.

d.  
A process is a running program.

Feedback

The correct answers are: A process is a running program., The execution of the process must proceed in a sequential manner., A process is defined as a set of resources needed to run a program.

Question 36

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

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

Question 36Answer

a.  
Symbolic

b.  
Absolute

c.  
Indirect

d.  
Relative

Feedback

The correct answer is: Absolute

Question 37

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The kernel is \_\_\_\_\_ user-level threads.

Question 37Answer

a.  
aware

b.  
unaware

c.  
creator

d.  
part

Feedback

The correct answer is: unaware

Question 38

Correct

Mark 1.00 out of 1.00

Flag question

Question text

What type of code can multiple processes execute simultaneously?

Question 38Select one or more:

a.  
self-modifying

b.  
dynamically relocated

c.  
reentrant

d.  
binary

Feedback

Tvoja odpowiedź jest poprawna.

The correct answer is: reentrant

Question 39

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 39Select one or more:

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

Feedback

Tvoja odpowiedź jest poprawna.

The correct answer is: buffer

Question 40

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Semaphores are used to solve the problem:

Question 40Answer

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

mutual exclusion

Feedback

The correct answer is: mutual exclusion

Question 41

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Converting the effective address to physical is performed in:

Question 41 Select one or more:

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

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: memory management unit

Question 42

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The following situations cause "error" exceptions (processor internal interrupts)

Question 42 Select one or more:

- a.  
instruction legal but prohibited in user mode
- b.  
extracode
- c.  
illegal instruction

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: illegal instruction, instruction legal but prohibited in user mode

Question 43

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 43Answer

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

Feedback

The correct answer is: OS kernel

Question 44

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 44Select one or more:

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

Feedback

Tvoja odpowiedź jest poprawna.



The correct answer is: starvation awaiting a critical section

Question 45

Correct

Mark 1.00 out of 1.00

Flag question

Question text

In what states can a task occur?

Question 45 Select one or more:

a.  
resetted

b.  
ready

c.  
current

d.  
blocked

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

Question 46

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The result of cooperation of concurrent processes:

Question 46 Select one or more:

a.  
it may depend on how processes are scheduled

b.  
it is always deterministic

c.  
it can be non-deterministic

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: it may depend on how processes are scheduled, it can be non-deterministic

Question 47

Partially correct

Mark 0.67 out of 1.00

Flag question

Question text

What is true about system level threads?

Question 47Answer

- a.  
All process threads share the same address space.
- b.  
All process threads can share the same set of open files.
- c.  
All process threads can share the same set of child processes.
- d.  
Thread switching does not require interaction with the operating system.

Feedback

The correct answers are: All process threads can share the same set of open files., All process threads share the same address space., All process threads can share the same set of child processes.

Question 48

Correct

Mark 1.00 out of 1.00

Flag question

Question text

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

Question 48Select one or more:

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

Feedback

Tvoja odpowiedź jest poprawna.

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

Question 49

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

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

Answer: Question 49

MRU (Most Recently Used) algorithm

Feedback

The correct answer is: LRU

Question 50

Correct

Mark 1.00 out of 1.00

Flag question

Question text

MMU uses index tables to:

Question 50Select one or more:

a.

generating a physical address

b.

generate a relative address

c.

generate a logical address

d.

generate an effective address

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: generating a physical address

Question 51

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 51Select one or more:

a.

paging

b.  
fragmentation

c.  
mapping

d.  
swapping

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: paging

Question 52

Correct

Mark 1.00 out of 1.00

Flag question

Question text

What mechanism is part of time-sharing systems?

Question 52Answer

a.  
high-level scheduler

b.  
swapping

c.  
low-level scheduler

d.  
medium-level scheduler

Feedback

The correct answer is: low-level scheduler

Question 53

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Effective address is:

Question 53Select one or more:

a.  
logical address

b.

indirect address

c.  
relative address

d.  
physical address

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: logical address

Question 54

Partially correct

Mark 0.50 out of 1.00

Flag question

Question text

WORST-FIT algorithm:

Question 54Select one or more:

a.  
It allows for fast determining whether there is a free block of the required size

b.  
It is designed to reduce external fragmentation

c.  
Requires a descending sort of the list of free blocks

d.  
Requires sorting the cut part into 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 55

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Collective interrupt mask is:

Question 55Select one or more:

- a.  
register in which the address of the interrupt controller is stored
- b.  
a combinational circuit that calculates the number of the interrupt received
- c.  
a register that blocks or unblocks all interrupts
- d.  
a register that blocks or unblocks a non-maskable interrupt

Feedback

Twoja odpowiedź jest niepoprawna.

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

Question 56

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

Which swapping algorithms use page reference history?

Question 56 Select one or more:

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

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: LRU, LFU

Question 57

Partially correct

Mark 0.50 out of 1.00

Flag question

Question text

Static relocation is performed by:

Question 57Answer

a.

Linker

b.

Loader

c.

Paging system

d.

Special registers (DATUM)

Feedback

The correct answers are: Linker, Loader

Question 58

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The direct resume rule means that:

Question 58Select one or more:

a.

The resuming process loses the critical region

b.

The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

Feedback

Twoja odpowiedź jest poprawna.

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 59

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Belady anomaly occurs in:

Question 59Answer

a.  
LIFO

b.  
LRU

c.  
FIFO

d.  
NRU

Feedback

The correct answer is: FIFO

Question 60

Incorrect

Mark 0.00 out of 1.00

Flag question

Question text

A multiprogram system is one that, in principle:

Question 60Select one or more:

a.  
Allows for running more than one program at the same time

b.  
Allows for storing multiple programs in mass memory

c.  
It allows for storing many programs in the main memory

d.  
Allows for running programs only one after another

Feedback

Twoja odpowiedź jest niepoprawna.

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



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

3.6

6

2.6

1.3

Answer:Question 61

3.7

Feedback

The correct answer is: 3.7

Question 62

Correct

Mark 5.00 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

1 0 1 0 0

Feedback

The correct answer is: 10100

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

16

Feedback

The correct answer is: 4

#####

#####

##### File: AfzalTest2.txt #####

#####

Question 1Select one or more:

The root directory of the disk should be located:

Question 1Answer

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

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

c.  
at a fixed address in main memory

d.  
in a permanent place on the disk

Feedback

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

Twins algorithm:

Question 2Select one or more:

- a.  
Causes external fragmentation
- b.  
Causes less fragmentation than static division into equal blocks
- c.  
Causes internal fragmentation

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answers are: Causes internal fragmentation, Causes external fragmentation, Causes less fragmentation than static division into equal blocks

The kernel (microkernel) is responsible for:

Question 3Select one or more:

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

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).

In UNIX, access rights are specified:

Question 4Select one or more:

- a.  
Separately for write, read and execute/search

b.  
Separately for the user, the group to which the user belongs and for all others

c.  
Individually for each file

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

Feedback  
Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

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

The logical address is also:

Question 5Select one or more:

a.  
Relative address

b.  
Effective address

c.  
Physical address

d.  
Absolute address

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answer is: Effective address

Internal fragmentation consists in:

Question 6Select one or more:

a.  
The program does not use all the memory allocated to it

b.  
Dividing the memory allocated to the program into a data area and a code area

c.  
Free memory blocks between allocated blocks

d.  
Discontiguous file allocation on disk

Feedback

Twoja odpowiedź jest niepoprawna.

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

Which scheduling is used to organize concurrency?

Question 7Select one or more:

a.  
medium-term

b.  
short-term

c.  
preempting

d.  
long-term

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: short-term

Which of the following few common services can be partially provided by software other than the operating system?

Question 8Answer

a.  
I/O operations

b.  
Manipulating the file system

c.  
Security and protection

d.  
Running programs

Feedback

The correct answers are: Security and protection, Manipulating the file system

he return from interrupt instruction:

Question 9Select one or more:

a.  
restores general purpose registers

b.  
restores the interrupt vector

c.  
always jumps to the process that was interrupted

d.  
restores the stack pointer

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: restores the interrupt vector

Operation V on a raised binary semaphore:

Question 10Select one or more:

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

b.  
It does not change the value of the semaphore

c.  
Increases semaphore value by 1

Feedback

Twoja odpowiedź jest poprawna.

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

The effective address is at the same time:

Question 11Select one or more:

a.  
relative address

b.  
indirect address

c.  
logical address

d.  
physical address

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: logical address

The hardware resources of a computer system are:

Question 12 Select one or more:

a.  
Windows on the screen

b.  
Peripheral devices

c.  
Processor time

d.  
Primary memory

Feedback

Twoja odpowiedź jest poprawna.

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

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

Question 13 Select one or more:

a.  
attempting to write to a write-protected frame



b.  
attempt to read from the frame storing the code

c.  
page fault

d.  
interrupt on write (IOW)

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

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

How does the operating system call the task completion subroutine?

4.

Answer 1 Question 14

sets the trace in the terminating subroutine to the current position

2.

Answer 2 Question 14

builds the frame of the terminating subroutine on the task stack

1.

Answer 3 Question 14

builds an interrupt vector on the system stack pointing to the terminating subroutine code

3.

Answer 4 Question 14

recreates the context programmatically and executes the IRET instruction

Feedback

Twoja odpowiedź jest niepoprawna.

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

Dynamic relocation requires the use of:

Question 15 Select one or more:

a.  
limit register

b.  
status register

c.  
base register (DATUM)

d.  
program counter

Feedback  
Twoja odpowiedź jest poprawna.

The correct answer is: base register (DATUM)

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

Question 16Select one or more:

a.  
buffer

b.  
preempting

c.  
interrupts

d.  
scheduling

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answer is: buffer

Which of the following information is stored on task switching?

Question 17Answer

a.  
I/O status information

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

c.

scheduler data

d.

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

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

The direct resume rule means that:

Question 18Select one or more:

a.

The resuming process gets a critical region after the resumed process exits 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 loses the critical region

Feedback

Tvoja odpowiedź jest poprawna.

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

Static relocation is performed by:

Question 19Answer

a.

Special registers (DATUM)

b.

Loader

c.

Compiler

d.

Segment descriptors

Feedback

The correct answers are: Compiler, Loader

For address translation, the following is used:

Question 20 Select one or more:

a.  
reference and protection bits

b.  
translation register

c.  
associative translation buffer

d.  
index table

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: index table, associative translation buffer

The system stack must provide space for:

Question 21 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 +1

d.  
Processor registers in as many copies as there are interrupt lines and possible software interrupts

Feedback

Twoja odpowiedź jest poprawna.

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

Connection with segmentation consists in:

Question 22 Select one or more:

a.

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

b.  
Dividing pages into segments

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

d.  
Identifying segments with pages

Feedback  
Twoja odpowiedź jest poprawna.

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

What type of code can multiple processes execute simultaneously?

Question 23Select one or more:

a.  
reentrant

b.  
binary

c.  
self-modifying

d.  
dynamically relocated

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answer is: reentrant

a page fault interrupt is issued when:

Question 24Select one or more:

a.  
the program is accessing a page that is not in the cache

b.

the program accesses the page

c.  
the program accesses a page that is not in the primary memory

d.  
an error has occurred on the current page

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: the program accesses a page that is not in the primary memory

The scheduler decisions take the form:

Question 25 Select one or more:

a.  
change from ready to active state

b.  
change from waiting to active state

c.  
change from active to ready state

d.  
change from waiting to ready state

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: change from ready to active state

Using the Test-And-Set instruction in synchronization:

Question 26 Select one or more:

a.  
Requires organizing inactive waiting in queues

b.  
It requires processes to actively wait

c.  
Requires an explicit relinquishment of the processor to another process

d.  
Stops the processor if 0 is read

Feedback  
Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

Address translation aims to:

Question 27Select one or more:

a.  
converting a physical address to a virtual one

b.  
converting a virtual address to a physical one

c.  
detecting the phenomenon of locality of references

d.  
Generating a "frame error" interrupt when the page is out of memory

Feedback  
Twoja odpowiedź jest poprawna.

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

System/user threads:

Question 28Select one or more:

a.  
User-level threads share the same stack.

b.  
User-level threads share the same execution context.

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

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answers are: System level thread descriptors are stored in the operating system kernel.,

User-level threads share the same execution context.

The program must be specially compiled to run in paged memory.

Question 29Answer

True

False

Feedback

The correct answer is 'False'.

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

Question 30Answer

a.  
sweeping

b.  
swapping

c.  
leaching

d.  
leading out

Feedback

The correct answer is: sweeping

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

Question 31Answer

a.  
Applications

b.  
User programs

c.  
OS kernel

d.  
Program supervisor layer

Feedback

The correct answers are: OS kernel, Program supervisor layer



Sequence of actions when starting a new task:

1.

Answer 1 Question 32

filling in the descriptor in the kernel

2.

Answer 2 Question 32

memory allocation if this is the first task of the program

3.

Answer 3 Question 32

initialize the stack, fill the first frame

4.

Answer 4 Question 32

instruction to transfer control to the task

Feedback

Tvoja odpowiedź jest poprawna.

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

The page index table address is stored in:

Question 33 Select one or more:

a.

program counter

b.

page register

c.

stack pointer

d.

page table base register

Feedback

Tvoja odpowiedź jest poprawna.

The correct answer is: page table base register

Is IOW bit:

Question 34Select one or more:

a.  
protection bit

b.  
reference bit

c.  
enable bit

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: protection bit

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

Question 35Select one or more:

a.  
extracode

b.  
jump with trace

c.  
jump

d.  
return from interrupt handler IRET

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: return from interrupt handler IRET

The software resources of a computer system are:

Question 36Select one or more:

a.  
Files

b.  
Buffers

c.  
Semaphores

d.  
Primary memory

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: Files, Buffers, Semaphores

The main function of shared memory is:

Question 37Answer

a.  
inter-process communication

b.  
use working memory efficiently

c.  
inter-process synchronization

d.  
inter-process scheduling

Feedback

The correct answer is: inter-process communication

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

Question 38Select one or more:

a.  
The relative speeds of the tasks must be taken into account.

b.  
Task scheduling must be considered.

c.  
A task that is performed outside the critical section must not affect the behavior of a task in the critical section.

d.  
The task stays in its critical section only for a finite amount of time.

Feedback

Twoja odpowiedź jest niepoprawna.

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.

Allocation unit for file storage:

Question 39Answer

a.  
must be constant across the disk partition

b.  
may vary between partitions

c.  
may differ between files in a partition

d.  
is any integer multiple of a sector ( $>0$ )

Feedback

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

Frame protection bits:

Question 40Select one or more:

a.  
must be available for group clear

b.  
must be readable

c.  
must be group readable

d.  
must be available for writing

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: must be available for writing

The following situations cause "error" exceptions (processor internal interrupts)

Question 41Select one or more:

a.  
extracode

b.  
illegal instruction

c.  
instruction legal but prohibited in user mode

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: illegal instruction, instruction legal but prohibited in user mode

Precise interrupts are:

Question 42Select one or more:

a.  
unblocked only in a stable state between the execution of successive instructions

b.  
only issued in a stable state between executions of subsequent instructions

c.  
accepted only in a stable state between the execution of successive instructions

d.  
transferred only in a stable state between the execution of successive instructions instrukcji

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: accepted only in a stable state between the execution of successive instructions

What mechanism is used to preserve the states of preempted tasks?

Question 43Answer

a.  
time slice

b.  
batch work

c.  
task period

d.  
context switch

Feedback

The correct answer is: context switch

In the sweeping mechanism, a program should be loaded into memory when:

Question 44 Select one or more:

a.  
The programmatical condition for the continuation of the program was met by another program

b.  
The device the program was waiting for has freed up

c.  
The time the program was supposed to be "wake up" has occurred

d.  
The data transmission to the printer, ordered by the program, has ended

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: The data transmission to the printer, ordered by the program, has ended, The programmatical condition for the continuation of the program was met by another program, The device the program was waiting for has freed up, The time the program was supposed to be "wake up" has occurred

With indulgent scheduling, once a CPU is allocated to a task, the task keeps it until:

Question 45 Select one or more:

a.  
transition a task from the ready state to the active state

b.  
releasing the processor by the task

c.  
task termination

d.  
transition a task from the active state to the ready state

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: task termination, releasing the processor by the task

The thread is also called:

Question 46Answer

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

Feedback

The correct answer is: lightweight process

n UNIX, access rights are attributes:

Question 47Select one or more:

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

Feedback

Twoja odpowiedź jest niepoprawna.

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

Discontinuous allocation is the result of:

Question 48 Select one or more:

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

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: paging, segmentation

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

Answer: Question 49

the exchange algorithm opposite to that expected with the measures taken is referred to as “sunspot equilibria”. These equilibria arise due to stochastic fluctuations in agents’ beliefs, leading to unexpected behavior in the exchange rate.

Feedback

The correct answer is: anomaly

Which of the following interrupts a running process?

Question 50 Answer

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



Feedback

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

Scheduling aims to optimize:

Question 51 Select one or more:

a.  
processor utilization

b.  
reaction time

c.  
wait time

d.  
system throughput

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: processor utilization, system throughput, wait time, reaction time

The multi-level interrupt controller includes:

Question 52 Select one or more:

a.  
The register of interrupt being serviced

b.  
Priority encoder

c.  
Individual interrupt mask

d.  
Collective interrupt mask

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Collective interrupt mask, Individual interrupt mask, Priority encoder

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

Question 53 Select one or more:

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

Feedback

Tvoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: It requires processes to actively wait,  
It can only be applied in systems with shared memory

Scheduling algorithms can be:

Question 54Answer

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

Feedback

The correct answers are: indulgent, preemptive

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

Question 55Select one or more:

- a.  
an attempt to write to the page for which the "read only" bit was set
- b.  
memory reference beyond limit register value

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 niepoprawna.

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 was set

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Question 56 Select one or more:

a.  
instruction register

b.  
collective of individual interrupt mask

c.  
program counter

d.  
general purpose registers

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

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

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

Question 57 Select one or more:

a.  
The size of the disk space

b.  
Allocation unit size

c.  
The number of bits of the field describing the size of the file

d.  
The number of bits of the disk address

e.  
FAT table size

Feedback  
Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

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

Which of the following memory allocation schemes cause external fragmentation?

Question 58Answer

a.  
Sweeping

b.  
Segmentation

c.  
Paging

d.  
Multiple contiguous fixed partitions of equal size

Feedback  
The correct answers are: Segmentation, Sweeping

The sweeping mechanism consists in:

Question 59Select one or more:

a.  
Loading pages into the primary memory and sending them to the disk

b.  
Loading segments into primary memory and sending them to disk

c.  
Merging adjacent free memory blocks

d.  
Moving programs around in memory to eliminate fragmentation

Feedback

Twoja odpowiedź jest niepoprawna.

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

Having two-level page index tables:

Question 60 Select one or more:

a.  
the content of a level I table element is added to the content of a level II table element

b.  
the content of a level I table element points to a level II table

c.  
the content of the level I table element is concatenated (combined) with the content of the level II table element

d.  
the content of a level I table element is an index in a level II table

Feedback

Twoja odpowiedź jest poprawna.

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

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

processing time

3.3

6.8

2.4

1.2

Answer: Question 61

3.8

Feedback

The correct answer is: 6.3

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

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 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

0 0 0 0

Feedback

The correct answer is: 10111

The virtual address consists of 8b page number and 8b offset. The page index table is shown below (index, content). For decimal address 384, binary 0000 0001 1000 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

12

6

-1

5

7

4

4

3

9

2

-1

1

3

0

2

Answer:Question 63

3.128

Feedback

The correct answer is: 3.128

#####

#####

##### File: Example1Overview.txt #####

#####

%%%%%%%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%%%%%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling



## Exam 1: Sample Overview

%%%%%%%%%

### Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%%%%%%%%

### Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%%%%%%%%

### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmentation  
Twoja odpowiedź jest poprawna.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%%%%%%%%

#### Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

#### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%%%%%%%%

#### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%%%%%%%%

#### Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

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

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

- a. Distributed processing
- b. Interactive processing
- c.

Real-time processing

d. Batch processing

The correct answers is: Batch processing

5/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a.  
Runs programs
- b. Synchronizes processes
- c.  
It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other

layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.  
Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

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

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

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

8/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.

Controls file access rights  
b. It performs directory services in the hierarchy of disk files  
c.  
It runs programs stored in files  
d. Performs file opening and closing operations  
Twoja odpowiedź jest poprawna.  
The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.



collective of individual interrupt mask

d. program counter

Twoja odpowiedź jest poprawna.

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

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

a.

Files

b. Peripheral devices

c.

User programs

d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

c.

switches back to the application program stack

d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

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

1

%%

Pytanie 27

Niepoprawnie

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

Select all correct::

a.

Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.

External by segmentation

b. Internal by paging

c.

External by resizing allocated blocks

d. Internal by partitioning into quantized blocks

e.

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

Tvoja 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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Tvoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.  
blocked  
d. partly blocked, partly unblocked, according to the level of the accepted interrupt  
Twoja odpowiedź jest poprawna.  
The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

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

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU

g.working set clock

h. clock

i.LFU

j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

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

Select all correct::

a.

The size of the disk space

b. The number of bits of the disk address

c.

The number of bits of the field describing the size of the file

d. Allocation unit size

e.

FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

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

Select all correct::

a.

second chance

b. NRU

c.

LRU

d. working set

e.LFU

f.no algorithm

g.clock

h. working set

i.

FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

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

by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

## Exam 1: Sample Overview

%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.





Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.

time slicing

b. priority

c.

SJF

d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

a.

next interrupt from the timer

b. next interrupt from the device

c.

termination

d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 55

Niepoprawnie

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

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

28/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors

c.  
Linker  
d. Paging system  
The correct answers is: Linker

%%

Pytanie 60  
Niepoprawnie

What type of code can multiple processes execute simultaneously?  
Select all correct::

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

Twoja odpowiedź jest niepoprawna.  
The correct answers is: reentrant

29/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 61  
Niepoprawnie  
Punkty: 0,00 z 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  
task1234  
processing  
time3,94,42,11,8  
Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 62  
Niepoprawnie  
Punkty: 0,00 z 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 zero 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:  
01001Parity disk  
00000Disk 3  
10110Disk 2  
11010Disk 1  
01100Disk 0  
In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds.

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: paging, segmantation

%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program

d. scheduler data

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program

d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

a.

restores the process stack

b. causes the processor to switch to a process other than the interrupted one

c.

restores the conditions register

d. restores the program counter  
Twoja odpowiedź jest poprawna.

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

4/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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



Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%%%%%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%%%%%%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other

layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the critical region, Raises the

semaphore if there are no suspended processes

%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

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

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

9/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a. Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c. It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

10/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a. system call
- b. issuing an interrupt
- c. setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

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

Twoja odpowiedź jest poprawna.

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

1

%%

Pytanie 27

Niepoprawnie

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

Select all correct::

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

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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

15/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.
- the program accesses the page
- b. an error has occurred on the current page
- c.
- the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

16/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

Tvoja 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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

17/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

a.

traffic control

b. task management

c.

task scheduling

d. task timetable management

The correct answers is: task scheduling

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

18/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

a.

exactly one process is waiting for a condition that cannot be met

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

c.



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

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.
- batch work
- b. context switch
- c.
- time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

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

Select all correct::

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

d. Allocation unit size

e.

FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

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

Select all correct::

a.

second chance

b. NRU

c.

LRU

d. working set

e.LFU

f.no algorithm

g.clock

h. working set

i.

FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

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

Select all correct::

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. The number of bits of the disk address

e.

Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

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

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%

Pytanie 48

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%%%%%%%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.
- address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.
- address of the segment page index table of the top-level (first level) in the hierarchy

Tvoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 55

Niepoprawnie

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

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%%%%%%%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%%%%%%%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%%%%%%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

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

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:



The correct answer is: 8

32/32: 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 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?  
and. Memory management

- b. File management
- c. Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%

### Question 3

The root directory of the disk should be located:

and. in a permanent place on the disk

b. at a fixed address in main memory

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

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

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

%%

### Question 4

Virtual memory consists of:

Select all correct:

and. primary memory and cache

b. cache memory and mass storage

c. primary and mass memory

d. primary memory and cloud storage

Tvoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%

### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

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

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

c. Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Tvoja odpowiedź jest niepoprawna.

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

%%

### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

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

Select all correct::

- a. reverse page index tables
- b. multilevel page index tables

- c. page swapping
- d. address translation
- e. associative memory of page references

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Tvoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Tvoja odpowiedź jest poprawna.

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

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Tvoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

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

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

9/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next

b. the order in which disk access requests should be handled

c.

about the physical location of the files

d. about the type of disks the system should have

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

1

## Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

a.

general purpose registers

b. instruction register

c.

collective of individual interrupt mask

d. program counter

Twoja odpowiedź jest poprawna.

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

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

a.

Files

b. Peripheral devices

c.

User programs

d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation



Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%%%%%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

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

Twoja odpowiedź jest poprawna.

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

1

%%%%%%%%%

Pytanie 27

Niepoprawnie

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

Select all correct::

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

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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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## Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

- a. traffic control
  - b. task management
  - c. task scheduling
  - d. task timetable management
- The correct answers is: task scheduling

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch
- c. time slice

d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

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

Select all correct::

a.

FIFO

b. working set

c.

no algorithm

d. LRU

e.second chance

f.NRU

g.working set clock

h. clock

i.LFU

j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

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

Select all correct::

a.

The size of the disk space

b. The number of bits of the disk address

c.

The number of bits of the field describing the size of the file

d. Allocation unit size

e.

FAT table size

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

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Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e. Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

- a. Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

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

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:



Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation

- c. Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Tvoja odpowiedź jest poprawna.

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

%%

Pytanie 55

Niepoprawnie

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

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

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

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: restores the program counter, restores the conditions register

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

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

Select all correct::

a.

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

Tvoja odpowiedź jest niepoprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

and. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

and. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%

Question 4

Virtual memory consists of:

Select all correct:

and. primary memory and cache

b. cache memory and mass storage

c.

primary and mass memory

d. primary memory and cloud storage

Twoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

5/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs



b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

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

## Exam 1: Sample Overview

The correct answers is: OS kernel

Niepoprawnie

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

## Exam 1: Sample Overview

The correct answers is: page number

[illegible]

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a. Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c. It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

10/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a. system call
- b. issuing an interrupt
- c. setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision

interrupt?

Select all correct::

a.

general purpose registers

b. instruction register

c.

collective of individual interrupt mask

d. program counter

Twoja odpowiedź jest poprawna.

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

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

a.

Files

b. Peripheral devices

c.

User programs

d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

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

1

%%%

Pytanie 27

Niepoprawnie

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

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

- c. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

15/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%%%%%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 33  
Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

17/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: task shedding

%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

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

Select all correct::

- a.  
FIFO



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

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

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

Select all correct::

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

Tvoja 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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

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

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

- a. Kernel-level threads require their descriptors in the kernel.
  - 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. Multithreaded applications cannot use multiprocessing.
- The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%%%%%%%%%%  
Pytanie 46  
Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%%%%  
Pytanie 47  
Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%%%%  
Pytanie 48  
Niepoprawnie

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

Select all correct::

- a. self-modifying
- b. reentrant
- c.



Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 55

Niepoprawnie

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

Select all correct::

- a.

need for compaction  
b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

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Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk  
00000Disk 3  
10110Disk 2  
11010Disk 1  
01100Disk 0

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

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

a.

Distributed processing

b. Interactive processing

c.

Real-time processing

d. Batch processing

The correct answers is: Batch processing

5/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:



Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%

### Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%

### Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%

### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%

### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

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

Select all correct::

- a.

- reverse page index tables
- b. multilevel page index tables
- c.
- page swapping
- d. address translation
- e.

associative memory of page references

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a.
- Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c.
- Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Tvoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Tvoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Tvoja odpowiedź jest poprawna.

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

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

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

8/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

a.

Applications

b. OS kernel

c.

File system layer

d. User programs

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

## Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c.



page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

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

Twoja odpowiedź jest poprawna.

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

1

%%

Pytanie 27

Niepoprawnie

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

Select all correct::

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

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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: task scheduling

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch

- c. time slice
- d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 39  
Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?  
Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is:  
no algorithm

%%

Pytanie 40  
Niepoprawnie

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

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

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

20/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 41  
Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

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

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
suspended
- b. running
- c.  
ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

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

Select all correct::

a.

self-modifying

b. reentrant

c.

dynamically relocated

d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

a.

Requires an explicit relinquishment of the processor to another process

b. Stops the processor if 0 is read

c.

Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

a.

Segment descriptors

b. Special registers (DATUM)

c.

Loader

d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie



Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%%%%%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.

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

Twoja odpowiedź jest poprawna.

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

%%%

Pytanie 55

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%%%%%%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

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

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a.  
Runs programs
- b. Synchronizes processes
- c.  
It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

- c. in a place hard-coded in the structures of the operating system
  - d. in a place designated by the data structure in a fixed location on the disk
- The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

#### Question 4

Virtual memory consists of:

Select all correct:

- 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 poprawna.

The correct answers is: primary and mass memory

%%

#### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%

#### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

#### Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

processing?

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes



c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a. initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.

switches back to the application program stack

d. nothing special, it builds the context on the kernel system stack

Tvoja odpowiedź jest poprawna.

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

1

%%%

Pytanie 27

Niepoprawnie

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

Select all correct::

a.

Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

Tvoja 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

%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Tvoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Tvoja odpowiedź jest poprawna.

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

%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

15/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

16/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: task scheduling

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch
- c. time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

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

Select all correct::

- a. FIFO
- b. working set



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

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%

Pytanie 40

Niepoprawnie

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

Select all correct::

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

Tvoja 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

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Exam 1: Sample Overview

%%%

Pytanie 41

Niepoprawnie

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

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e. Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

The correct answers is: with the least CPU requirement

%%%%%%%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

- a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

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

2

%%%%%%%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

suspended

b. running

c.

ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%

Pytanie 48

Niepoprawnie

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

Select all correct::

a.

self-modifying

b. reentrant

c.

dynamically relocated

d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

25/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 55

Niepoprawnie

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

Select all correct::

- a.  
need for compaction

b. internal fragmentation

c.

external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Tvoja odpowiedź jest poprawna.

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

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:  
01001Parity disk

00000Disk 3  
10110Disk 2  
11010Disk 1  
01100Disk 0

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

The correct answer is: 10110

3  
Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:  
8192

The correct answer is: 8

32/32: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.  
Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.  
Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished



Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

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

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a. Raises the semaphore if there are no suspended processes
- b. It doesn't change anything
- c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Controls file access rights

b. It performs directory services in the hierarchy of disk files

c.

It runs programs stored in files

d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

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

Tvoja odpowiedź jest poprawna.

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

1

%%

Pytanie 27

Niepoprawnie

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

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry



c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

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Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

Tvoja 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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

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

Select all correct::

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

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

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Exam 1: Sample Overview

%%%

Pytanie 41

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

## Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

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

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.
- address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.
- address of the segment page index table of the top-level (first level) in the hierarchy

Tvoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00



In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 55

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a.  
generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

a.

Special registers (DATUM)

b. Segment descriptors

c.

Linker

d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

a.

dynamically relocated

b. self-modifying

c.

binary

d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

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Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

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

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: If the semaphore guards a critical region, it can lets two processes enter the critical region, Raises the semaphore if there are no suspended processes

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Exam 1: Sample Overview

%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

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Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%%%%%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

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Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

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Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%%%%%%%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

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Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

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Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

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Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the

appropriate drivers and other

layers of the system

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Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the

critical region, Raises the

semaphore if there are no suspended processes

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Exam 1: Sample Overview

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Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00



In what states can a task occur?

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

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Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

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Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

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Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

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Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

The correct answers is: page number

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Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Tvoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Tvoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

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Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

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Exam 1: Sample Overview

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Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

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Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

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

Twoja odpowiedź jest poprawna.

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

1

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Pytanie 27

Niepoprawnie

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

Select all correct::

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

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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a.

- Primary memory
- b. Processor time
- c.

User programs

- d. Peripheral devices

Twoja odpowiedź jest poprawna.

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

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Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

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Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.

Power fail interrupt

d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

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Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

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Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: The resuming process loses the critical region, The resuming process applies

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Exam 1: Sample Overview

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Exam 1: Sample Overview

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Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

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Pytanie 39

Niepoprawnie

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

Select all correct::

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

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

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

Select all correct::

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

Tvoja 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



%%

Pytanie 41

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

2

Exam 1: Sample Overview

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Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.

It requires processes to actively wait  
d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

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

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

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

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

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Pytanie 48

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a. Segment descriptors
- b. Special registers (DATUM)
- c.

Loader

d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

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Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

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Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

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

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Pytanie 55

Niepoprawnie

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

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

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Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

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Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

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Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

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Pytanie 61

Niepoprawnie



Pytanie 16  
Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

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Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

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Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.



39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

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Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

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

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

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

%%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

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

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

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

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

%%%%%%%%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%%%%%%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program

d. scheduler data

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

%%%%%%%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.

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

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%%%%%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

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

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%%%%%%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a.
- Runs programs
- b. Synchronizes processes
- c.
- It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the  
appropriate drivers and other  
layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

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

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

The correct answers is: OS kernel

%%%%%%%%%



Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

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

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

1

Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.  
Files

b. Peripheral devices

c.

User programs

d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%%%%%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%%%%%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

c.

switches back to the application program stack

d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

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

1

%%%%%%%%%

Pytanie 27

Niepoprawnie

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

Select all correct::

a.

Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry



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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

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

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

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

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Tvoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

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

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

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

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

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

Select all correct::

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

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

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Exam 1: Sample Overview

%%%

Pytanie 41

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%

Pytanie 42

Niepoprawnie

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

Select all correct::

- 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. The number of bits of the disk address
- e. Allocation unit size

Twoja odpowiedź jest niepoprawna.

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

## Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

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

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

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

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

- LFU
- d. FIFO
- e.LRU
- f.second chance
- g.working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

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

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a. address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c. address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::



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

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

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

Select all correct::

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

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 55

Niepoprawnie

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

Select all correct::

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

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a. generate a relative address
- b. generate a physical address
- c.

generate an effective address

d. generate a logical address

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

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

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

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

Tvoja odpowiedź jest poprawna.

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

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

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

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying

c.  
binary  
d. reentrant  
Twoja odpowiedź jest niepoprawna.  
The correct answers is: reentrant

29/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds.

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:

0

The correct answer is: 10110

3  
Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:  
- TIS maximum size of the program in kB

Answer:  
8192

The correct answer is: 8

32/32: Requires hardware support in the form of a DATUM register, Allows for temporal elimination of external fragmentation

9/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%%%%%%%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%%%%%%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program

d. scheduler data

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

%%%%%%%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Tvoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Tvoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Tvoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Tvoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Tvoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other  
layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

- a. Raises the semaphore if there are no suspended processes
- b. It doesn't change anything
- c. Increases semaphore value by 2



d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

- a. current
- b. ready
- c. resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a. frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c. frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a. Applications
- b. OS kernel
- c. File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

## Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

## Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

## Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

Controls file access rights

b. It performs directory services in the hierarchy of disk files

c.

It runs programs stored in files

d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.

- Files
- b. Peripheral devices
- c.
- User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a.
- external fragmentation
- b. swapping
- c.
- page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.
- initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.
- switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.
- Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
- c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry  
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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a.
- Primary memory
- b. Processor time
- c.
- User programs
- d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

- a.
- address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c.
- address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).



Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:



Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.  
FAT table size

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

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Exam 1: Sample Overview

%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

## Exam 1: Sample Overview

%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

- c. LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a. self-modifying
- b. reentrant
- c. dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.
- Segment descriptors
- b. Special registers (DATUM)
- c.

Loader

d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.
- address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.
- address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.
- time slicing
- b. priority
- c.
- SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction
- b. internal fragmentation
- c.  
external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a.  
generate a relative address
- b. generate a physical address

c.  
generate an effective address  
d. generate a logical address  
Twoja odpowiedź jest niepoprawna.  
The correct answers is: generate a physical address

%%

Pytanie 57  
Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:  
Odpowiedź:  
thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated

b. self-modifying

c.

binary

d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds.

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

## Exam 1: Sample Overview

%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

a.

system call

b. issuing an interrupt

c.

setting a status bit

d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

1.saving a copy of the interrupt vector (PC and SR)

2.switching to system mode (modification of PC and status register)

3.programmatic context saving

4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system



mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%%%%%%%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%%%%%%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%%%%%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9  
Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?  
Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.  
occupies a processor
- b. waits for an I/O operation to complete
- c.  
fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

- a. Raises the semaphore if there are no suspended processes
- b. It doesn't change anything
- c. Increases semaphore value by 2
- d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

- a.
- current
- b. ready
- c.
- resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.
- frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.
- frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.
- Applications
- b. OS kernel
- c.
- File system layer
- d. User programs

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.
- Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.
- Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%%%%%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a.  
external fragmentation
- b. swapping
- c.  
page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%%%%%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%%%%%%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.  
Inserting a new item into the Table of Open Files of the Process
  - b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
  - c.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry
- 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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a.  
Primary memory



b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

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Exam 1: Sample Overview

%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

a.

Hardware interrupt

b. Timer interrupts

c.

Power fail interrupt

d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

a.

the program accesses the page

b. an error has occurred on the current page

c.

the program is accessing a page that is not in the cache

d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

a.

External by segmentation

b. Internal by paging

c.

External by resizing allocated blocks

d. Internal by partitioning into quantized blocks

e.

External by freeing blocks in a deallocation order not reverse to allocation

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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a.  
traffic control
  - b. task management
  - c.  
task shedding
  - d. task timetable management
- The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.  
FAT table size

Tvoja 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

20/326/19/24, 6:39 PM

## Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

## Exam 1: Sample Overview

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a. self-modifying
- b. reentrant
- c. dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a. Segment descriptors
- b. Special registers (DATUM)
- c. Loader

The correct answers are: Compiler, Loader

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

## Exam 1: Sample Overview

The correct answers is: SJF

The correct answers are: waiving, termination

## Exam 1: Sample Overview

%%%%%%%%%%



Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds.

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%%%%%%%

## Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%%%%%%%%

## Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%%%%%%%%

## Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

## Pytanie 5

### Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%%%%%%%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%%%%%%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%%%%%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.  
occupies a processor
- b. waits for an I/O operation to complete
- c.  
fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other

layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

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Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.



- current
- b. ready
- c.
- resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.
- frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.
- frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.
- Applications
- b. OS kernel
- c.
- File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.
- Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.
- Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%

### Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

C.

the frame number concatenated with the page number

d. frame number

Tvoja odpowiedź jest poprawna.

The correct answers is: page number

%%%

### Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

## Controls file access rights

b. It performs directory services in the hierarchy of disk files

C.

It runs programs stored in files

d. Performs file opening and closing operations

Tvoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

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Exam 1: Sample Overview

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### Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

a.

system call

b. issuing an interrupt

C.

setting a status bit

- d. unblocking the interrupts

Tvoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

[illegible]

Pytanie 22  
Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1  
Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1  
%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c. page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a. initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
- c. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a. Primary memory
- b. Processor time
- c.

User programs

d. Peripheral devices

Tvoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

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Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Tvoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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

Tvoja 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).

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

a.

Hardware interrupt

b. Timer interrupts

c.

Power fail interrupt

d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%%%%%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

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Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a.  
traffic control
  - b. task management
  - c.  
task scheduling
  - d. task timetable management
- The correct answers is: task scheduling

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch
- c. time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

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Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a. FIFO
- b. working set
- c. no algorithm
- d. LRU
- e. second chance
- f. NRU
- g. working set clock
- h. clock
- i. LFU
- j. optimal

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a. The size of the disk space
- b. The number of bits of the disk address
- c. The number of bits of the field describing the size of the file
- d. Allocation unit size
- e. FAT table size

Tvoja 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

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Exam 1: Sample Overview



%%%%%%%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%%%%%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%%%%%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a.  
working set
- b. NRU
- c.  
LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a.

suspended

b. running

c.

ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

a.

self-modifying

b. reentrant

c.

dynamically relocated

d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

a.

Requires an explicit relinquishment of the processor to another process

b. Stops the processor if 0 is read

c.

Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

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Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

a.

Segment descriptors

b. Special registers (DATUM)

c.

Loader

d. Compiler

The correct answers are: Compiler, Loader

%%%%%%%%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

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Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%%%%%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

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Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%%%%%%%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

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Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%%%%%%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

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Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234  
processing  
time3,94,42,11,8  
Odpowiedź:3.375

The correct answers is: 4,0

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Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.  
Files
- b. Peripheral devices
- c.  
User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

- a. Memory management
- b. File management
- c.  
Program management
- d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:





Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a. restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c. restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a. reverse page index tables
- b. multilevel page index tables
- c. page swapping
- d. address translation
- e. associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a. Distributed processing
- b. Interactive processing
- c. Real-time processing
- d. Batch processing

The correct answers is: Batch processing

5/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

8/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a. Applications
- b. OS kernel
- c. File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a. Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c. Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

9/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a. page number
- b. the page number concatenated with the frame number
- c. the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a. Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c. It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

10/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a. system call
- b. issuing an interrupt
- c. setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.  
Files
- b. Peripheral devices
- c.  
User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a.  
external fragmentation
- b. swapping
- c.  
page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch

- b. switches to the next kernel system stack
- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

- c. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a. Primary memory
- b. Processor time
- c. User programs
- d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

14/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

- a. address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c. address translation, page index tables, "frame error" interrupt



d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper  
Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

15/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

16/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

a.

External by segmentation

b. Internal by paging

c.

External by resizing allocated blocks

d. Internal by partitioning into quantized blocks

e.

External by freeing blocks in a deallocation order not reverse to allocation

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

17/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

18/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.

- FIFO
- b. working set
- c.
- no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.
- The size of the disk space
- b. The number of bits of the disk address
- c.
- The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.
- FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.
- second chance
- b. NRU
- c.
- LRU
- d. working set
- e.LFU
- f.no algorithm
- g.clock
- h. working set
- i.
- FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%%%%%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

a.

suspended

b. running

c.

ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

a.

self-modifying

b. reentrant

- c. dynamically relocated
- d. binary

Tvoja odpowiedź jest niepoprawna.  
The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Tvoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a. Segment descriptors
- b. Special registers (DATUM)
- c. Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a. address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c. address of the segment page index table of the top-level (first level) in the hierarchy

Tvoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

25/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%%%%%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%%%%%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::





Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a. Special registers (DATUM)
- b. Segment descriptors
- c. Linker
- d. Paging system

The correct answers is: Linker

%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a. dynamically relocated
- b. self-modifying
- c. binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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

Select all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

C.

switches back to the application program 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

1

%%%

### Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

a.

## Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

C.

### Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

Tvoja odpowiedź jest niepoprawna.

6/19/24, 6:39 PM

## Exam 1: Sample Overview

Started

## State

Completed

Time used

## Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

### Question 1

Interrupt handling - sequence of actions:

1.saving a copy of the interrupt vector (PC and SR)

2. switching to system mode (modification of PC and status register)

### 3. programmatic context saving

#### 4. switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and

status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%%%%%%%%



Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.  
occupies a processor
- b. waits for an I/O operation to complete
- c.  
fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%%%%%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a.  
Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size

- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

- a. Raises the semaphore if there are no suspended processes
- b. It doesn't change anything
- c. Increases semaphore value by 2
- d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

- a. current
- b. ready



- c. resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a. frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c. frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a. Applications
- b. OS kernel
- c. File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a. Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c. Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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## Exam 1: Sample Overview

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

## Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

c.

switches back to the application program stack

d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

a.

Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):  
Select all correct::

- a.  
address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c.  
address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%%%%%%%

Pytanie 32  
Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33  
Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%

Pytanie 34  
Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a. traffic control
- b. task management
- c. task shedding
- d. task timetable management

The correct answers is: task shedding

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a. exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c. any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.

- batch work
- b. context switch
- c.
- time slice
- d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.
- FIFO
- b. working set
- c.
- no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.
- The size of the disk space
- b. The number of bits of the disk address
- c.
- The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.
- FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41



Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Tvoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Tvoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Tvoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%%%%%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%%%%%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a.  
working set
- b. NRU
- c.  
LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Tvoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a.  
suspended
- b. running

c.  
ready  
d. waiting  
Twoja odpowiedź jest poprawna.  
The correct answers is: ready

2

%%%%%%%%%

Pytanie 48  
Niepoprawnie

What type of code can be executed simultaneously on multiple processors?  
Select all correct::

- a.  
self-modifying
- b. reentrant
- c.  
dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.  
The correct answers is: reentrant

%%%%%%%%%

Pytanie 49  
Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:  
Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.  
The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 50  
Częściowo poprawnie  
Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.  
Segment descriptors
- b. Special registers (DATUM)
- c.  
Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%%%%%%%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a. Starting a new process
- b. Completing an I/O operation
- c. Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a. need for compaction
- b. internal fragmentation
- c. external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a. generate a relative address
- b. generate a physical address
- c. generate an effective address
- d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Tvoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Tvoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8  
Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:  
- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: 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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a. Primary memory
- b. Processor time
- c. User programs
- d. Peripheral devices

Twoja odpowiedź jest poprawna.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk



b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

Question 4

Virtual memory consists of:

Select all correct:

and. primary memory and cache

b. cache memory and mass storage

c.

primary and mass memory

d. primary memory and cloud storage

Twoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a. restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c. restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

4/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a. reverse page index tables
- b. multilevel page index tables
- c. page swapping
- d. address translation
- e. associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a. Distributed processing
- b. Interactive processing
- c. Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the critical region, Raises the semaphore if there are no suspended processes

7/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again



Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision

interrupt?

Select all correct::

a.

general purpose registers

b. instruction register

c.

collective of individual interrupt mask

d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

a.

Files

b. Peripheral devices

c.

User programs

d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Tvoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%%%%%%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

- c. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

Tvoja 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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a. Primary memory
- b. Processor time
- c. User programs
- d. Peripheral devices

Tvoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

14/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

- a. address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c. address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper



Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

15/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%%%%%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

16/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 33  
Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

17/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a.  
traffic control
- b. task management
- c.  
task shedding
- d. task timetable management

The correct answers is: task shedding

%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO

- b. working set
- c. no algorithm
- d. LRU
- e. second chance
- f. NRU
- g. working set clock
- h. clock
- i. LFU
- j. optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a. The size of the disk space
- b. The number of bits of the disk address
- c. The number of bits of the field describing the size of the file
- d. Allocation unit size
- e. FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a. second chance
- b. NRU
- c. LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i. FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%%%%%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a. Kernel-level threads require their descriptors in the kernel.
  - 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. Multithreaded applications cannot use multiprocessing.
- The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a. working set
- b. NRU
- c. LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a. self-modifying
- b. reentrant
- c.



Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.



need for compaction  
b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.
- Special registers (DATUM)
- b. Segment descriptors
- c.
- Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.
- dynamically relocated
- b. self-modifying
- c.
- binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk  
00000Disk 3  
10110Disk 2  
11010Disk 1  
01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: Primary memory, Peripheral devices, Processor time

14/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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

Tvoja odpowiedź jest poprawna.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

and. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

and. in a permanent place on the disk

b. at a fixed address in main memory

- c. in a place hard-coded in the structures of the operating system
  - d. in a place designated by the data structure in a fixed location on the disk
- The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

#### Question 4

Virtual memory consists of:

Select all correct:

- 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 poprawna.

The correct answers is: primary and mass memory

%%

#### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

- a. Detection of an attempt to write outside the address space of the frame
- b. Detection of an access attempt from a frame not allocated to the program
- c. Whether the frame is empty or contains a page
- d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

#### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a. relocation
- b. compaction
- c. paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

#### Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a. restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c. restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a. reverse page index tables
- b. multilevel page index tables
- c. page swapping
- d. address translation
- e. associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before

processing?

- a. Distributed processing
- b. Interactive processing
- c. Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system  
Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:  
Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.



The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.
- Applications
- b. OS kernel
- c.
- File system layer
- d. User programs

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.
- Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.
- Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Requires hardware support in the form of a DATUM register, Allows for temporal elimination of external fragmentation

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Exam 1: Sample Overview

%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.
- page number
- b. the page number concatenated with the frame number
- c.
- the frame number concatenated with the page number
- d. frame number

Tvoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Tvoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c. page fault
- d. internal fragmentation

Tvoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a. initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.

switches back to the application program stack

d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

a.  
Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.  
Primary memory

b. Processor time

c.  
User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.  
address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.  
address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a.  
traffic control
- b. task management
- c.  
task shedding
- d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set

- c.
- no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.
- The size of the disk space
- b. The number of bits of the disk address
- c.
- The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.
- FAT table size

Tvoja 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

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Exam 1: Sample Overview

%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.
- second chance
- b. NRU
- c.
- LRU
- d. working set
- e.LFU
- f.no algorithm
- g.clock
- h. working set
- i.
- FIFO

Tvoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU



%%%%%%%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%%%%%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%%%%%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

a.

suspended

b. running

c.

ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

a.

self-modifying

b. reentrant

c.

dynamically relocated

d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.  
Segment descriptors
- b. Special registers (DATUM)
- c.  
Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction

b. internal fragmentation

c.

external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Tvoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a. Special registers (DATUM)
- b. Segment descriptors
- c. Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a. dynamically relocated
- b. self-modifying
- c. binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

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Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3  
10110Disk 2  
11010Disk 1  
01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:  
0

The correct answer is: 10110

3  
Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:  
8192

The correct answer is: 8

32/32: task control, synchronization of processes and devices with processes, interrupt handling (at the elementary level, then they are passed on to other layers).

15/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a. Hardware interrupt
- b. Timer interrupts
- c. Power fail interrupt
- d. Scheduler

6/19/24, 6:39 PM  
Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m  
1 hour 52 min.  
39.75/75.00  
21.20 points for 40.00 points achievable ( 53 %)

%%  
Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%  
Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%  
Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%  
Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory



%%

#### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

- a.  
Detection of an attempt to write outside the address space of the frame
- b. Detection of an access attempt from a frame not allocated to the program
- c.  
Whether the frame is empty or contains a page
- d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

#### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

#### Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

#### Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

- a. Raises the semaphore if there are no suspended processes
- b. It doesn't change anything
- c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

8/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

a.

Applications

b. OS kernel

c.

File system layer

d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.
- Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.
- Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.
- page number
- b. the page number concatenated with the frame number
- c.
- the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.
- Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.
- It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c. page fault
- d. internal fragmentation

Tvoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a. initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Tvoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

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Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.  
FAT table size

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

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Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

## Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

- b. NRU
- c. LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a. self-modifying
- b. reentrant
- c. dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.
- Segment descriptors
- b. Special registers (DATUM)
- c.
- Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.
- address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.
- address of the segment page index table of the top-level (first level) in the hierarchy

Tvoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.
- time slicing
- b. priority
- c.
- SJF
- d. FCFS

Tvoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%%%%%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction
- b. internal fragmentation
- c.  
external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a.  
generate a relative address



b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

a.

Special registers (DATUM)

b. Segment descriptors

c.

Linker

d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

a.

dynamically relocated

b. self-modifying

c.

binary

d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds.

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

a.

the program accesses the page

b. an error has occurred on the current page

c.

the program is accessing a page that is not in the cache

d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

a.

External by segmentation

b. Internal by paging

c.

External by resizing allocated blocks

d. Internal by partitioning into quantized blocks

e.

External by freeing blocks in a deallocation order not reverse to allocation

Twoja odpowiedź jest niepoprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

Question 4

Virtual memory consists of:

Select all correct:

a. primary memory and cache

b. cache memory and mass storage

c.

primary and mass memory

d. primary memory and cloud storage

Tvoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

a.

relocation

b. compaction

c.

paging

d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program

d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Tvoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Tvoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other  
layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

- a. Raises the semaphore if there are no suspended processes
- b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

a.

Applications

b. OS kernel

c.

File system layer

d. User programs



The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

Controls file access rights

b. It performs directory services in the hierarchy of disk files

c.

It runs programs stored in files

d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

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## Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

## Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c. page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a. initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

15/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Tvoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size

e.  
FAT table size

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

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Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e.LFU
- f.no algorithm
- g.clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address

e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.



The correct answers are: FAT table size, The size of the disk space

2

## Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Tvoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

a.

suspended

b. running

c.

ready

d. waiting

Tvoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

a.

self-modifying

b. reentrant

c.

dynamically relocated

d. binary

Tvoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

a.

Requires an explicit relinquishment of the processor to another process

b. Stops the processor if 0 is read

c.

Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.
- Segment descriptors
- b. Special registers (DATUM)
- c.
- Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.
- address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.
- address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.
- time slicing
- b. priority
- c.
- SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Tvoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Tvoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction
- b. internal fragmentation
- c.  
external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a.

- generate a relative address
- b. generate a physical address
- c.

generate an effective address

- d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.
- Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.
- Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.
- Special registers (DATUM)
- b. Segment descriptors
- c.
- Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::



### Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: 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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%

### Question 1

Interrupt handling - sequence of actions:

1.saving a copy of the interrupt vector (PC and SR)

2.switching to system mode (modification of PC and status register)

3.programmatic context saving

4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and

status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%%%%%%%

## Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%%%%%%%%

## Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%%%%%%%%

## Question 4

Virtual memory consists of:

Select all correct:

a. primary memory and cache

b. cache memory and mass storage

c.

primary and mass memory

d. primary memory and cloud storage

Tvoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%%%%%%%%

## Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Tvoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page



%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.  
occupies a processor
- b. waits for an I/O operation to complete
- c.  
fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other

layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the critical region, Raises the

semaphore if there are no suspended processes

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

- current
- b. ready
- c.
- resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.
- frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.
- frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.
- Applications
- b. OS kernel
- c.
- File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.
- Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.
- Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

9/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

### Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

C.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%

### Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

## Controls file access rights

b. It performs directory services in the hierarchy of disk files

C.

It runs programs stored in files

d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

## Controls file access rights

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## Exam 1: Sample Overview

%%%%%%%%%%

### Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

a.

system call

- b. issuing an interrupt

C.

## setting a status bit

d. unblocking the interrupts

Tvoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%%

Pytanie 22  
Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1  
Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1  
%%

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c. page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a. initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c. switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a. Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
- c. Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a. Primary memory
- b. Processor time
- c.

User programs

d. Peripheral devices

Tvoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Tvoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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

Tvoja 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).

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

a.

Hardware interrupt

b. Timer interrupts

c.

Power fail interrupt

d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt



%%%%%%%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a.  
traffic control
  - b. task management
  - c.  
task shedding
  - d. task timetable management
- The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch
- c. time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a. FIFO
- b. working set
- c. no algorithm
- d. LRU
- e. second chance
- f. NRU
- g. working set clock
- h. clock
- i. LFU
- j. optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a. The size of the disk space
- b. The number of bits of the disk address
- c. The number of bits of the field describing the size of the file
- d. Allocation unit size
- e. FAT table size

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a.  
working set
- b. NRU
- c.  
LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a.

suspended

b. running

c.

ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

a.

self-modifying

b. reentrant

c.

dynamically relocated

d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

a.

Requires an explicit relinquishment of the processor to another process

b. Stops the processor if 0 is read

c.

Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

a.

Segment descriptors

b. Special registers (DATUM)

c.

Loader

d. Compiler

The correct answers are: Compiler, Loader

%%%%%%%%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%%%%%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly



%%%%%%%%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%%%%%%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234  
processing  
time3,94,42,11,8  
Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: 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

17/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a. traffic control
- b. task management
- c. task shedding
- d. task timetable management

The correct answers is: task shedding

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

18/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a. exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c. any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.

- batch work
- b. context switch
- c.
- time slice
- d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.
- FIFO
- b. working set
- c.
- no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.
- The size of the disk space
- b. The number of bits of the disk address
- c.
- The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.
- FAT table size

Twoja odpowiedź jest niepoprawna.

6/19/24, 6:39 PM

Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

- a.  
Detection of an attempt to write outside the address space of the frame
- b. Detection of an access attempt from a frame not allocated to the program
- c.  
Whether the frame is empty or contains a page
- d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.  
occupies a processor
- b. waits for an I/O operation to complete
- c.  
fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a.  
Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c.  
Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a.  
Runs programs
- b. Synchronizes processes
- c.  
It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the  
appropriate drivers and other  
layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

- a.  
Raises the semaphore if there are no suspended processes



b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

a.

frequent context changes that require page index tables to be reloaded

b. frequent downloading of pages that have just been swapped out from memory

c.

frequently changing the values of bits describing pages in frames

d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

a.

Applications

b. OS kernel

c.

File system layer

d. User programs

The correct answers is: OS kernel

%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

Controls file access rights

b. It performs directory services in the hierarchy of disk files

c.

It runs programs stored in files

d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.  
Files
- b. Peripheral devices
- c.  
User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a.  
external fragmentation
- b. swapping
- c.  
page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.  
Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

Tvoja 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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Tvoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Tvoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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

Tvoja 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).

15/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

16/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

Twoja odpowiedź jest niepoprawna.

The correct answers are: Internal by paging, Internal by partitioning into quantized blocks, External by freeing blocks in a

%%%

### Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region.

C.

## The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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## Exam 1: Sample Overview

[illegible]

### Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

a.

traffic control

b. task management

C.

## task scheduling

d. task timetable management

The correct answers is: task shedding

%%%

### Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

C.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

18/326/19/24. 6:39 PM

## Exam 1: Sample Overview

[illegible]

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

a.

exactly one process is waiting for a condition that cannot be met

b. at least two processes are waiting for conditions that cannot be met

c.

any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

a.

batch work

b. context switch

c.

time slice

d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

a.

FIFO

b. working set

c.

no algorithm

d. LRU

e.second chance

f.NRU

g.working set clock

h. clock

i.LFU

j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40



Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.  
FAT table size

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

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Exam 1: Sample Overview

%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

## Exam 1: Sample Overview

%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a. working set
- b. NRU
- c. LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a. self-modifying
- b. reentrant
- c. dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a. Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c. Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a. Segment descriptors
- b. Special registers (DATUM)
- c. Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a. address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c. address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

25/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a. time slicing
- b. priority
- c. SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction
- b. internal fragmentation
- c.  
external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a. generate a relative address
  - b. generate a physical address
  - c. generate an effective address
  - d. generate a logical address
- Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a. Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c. Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Tvoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a. Special registers (DATUM)
- b. Segment descriptors
- c. Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a. dynamically relocated
- b. self-modifying
- c. binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: The size of the disk space, The number of bits of the field describing the size of the file

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e.LFU
- f.no algorithm
- g.clock
- h. working set
- i.  
FIFO

Tvoja odpowiedź jest niepoprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%%%%%%%

Question 1



Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

- a.  
Detection of an attempt to write outside the address space of the frame
- b. Detection of an access attempt from a frame not allocated to the program
- c.  
Whether the frame is empty or contains a page
- d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a.  
occupies a processor
- b. waits for an I/O operation to complete
- c.  
fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%%%%%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%%%%%%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the

appropriate drivers and other

layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the

critical region, Raises the

semaphore if there are no suspended processes

## Exam 1: Sample Overview

%%%%%%%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

- a.  
current
- b. ready
- c.  
resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.  
frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.  
frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

8/326/19/24, 6:39 PM

## Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.  
Applications
- b. OS kernel
- c.  
File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

Controls file access rights

b. It performs directory services in the hierarchy of disk files

c.

It runs programs stored in files

d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

10/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

a.

- system call
- b. issuing an interrupt
- c.
- setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.
- which drive should be used next
- b. the order in which disk access requests should be handled
- c.
- about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.
- general purpose registers
- b. instruction register
- c.
- collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.
- Files
- b. Peripheral devices
- c.
- User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

%%%%%%%%%

### Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

## Compaction solves the problem:

Select all correct::

a.

## external fragmentation

b. swapping

C.

page fault

d. internal fragmentation

Tvoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

% %

### Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

a.

initializes the kernel system stack from the scratch

b. switches to the next kernel system stack

C.

switches back to the application program stack

d. nothing special, it builds the context on the kernel system stack

Tvoja odpowiedź jest poprawna.

The correct answer is: nothing special, it builds the context on the kernel system stack

1

% %

### Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

a.

## Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

C.

### Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%%%%%%%%



Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

15/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a. Hardware interrupt
- b. Timer interrupts
- c. Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a. the program accesses the page
- b. an error has occurred on the current page
- c. the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a. External by segmentation
- b. Internal by paging
- c. External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e. External by freeing blocks in a deallocation order not reverse to allocation

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a. The resuming process applies for the critical region just like other processes waiting to enter the critical

region  
b. The resuming process gets a critical region after the resumed process exits the critical region  
c.  
The resuming process loses the critical region  
Twoja odpowiedź jest poprawna.  
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

17/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a. traffic control
- b. task management
- c. task shedding
- d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:  
Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:  
Select all correct::

- a. exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c. any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size

e.  
FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Tvoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a.  
who waited the longest in the queue
- b. which was last placed in the queue
- c.  
with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a.  
Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a.  
working set
- b. NRU
- c.  
LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Tvoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%%%%%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a.  
suspended
- b. running
- c.  
ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a.  
self-modifying
- b. reentrant
- c.  
dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%%%%%%%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a. Segment descriptors
- b. Special registers (DATUM)
- c. Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a. address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c. address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

25/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a. time slicing
- b. priority
- c. SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a. next interrupt from the timer
- b. next interrupt from the device
- c. termination
- d. waiving





Pytanie 57  
Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:  
Odpowiedź:  
thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e. Allocation unit size

Twoja odpowiedź jest niepoprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

- a. Memory management
- b. File management

- c. Program management
  - d. Interrupt handling
- The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%

### Question 3

The root directory of the disk should be located:

and. in a permanent place on the disk

b. at a fixed address in main memory

c.  
in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

### Question 4

Virtual memory consists of:

Select all correct:

and. primary memory and cache

b. cache memory and mass storage

c.  
primary and mass memory

d. primary memory and cloud storage

Twoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%

### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.  
Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.  
Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a. relocation
- b. compaction
- c. paging
- d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a. restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c. restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a. reverse page index tables
- b. multilevel page index tables
- c.

page swapping  
d. address translation  
e.

associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a. Distributed processing
- b. Interactive processing
- c. Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can let two processes enter the critical region

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

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked



%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a. frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c. frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a. Applications
- b. OS kernel
- c. File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a. Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c. Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled

- c. about the physical location of the files
  - d. about the type of disks the system should have
- The correct answers is: the order in which disk access requests should be handled

1  
Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping
- c. page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Tvoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.  
Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
- c.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

Tvoja 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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a.  
Primary memory
- b. Processor time
- c.  
User programs
- d. Peripheral devices

Tvoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

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Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

- a. address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c. address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a. Hardware interrupt
- b. Timer interrupts
- c. Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%%%%%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a. the program accesses the page
- b. an error has occurred on the current page
- c. the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a. External by segmentation
- b. Internal by paging
- c. External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e. External by freeing blocks in a deallocation order not reverse to allocation

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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a. The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c. The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a. traffic control
  - b. task management
  - c. task scheduling
  - d. task timetable management
- The correct answers is: task scheduling

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a. exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c. any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch
- c. time slice
- d. task period

The correct answers is: context switch

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Exam 1: Sample Overview

%%

Pytanie 39  
Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e. second chance
- f. NRU
- g. working set clock
- h. clock
- i. LFU
- j. optimal

Tvoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40  
Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.  
FAT table size

Tvoja 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

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Exam 1: Sample Overview

%%

Pytanie 41  
Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.



- second chance
- b. NRU
- c.
- LRU
- d. working set
- e.LFU
- f.no algorithm
- g.clock
- h. working set
- i.
- FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.
- Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.
- Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.
- It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a. who waited the longest in the queue
- b. which was last placed in the queue
- c. with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a. Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a. working set
- b. NRU
- c. LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

%%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a.  
self-modifying
- b. reentrant
- c.  
dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.  
Segment descriptors
- b. Special registers (DATUM)
- c.  
Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

25/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.

Performing V operation on the semaphore  
d. Performing the P operation on the semaphore

Tvoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction
- b. internal fragmentation
- c.  
external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a.  
generate a relative address
- b. generate a physical address
- c.  
generate an effective address
- d. generate a logical address

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.

Adds the frame number to the page number

b. Concatenates the frame number and page number

c.

Concatenates the frame number and offset on the page

d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

a.

Special registers (DATUM)

b. Segment descriptors

c.

Linker

d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

a.

dynamically relocated

b. self-modifying

c.

binary

d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

g.working set clock

Twoja odpowiedź jest niepoprawna.

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Exam 1: Sample Overview

Started

State



Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

Exam 1: Sample Overview

%%

Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%

Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

- a. Detection of an attempt to write outside the address space of the frame
- b. Detection of an access attempt from a frame not allocated to the program
- c. Whether the frame is empty or contains a page
- d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a. relocation
- b. compaction
- c. paging
- d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%%%%%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a.  
reverse page index tables
- b. multilevel page index tables
- c.  
page swapping
- d. address translation
- e.  
associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a.  
Distributed processing
- b. Interactive processing
- c.  
Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%%%%%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c. Avoids external fragmentation
- d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

%%%%%%%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

- a. Runs programs
- b. Synchronizes processes
- c. It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

%%%%%%%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:  
Select all correct::

- a.  
Raises the semaphore if there are no suspended processes
- b. It doesn't change anything
- c.  
Increases semaphore value by 2
- d. If the semaphore guards a critical region, it can let two processes enter the critical region

Tvoja 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

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Exam 1: Sample Overview

%%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

- a.  
current
- b. ready
- c.  
resetted
- d. blocked

Tvoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.  
frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.  
frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Tvoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

8/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.

Applications

b. OS kernel

c.

File system layer

d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

a.

Requires relative references to be addressed when the program is loaded into memory

b. Requires hardware support in the form of a LIMIT register

c.

Requires hardware support in the form of a DATUM register

d. Allows for temporal elimination of external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers are: Requires hardware support in the form of a DATUM register, Allows for temporal elimination of external fragmentation

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

a.

page number

b. the page number concatenated with the frame number

c.

the frame number concatenated with the page number

d. frame number

Tvoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

a.

Controls file access rights

b. It performs directory services in the hierarchy of disk files

c.

It runs programs stored in files

d. Performs file opening and closing operations

Tvoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Tvoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Tvoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%%%%%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.  
Files
- b. Peripheral devices
- c.  
User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%%%%%%%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a.  
external fragmentation
- b. swapping
- c.  
page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%%%%%%%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%%%%%%%%

Pytanie 27

Niepoprawnie



Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

a.

Inserting a new item into the Table of Open Files of the Process

b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

c.

Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

a.

Primary memory

b. Processor time

c.

User programs

d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

14/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

a.

address translation, page index tables, page reference bits, "frame error" interrupt

b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory

c.

address translation, page index tables, "frame error" interrupt

d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

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).

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Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a. Hardware interrupt
- b. Timer interrupts
- c. Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a. the program accesses the page
- b. an error has occurred on the current page
- c. the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

16/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a. External by segmentation
- b. Internal by paging
- c. External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.

External by freeing blocks in a deallocation order not reverse to allocation

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

%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

a.

The resuming process applies for the critical region just like other processes waiting to enter the critical region

b. The resuming process gets a critical region after the resumed process exits the critical region

c.

The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

a.

traffic control

b. task management

c.

task shedding

d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

a.

unblocked

b. some blocked, some unblocked, developer decides

c.

blocked

d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work
- b. context switch
- c.  
time slice
- d. task period

The correct answers is: context switch

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO
- b. working set
- c.  
no algorithm
- d. LRU
- e.second chance
- f.NRU
- g.working set clock
- h. clock
- i.LFU
- j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space
- b. The number of bits of the disk address
- c.  
The number of bits of the field describing the size of the file
- d. Allocation unit size
- e.  
FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%%%%%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address

e.

Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

## Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a.  
working set
- b. NRU
- c.  
LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a.  
suspended
- b. running
- c.  
ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a.  
self-modifying
- b. reentrant
- c.  
dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.

Requires an explicit relinquishment of the processor to another process

b. Stops the processor if 0 is read

c.

Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

a.

Segment descriptors

b. Special registers (DATUM)

c.

Loader

d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

a.

address of the segment page index table of the bottom-level (last level) in the hierarchy

b. addresses of all segment page index tables

c.

address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

a.

time slicing

b. priority

c.

SJF

d. FCFS

Twoja odpowiedź jest poprawna.



The correct answers is: SJF

%%%%%%%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process
- b. Completing an I/O operation
- c.  
Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%%%%%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a.  
need for compaction
- b. internal fragmentation
- c.  
external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 56



Pytanie 60  
Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

Pytanie 61  
Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%

Pytanie 62  
Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

## Exam 1: Sample Overview

%%%%%%%%%

### Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: working set, working set clock

%%%%%%%%%

### Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c. ready
- d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

2

%%%%%%%%%

### Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a. self-modifying
- b. reentrant
- c. dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%%%%%%%%

### Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.  
Segment descriptors
- b. Special registers (DATUM)
- c.  
Loader
- d. Compiler

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%%%%%%%%

Question 1

Interrupt handling - sequence of actions:

- 1.saving a copy of the interrupt vector (PC and SR)
- 2.switching to system mode (modification of PC and status register)
- 3.programmatic context saving
- 4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%%%%%%%

Question 2

What are the functions of the kernel?  
and. Memory management  
b. File management  
c.  
Program management  
d. Interrupt handling  
The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%%%%%%%%%%%  
Question 3

The root directory of the disk should be located:  
and. in a permanent place on the disk  
b. at a fixed address in main memory  
c.  
in a place hard-coded in the structures of the operating system  
d. in a place designated by the data structure in a fixed location on the disk  
The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%%%%%%%%%%%  
Question 4

Virtual memory consists of:  
Select all correct:  
and. primary memory and cache  
b. cache memory and mass storage  
c.  
primary and mass memory  
d. primary memory and cloud storage  
Twoja odpowiedź jest poprawna.  
The correct answers is: primary and mass memory

%%%%%%%%%%%%  
Pytanie 5  
Niepoprawnie

The page fault interrupt is used to:  
Select all correct::  
a.  
Detection of an attempt to write outside the address space of the frame  
b. Detection of an access attempt from a frame not allocated to the program  
c.  
Whether the frame is empty or contains a page  
d. Downloads to the memory of the requested page  
Twoja odpowiedź jest niepoprawna.  
The correct answers is: Downloads to the memory of the requested page

%%%%%%%%%%%%  
Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.  
restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a. reverse page index tables
- b. multilevel page index tables
- c. page swapping
- d. address translation
- e. associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

- a. Distributed processing
- b. Interactive processing
- c. Real-time processing
- d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

- a. occupies a processor
- b. waits for an I/O operation to complete
- c. fills the CPU idle time
- d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%%%%%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

- a. Requires sorting the cut part into the list of free blocks
- b. It allows for quick determining whether there is a free block of the required size
- c.



Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other

layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the critical region, Raises the

semaphore if there are no suspended processes

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted  
d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.  
frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.  
frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.  
Applications
- b. OS kernel
- c.  
File system layer
- d. User programs

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.  
Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.  
Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,  
Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a. which drive should be used next
- b. the order in which disk access requests should be handled
- c. about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

## Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a. general purpose registers
- b. instruction register
- c. collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a. Files
- b. Peripheral devices
- c. User programs
- d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a. external fragmentation
- b. swapping

c.  
page fault  
d. internal fragmentation  
Twoja odpowiedź jest poprawna.  
The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.  
Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
- c.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a.  
Primary memory
- b. Processor time
- c.  
User programs
- d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):  
Select all correct::

- a.  
address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c.  
address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

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Exam 1: Sample Overview

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Tvoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

Tvoja 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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Tvoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a. traffic control
- b. task management
- c. task scheduling
- d. task timetable management

The correct answers is: task scheduling

%%%%%%%%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a. exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c. any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work



b. context switch

c.

time slice

d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

a.

FIFO

b. working set

c.

no algorithm

d. LRU

e.second chance

f.NRU

g.working set clock

h. clock

i.LFU

j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

a.

The size of the disk space

b. The number of bits of the disk address

c.

The number of bits of the field describing the size of the file

d. Allocation unit size

e.

FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

%%%%%%%%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

- a. who waited the longest in the queue
- b. which was last placed in the queue
- c. with the least CPU requirement
- d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a. Kernel-level threads require their descriptors in the kernel.
- 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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a. working set
- b. NRU
- c. LFU
- d. FIFO
- e. LRU
- f. second chance
- g. working set clock

Twoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a. suspended
- b. running
- c.

ready  
d. waiting  
Twoja odpowiedź jest poprawna.  
The correct answers is: ready

2

%%

Pytanie 48  
Niepoprawnie

What type of code can be executed simultaneously on multiple processors?  
Select all correct::

- a.  
self-modifying
- b. reentrant
- c.  
dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.  
The correct answers is: reentrant

%%

Pytanie 49  
Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:  
Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.  
The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 50  
Częściowo poprawnie  
Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.  
Segment descriptors
- b. Special registers (DATUM)
- c.  
Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a. Starting a new process
- b. Completing an I/O operation
- c. Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a. need for compaction
- b. internal fragmentation
- c. external fragmentation

Twoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a. generate a relative address
- b. generate a physical address
- c. generate an effective address
- d. generate a logical address

Twoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.
- Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.
- Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Tvoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.
- Special registers (DATUM)
- b. Segment descriptors
- c.
- Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.
- dynamically relocated
- b. self-modifying
- c.
- binary
- d. reentrant

Tvoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

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Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

a.





## Question 1

Interrupt handling - sequence of actions:

1. saving a copy of the interrupt vector (PC and SR)
2. switching to system mode (modification of PC and status register)
3. programmatic context saving
4. switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and status register), 3. → programmatic context saving, 4. → switching to the system stack

%%%

## Question 2

What are the functions of the kernel?

a. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%%

## Question 3

The root directory of the disk should be located:

a. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%%

## Question 4

Virtual memory consists of:

Select all correct:

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 poprawna.

The correct answers is: primary and mass memory

%%%

## Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

- a.  
Detection of an attempt to write outside the address space of the frame
- b. Detection of an access attempt from a frame not allocated to the program
- c.  
Whether the frame is empty or contains a page
- d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a.  
relocation
- b. compaction
- c.  
paging
- d. segmantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmantation

%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a.  
restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c.

restores the conditions register

d. restores the program counter

Tvoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

a.

reverse page index tables

b. multilevel page index tables

c.

page swapping

d. address translation

e.

associative memory of page references

Tvoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%%%%%%%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

a.

Distributed processing

b. Interactive processing

c.

Real-time processing

d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

a.

occupies a processor

b. waits for an I/O operation to complete

c.

fills the CPU idle time

d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks

Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,

Requires sorting the cut

part into the list of free blocks

%%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the

appropriate drivers and other

layers of the system

%%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the

critical region, Raises the

semaphore if there are no suspended processes

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

- a.
- current
- b. ready
- c.
- resetted
- d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a.
- frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c.
- frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a.
- Applications
- b. OS kernel
- c.
- File system layer
- d. User programs

The correct answers is: OS kernel

%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a.  
Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c.  
Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files, Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.  
which drive should be used next
- b. the order in which disk access requests should be handled
- c.  
about the physical location of the files
- d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

Exam 1: Sample Overview

%%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

- a.  
general purpose registers
- b. instruction register
- c.  
collective of individual interrupt mask
- d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

- a.  
Files
- b. Peripheral devices
- c.  
User programs
- d. Primary memory



Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

- a.  
external fragmentation
- b. swapping
- c.  
page fault
- d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.  
Inserting a new item into the Table of Open Files of the Process
- b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
- c.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry

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

%%%%%%%%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a. Primary memory
- b. Processor time
- c. User programs
- d. Peripheral devices

Tvoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):

Select all correct::

- a. address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c. address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Tvoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%%%%%%%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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

Tvoja 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).

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a.  
Hardware interrupt
- b. Timer interrupts
- c.  
Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region
- Twoja odpowiedź jest poprawna.
- 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

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Exam 1: Sample Overview

%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a.  
traffic control
- b. task management
- c.  
task shedding
- d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a.  
unblocked
- b. some blocked, some unblocked, developer decides
- c.  
blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Twoja odpowiedź jest poprawna.

The correct answers is: blocked

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Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a.  
exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met

- c.  
any greater than zero number of 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 answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a.  
batch work  
b. context switch  
c.  
time slice  
d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

- a.  
FIFO  
b. working set  
c.  
no algorithm  
d. LRU  
e.second chance  
f.NRU  
g.working set clock  
h. clock  
i.LFU  
j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%%%%%%%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

- a.  
The size of the disk space  
b. The number of bits of the disk address  
c.

The number of bits of the field describing the size of the file

d. Allocation unit size

e.

FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

a.

second chance

b. NRU

c.

LRU

d. working set

e.LFU

f.no algorithm

g.clock

h. working set

i.

FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

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. The number of bits of the disk address

e.

Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

a.

Can be applied only in distributed systems

b. Stops the processor if 0 is read

c.

It requires processes to actively wait

d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00

SJF selects the task:

a.

who waited the longest in the queue

b. which was last placed in the queue

c.

with the least CPU requirement

d. which was first placed in the queue

The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

a.

Kernel-level threads require their descriptors in the kernel.

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. Multithreaded applications cannot use multiprocessing.

The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

a.

working set

b. NRU

c.

LFU

d. FIFO

e.LRU

f.second chance

Twoja odpowiedź jest niepoprawna.

%%%

Poprawnie

When the processor is released, the scheduler selects one of the queued processes:

a.

b. running

ready

d. waiting

Twoja odpowiedź jest poprawna.

The correct answers is: ready

%%%

### Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

a.

## self-modifying

b. reentrant

C.

dynamically relocated

d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%%%%%%%%%

### Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

### Using the Test-And-Set instruction in synchronization:

Select all correct::

a.

Requires an explicit relinquishment of the processor to another process

- b. Stops the processor if 0 is read

C.

Requires organizing inactive waiting in queues

d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

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## Exam 1: Sample Overview

%%%%%%%%%%



Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.
- Segment descriptors
- b. Special registers (DATUM)
- c.
- Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.
- address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.
- address of the segment page index table of the top-level (first level) in the hierarchy

Tvoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

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Exam 1: Sample Overview

%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.
- time slicing
- b. priority
- c.
- SJF
- d. FCFS

Tvoja odpowiedź jest poprawna.

The correct answers is: SJF

%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.
- next interrupt from the timer
- b. next interrupt from the device
- c.

termination

d. waiving

Tvoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Tvoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

a.

need for compaction

b. internal fragmentation

c.

external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

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Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

a.

generate a relative address

b. generate a physical address

c.

generate an effective address

d. generate a logical address

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Tvoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

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Exam 1: Sample Overview

%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Tvoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

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Exam 1: Sample Overview

%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

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Exam 1: Sample Overview

%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds.

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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:  
8192

The correct answer is: 8

32/32: waiving, termination

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Exam 1: Sample Overview

%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

a.

Starting a new process

b. Completing an I/O operation

c.

Performing V operation on the semaphore

d. Performing the P operation on the semaphore

Twoja odpowiedź jest poprawna.

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Exam 1: Sample Overview

Started

State

Completed

Time used

Points

Rating

Wednesday, June 19, 2024, 12:15 p.m

Finished

Wednesday, June 19, 2024, 2:08 p.m

1 hour 52 min.

39.75/75.00

21.20 points for 40.00 points achievable ( 53 %)

%%

Question 1

Interrupt handling - sequence of actions:

1.saving a copy of the interrupt vector (PC and SR)

2.switching to system mode (modification of PC and status register)

3.programmatic context saving

4.switching to the system stack

Your answer is correct.

The correct answer is: 1. → saving a copy of the interrupt vector (PC and SR), 2. → switching to system mode (modification of PC and

status register), 3. → programmatic context saving, 4. → switching to the system stack

%%

Question 2

What are the functions of the kernel?

and. Memory management

b. File management

c.

Program management

d. Interrupt handling

The correct answer is: Interrupt handling

## Exam 1: Sample Overview

%%

### Question 3

The root directory of the disk should be located:

and. in a permanent place on the disk

b. at a fixed address in main memory

c.

in a place hard-coded in the structures of the operating system

d. in a place designated by the data structure in a fixed location on the disk

The correct answer is: in a place designated by the data structure in a fixed location on the disk

%%

### Question 4

Virtual memory consists of:

Select all correct:

and. primary memory and cache

b. cache memory and mass storage

c.

primary and mass memory

d. primary memory and cloud storage

Twoja odpowiedź jest poprawna.

The correct answers is: primary and mass memory

%%

### Pytanie 5

Niepoprawnie

The page fault interrupt is used to:

Select all correct::

a.

Detection of an attempt to write outside the address space of the frame

b. Detection of an access attempt from a frame not allocated to the program

c.

Whether the frame is empty or contains a page

d. Downloads to the memory of the requested page

Twoja odpowiedź jest niepoprawna.

The correct answers is: Downloads to the memory of the requested page

%%

### Pytanie 6

Poprawnie

Punkty: 1,00 z 1,00

Discontinuous allocation is the result of:

Select all correct::

- a. relocation
- b. compaction
- c. paging
- d. segmentantation

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentantation

%%%

Pytanie 7

Częściowo poprawnie

Punkty: 0,75 z 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 datum, limit and other registers inaccessible to the program
- d. scheduler data

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

%%%

Pytanie 8

Poprawnie

Punkty: 1,00 z 1,00

The return from interrupt instruction:

Select all correct::

- a. restores the process stack
- b. causes the processor to switch to a process other than the interrupted one
- c. restores the conditions register
- d. restores the program counter

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

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Exam 1: Sample Overview

%%%

Pytanie 9

Niepoprawnie

Which mechanisms are supported by the phenomenon of locality of references?

Select all correct::

- a. reverse page index tables

b. multilevel page index tables

c.

page swapping

d. address translation

e.

associative memory of page references

Twoja odpowiedź jest niepoprawna.

The correct answers are: page swapping, multilevel page index tables, reverse page index tables, associative memory of page references

%%

Pytanie 10

Poprawnie

Punkty: 1,00 z 1,00

What is this technique where the operating system gathers programs and data together before processing?

a.

Distributed processing

b. Interactive processing

c.

Real-time processing

d. Batch processing

The correct answers is: Batch processing

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Exam 1: Sample Overview

%%

Pytanie 11

Poprawnie

Punkty: 1,00 z 1,00

In the "current" state, there is a process that:

Select all correct::

a.

occupies a processor

b. waits for an I/O operation to complete

c.

fills the CPU idle time

d. waits for a processor

Twoja odpowiedź jest poprawna.

The correct answers is: occupies a processor

%%

Pytanie 12

Częściowo poprawnie

Punkty: 0,50 z 1,00

BEST-FIT algorithm:

Select all correct::

a.

Requires sorting the cut part into the list of free blocks

b. It allows for quick determining whether there is a free block of the required size

c.

Avoids external fragmentation

d. Requires a descending sort of the list of free blocks



Twoja odpowiedź jest częściowo poprawna.

Poprawnie wybrałeś (-łaś): 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size,  
Requires sorting the cut  
part into the list of free blocks

%%

Pytanie 13

Poprawnie

Punkty: 1,00 z 1,00

The microkernel of the operating system performs the following role:

Select all correct::

a.

Runs programs

b. Synchronizes processes

c.

It receives interrupts and routes them to the appropriate drivers and other layers of the system

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other  
layers of the system

%%

Pytanie 14

Poprawnie

Punkty: 1,00 z 1,00

Two successive executions of operation V in one process on a binary semaphore in down state:

Select all correct::

a.

Raises the semaphore if there are no suspended processes

b. It doesn't change anything

c.

Increases semaphore value by 2

d. If the semaphore guards a critical region, it can lets two processes enter the critical region

Twoja odpowiedź jest poprawna.

The correct answers are: If the semaphore guards a critical region, it can lets two processes enter the critical region, Raises the  
semaphore if there are no suspended processes

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Exam 1: Sample Overview

%%

Pytanie 15

Poprawnie

Punkty: 1,00 z 1,00

In what states can a task occur?

Select all correct::

a.

current

b. ready

c.

resetted

d. blocked

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

%%%%%%%%%

Pytanie 16

Niepoprawnie

Page thrashing is a phenomenon involving:

Select all correct::

- a. frequent context changes that require page index tables to be reloaded
- b. frequent downloading of pages that have just been swapped out from memory
- c. frequently changing the values of bits describing pages in frames
- d. loading the same page over and over again

Twoja odpowiedź jest niepoprawna.

The correct answers is: frequent downloading of pages that have just been swapped out from memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 17

Poprawnie

Punkty: 1,00 z 1,00

The internal state of the program supervisor layer is available for:

- a. Applications
- b. OS kernel
- c. File system layer
- d. User programs

The correct answers is: OS kernel

%%%%%%%%%

Pytanie 18

Niepoprawnie

Dynamic relocation:

Select all correct::

- a. Requires relative references to be addressed when the program is loaded into memory
- b. Requires hardware support in the form of a LIMIT register
- c. Requires hardware support in the form of a DATUM register
- d. Allows for temporal elimination of external fragmentation

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 19

Poprawnie

Punkty: 1,00 z 1,00

Paging - the key in associative memory is:

Select all correct::

- a.  
page number
- b. the page number concatenated with the frame number
- c.  
the frame number concatenated with the page number
- d. frame number

Twoja odpowiedź jest poprawna.

The correct answers is: page number

%%%%%%%%%

Pytanie 20

Poprawnie

Punkty: 1,00 z 1,00

The file system layer plays the following role in the operating system:

Select all correct::

- a.  
Controls file access rights
- b. It performs directory services in the hierarchy of disk files
- c.  
It runs programs stored in files
- d. Performs file opening and closing operations

Twoja odpowiedź jest poprawna.

The correct answers are: Performs file opening and closing operations, It performs directory services in the hierarchy of disk files,

Controls file access rights

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 21

Poprawnie

Punkty: 1,00 z 1,00

Devices report their readiness by:

Select all correct::

- a.  
system call
- b. issuing an interrupt
- c.  
setting a status bit
- d. unblocking the interrupts

Twoja odpowiedź jest poprawna.

The correct answers are: issuing an interrupt, setting a status bit

%%%%%%%%%

Pytanie 22

Niepoprawnie

Scheduling disk access involves deciding on the following:

- a.

which drive should be used next

b. the order in which disk access requests should be handled

c.

about the physical location of the files

d. about the type of disks the system should have

The correct answers is: the order in which disk access requests should be handled

1

## Exam 1: Sample Overview

%%

Pytanie 23

Poprawnie

Punkty: 1,00 z 1,00

What is included in the context that must be saved for a synchronous (inter-instruction) precision interrupt?

Select all correct::

a.

general purpose registers

b. instruction register

c.

collective of individual interrupt mask

d. program counter

Twoja odpowiedź jest poprawna.

The correct answers are: general purpose registers, program counter, collective of individual interrupt mask

%%

Pytanie 24

Niepoprawnie

The resources of the computer system are:

Select all correct::

a.

Files

b. Peripheral devices

c.

User programs

d. Primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers are: Primary memory, Peripheral devices, Files

1

%%

Pytanie 25

Poprawnie

Punkty: 1,00 z 1,00

Compaction solves the problem:

Select all correct::

a.

external fragmentation

b. swapping

c.

page fault

d. internal fragmentation

Twoja odpowiedź jest poprawna.

The correct answers is: external fragmentation

%%

Pytanie 26

Poprawnie

Punkty: 1,00 z 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 all correct::

- a.  
initializes the kernel system stack from the scratch
- b. switches to the next kernel system stack
- c.  
switches back to the application program stack
- d. nothing special, it builds the context on the kernel system stack

Twoja odpowiedź jest poprawna.

The correct answers is: nothing special, it builds the context on the kernel system stack

1

%%

Pytanie 27

Niepoprawnie

Opening a file in UNIX writes the following entries in the operating system's data structures:

Select all correct::

- a.  
Inserting a new item into the Table of Open Files of the Process
  - b. Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry
  - c.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry
- 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

%%

Pytanie 28

Poprawnie

Punkty: 1,00 z 1,00

The resources of the computer system are:

Select all correct::

- a.  
Primary memory
- b. Processor time
- c.  
User programs
- d. Peripheral devices

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

%%

Pytanie 29

Poprawnie

Punkty: 1,00 z 1,00

The hardware mechanisms necessary for paging are ("frame error" also called "page fault", "frame miss"):  
Select all correct::

- a. address translation, page index tables, page reference bits, "frame error" interrupt
- b. address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- c. address translation, page index tables, "frame error" interrupt
- d. address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Twoja odpowiedź jest poprawna.

The correct answers is: address translation, page index tables, "frame error" interrupt

%%

Pytanie 30

Poprawnie

Punkty: 1,00 z 1,00

The kernel (microkernel) is responsible for:

Select all correct::

- 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).

%%

Pytanie 31

Poprawnie

Punkty: 1,00 z 1,00

Which of the following interrupts a running process?

- a. Hardware interrupt
- b. Timer interrupts
- c. Power fail interrupt
- d. Scheduler

The correct answers are: Hardware interrupt, Timer interrupts, Power fail interrupt

%%

Pytanie 32

Niepoprawnie

a page fault interrupt occurs when:

Select all correct::

- a.  
the program accesses the page
- b. an error has occurred on the current page
- c.  
the program is accessing a page that is not in the cache
- d. the program accesses a page that is not in the primary memory

Twoja odpowiedź jest niepoprawna.

The correct answers is: the program accesses a page that is not in the primary memory

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 33

Niepoprawnie

Fragmentation is implied by:

Select all correct::

- a.  
External by segmentation
- b. Internal by paging
- c.  
External by resizing allocated blocks
- d. Internal by partitioning into quantized blocks
- e.  
External by freeing blocks in a deallocation order not reverse to allocation

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

%%%%%%%%%

Pytanie 34

Poprawnie

Punkty: 1,00 z 1,00

The direct resume rule means that:

Select all correct::

- a.  
The resuming process applies for the critical region just like other processes waiting to enter the critical region
- b. The resuming process gets a critical region after the resumed process exits the critical region
- c.  
The resuming process loses the critical region

Twoja odpowiedź jest poprawna.

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

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Exam 1: Sample Overview

%%%%%%%%%

Pytanie 35

Poprawnie

Punkty: 1,00 z 1,00

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

- a. traffic control
- b. task management
- c. task shedding
- d. task timetable management

The correct answers is: task shedding

%%

Pytanie 36

Poprawnie

Punkty: 1,00 z 1,00

After accepting an interrupt, the next interrupts are:

Select all correct::

- a. unblocked
- b. some blocked, some unblocked, developer decides
- c. blocked
- d. partly blocked, partly unblocked, according to the level of the accepted interrupt

Tvoja odpowiedź jest poprawna.

The correct answers is: blocked

18/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 37

Poprawnie

Punkty: 1,00 z 1,00

By definition, a deadlock is a situation where:

Select all correct::

- a. exactly one process is waiting for a condition that cannot be met
- b. at least two processes are waiting for conditions that cannot be met
- c. any greater than zero number of 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

Tvoja odpowiedź jest poprawna.

The correct answers is: any greater than zero number of processes are waiting for conditions that cannot be met

%%

Pytanie 38

Poprawnie

Punkty: 1,00 z 1,00

What mechanism is used to preserve the states of preempted tasks?

- a. batch work
- b. context switch
- c.



time slice

d. task period

The correct answers is: context switch

19/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 39

Niepoprawnie

In which swapping algorithms is it necessary to clear the M bits individually?

Select all correct::

a.

FIFO

b. working set

c.

no algorithm

d. LRU

e.second chance

f.NRU

g.working set clock

h. clock

i.LFU

j.optimal

Twoja odpowiedź jest niepoprawna.

The correct answers is:

no algorithm

%%

Pytanie 40

Niepoprawnie

In a FAT-based disk system, file size is directly limited by:

Select all correct::

a.

The size of the disk space

b. The number of bits of the disk address

c.

The number of bits of the field describing the size of the file

d. Allocation unit size

e.

FAT table size

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

20/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 41

Niepoprawnie

In which swapping algorithms is it necessary to collectively clear the bits R?

Select all correct::

- a.  
second chance
- b. NRU
- c.  
LRU
- d. working set
- e. LFU
- f. no algorithm
- g. clock
- h. working set
- i.  
FIFO

Twoja odpowiedź jest niepoprawna.

The correct answers are: NRU, LRU, LFU

%%%

Pytanie 42

Niepoprawnie

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Select all correct::

- 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. The number of bits of the disk address
- e.  
Allocation unit size

Twoja odpowiedź jest niepoprawna.

The correct answers are: FAT table size, The size of the disk space

2

Exam 1: Sample Overview

%%%

Pytanie 43

Poprawnie

Punkty: 1,00 z 1,00

Using Test-And-Set or Compare-And-Swap in synchronization:

Select all correct::

- a.  
Can be applied only in distributed systems
- b. Stops the processor if 0 is read
- c.  
It requires processes to actively wait
- d. Requires organizing inactive waiting in queues

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

%%%

Pytanie 44

Poprawnie

Punkty: 1,00 z 1,00  
SJF selects the task:

- a.  
who waited the longest in the queue
  - b. which was last placed in the queue
  - c.  
with the least CPU requirement
  - d. which was first placed in the queue
- The correct answers is: with the least CPU requirement

%%%

Pytanie 45

Poprawnie

Punkty: 1,00 z 1,00

Which of the following statements is true for system level threads?

- a.  
Kernel-level threads require their descriptors in the kernel.
  - 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. Multithreaded applications cannot use multiprocessing.
- The correct answers is: Kernel-level threads require their descriptors in the kernel.

2

%%%

Pytanie 46

Niepoprawnie

Which swapping algorithms use the last reference time?

Select all correct::

- a.  
working set
- b. NRU
- c.  
LFU
- d. FIFO
- e.LRU
- f.second chance
- g.working set clock

Tvoja odpowiedź jest niepoprawna.

The correct answers are: working set, working set clock

%%%

Pytanie 47

Poprawnie

Punkty: 1,00 z 1,00

When the processor is released, the scheduler selects one of the queued processes:

Select all correct::

- a.  
suspended
- b. running
- c.  
ready
- d. waiting

Twoja odpowiedź jest poprawna.  
The correct answers is: ready

2

%%

Pytanie 48

Niepoprawnie

What type of code can be executed simultaneously on multiple processors?

Select all correct::

- a.  
self-modifying
- b. reentrant
- c.  
dynamically relocated
- d. binary

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

%%

Pytanie 49

Poprawnie

Punkty: 1,00 z 1,00

Using the Test-And-Set instruction in synchronization:

Select all correct::

- a.  
Requires an explicit relinquishment of the processor to another process
- b. Stops the processor if 0 is read
- c.  
Requires organizing inactive waiting in queues
- d. It requires processes to actively wait

Twoja odpowiedź jest poprawna.

The correct answers is: It requires processes to actively wait

24/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 50

Częściowo poprawnie

Punkty: 0,50 z 1,00

Static relocation is performed by:

- a.  
Segment descriptors
- b. Special registers (DATUM)
- c.  
Loader
- d. Compiler

The correct answers are: Compiler, Loader

%%

Pytanie 51

Poprawnie

Punkty: 1,00 z 1,00

The segment descriptor table contains:

Select all correct::

- a.  
address of the segment page index table of the bottom-level (last level) in the hierarchy
- b. addresses of all segment page index tables
- c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Twoja odpowiedź jest poprawna.

The correct answers is: address of the segment page index table of the top-level (first level) in the hierarchy

25/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 52

Poprawnie

Punkty: 1,00 z 1,00

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

Select all correct::

- a.  
time slicing
- b. priority
- c.  
SJF
- d. FCFS

Twoja odpowiedź jest poprawna.

The correct answers is: SJF

%%%%%%%%%

Pytanie 53

Poprawnie

Punkty: 1,00 z 1,00

In indulgent scheduling, the process keeps the CPU until:

Select all correct::

- a.  
next interrupt from the timer
- b. next interrupt from the device
- c.  
termination
- d. waiving

Twoja odpowiedź jest poprawna.

The correct answers are: waiving, termination

26/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%%%%%%%

Pytanie 54

Poprawnie

Punkty: 1,00 z 1,00

A process can appear in the pool of scheduling processes as a result of:

Select all correct::

- a.  
Starting a new process

- b. Completing an I/O operation
- c. Performing V operation on the semaphore
- d. Performing the P operation on the semaphore

Tvoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

- a. need for compaction
- b. internal fragmentation
- c. external fragmentation

Tvoja odpowiedź jest niepoprawna.

The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%

Pytanie 56

Niepoprawnie

MMU uses index tables to:

Select all correct::

- a. generate a relative address
- b. generate a physical address
- c. generate an effective address
- d. generate a logical address

Tvoja odpowiedź jest niepoprawna.

The correct answers is: generate a physical address

%%

Pytanie 57

Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Odpowiedź:

thrashing

The correct answers is: anomaly

%%

Pytanie 58

Poprawnie

Punkty: 1,00 z 1,00

Address translation mechanism:

Select all correct::

- a.  
Adds the frame number to the page number
- b. Concatenates the frame number and page number
- c.  
Concatenates the frame number and offset on the page
- d. Concatenates the page number and page offset

Twoja odpowiedź jest poprawna.

The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 59

Poprawnie

Punkty: 1,00 z 1,00

Static relocation is performed by:

- a.  
Special registers (DATUM)
- b. Segment descriptors
- c.  
Linker
- d. Paging system

The correct answers is: Linker

%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a.  
dynamically relocated
- b. self-modifying
- c.  
binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 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

task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

The correct answers is: 4,0

30/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%%%%%%%%

Pytanie 62

Niepoprawnie

Punkty: 0,00 z 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 zero 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:

01001Parity disk

00000Disk 3

10110Disk 2

11010Disk 1

01100Disk 0

In the parity strip, the values are placed so that the parity bit keeps the corresponding strip bits 0-3 odds. 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:

0

The correct answer is: 10110

3

Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

%%%%%%%%%

Pytanie 55

Niepoprawnie

The common allocation queue to fixed blocks of memory of equal size causes:

Select all correct::

a.

need for compaction

b. internal fragmentation



c.  
external fragmentation  
Twoja odpowiedź jest niepoprawna.  
The correct answers is: internal fragmentation

27/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 56  
Niepoprawnie

MMU uses index tables to:  
Select all correct::  
a.  
generate a relative address  
b. generate a physical address  
c.  
generate an effective address  
d. generate a logical address  
Twoja odpowiedź jest niepoprawna.  
The correct answers is: generate a physical address

%%

Pytanie 57  
Niepoprawnie

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:  
Odpowiedź:  
thrashing

The correct answers is: anomaly

%%

Pytanie 58  
Poprawnie  
Punkty: 1,00 z 1,00

Address translation mechanism:  
Select all correct::  
a.  
Adds the frame number to the page number  
b. Concatenates the frame number and page number  
c.  
Concatenates the frame number and offset on the page  
d. Concatenates the page number and page offset  
Twoja odpowiedź jest poprawna.  
The correct answers is: Concatenates the frame number and offset on the page

28/326/19/24, 6:39 PM  
Exam 1: Sample Overview

%%

Pytanie 59  
Poprawnie  
Punkty: 1,00 z 1,00

Static relocation is performed by:

- a. Special registers (DATUM)
- b. Segment descriptors
- c. Linker
- d. Paging system

The correct answers is: Linker

%%%

Pytanie 60

Niepoprawnie

What type of code can multiple processes execute simultaneously?

Select all correct::

- a. dynamically relocated
- b. self-modifying
- c. binary
- d. reentrant

Twoja odpowiedź jest niepoprawna.

The correct answers is: reentrant

29/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

Pytanie 61

Niepoprawnie

Punkty: 0,00 z 5,00

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task1234

processing

time3,94,42,11,8

Odpowiedź:3.375

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30/326/19/24, 6:39 PM

Exam 1: Sample Overview

%%%

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11010Disk 1  
01100Disk 0

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0

The correct answer is: 10110

3  
Exam 1: Sample Overview

%%%%%%%%%

Question 63

Incorrectly

Points: 0.00 out of 5.00

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 4-byte word boundary , enter:

- TIS maximum size of the program in kB

Answer:

8192

The correct answer is: 8

32/32

#####

#####

##### File: ExamExam.txt #####

#####

Question 1

Correct

Mark 1.00 out of 1.00

Flag question

Question text

The page fault interrupt is used to:

Question 1Select 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

Tvoja 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 2Select 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 7Answer

- 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.
- 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 9 Select 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 10 Select 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 setQuestion 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. 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

Answer 2 Question 15 Choose... recreates the context programmatically and executes the IRET

4. 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

Answer 3 Question 15 Choose... recreates the context programmatically and executes the IRET

3. 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

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 18 Select 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 19 Select 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 21 Select 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.

- segmentation
- b.  
paging
- c.  
relocation
- d.  
compaction

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: paging, segmentation

Question 24

Correct

Mark 1.00 out of 1.00

Flag question

Question text

Internal fragmentation consists in:

Question 24Select 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 25Select 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 userb.

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 31Answera.

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 34Select 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

TrueFalse

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 systemc.

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 50Select 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 52 Select 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 53 Select 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 54Select 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 timeQuestion 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

processing time 3.3

234

5.22.31.5

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:

11100Parity disk

00000Disk 3

10010Disk 2

10110Disk 1

01100Disk 0In 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

#####

#####

##### File: AhsanTest2.txt #####

#####

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

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

n 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

he 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).

n 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

n 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

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

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

Scheduling algorithms can be:

a.

interrupting

b. term changing

c.

indulgent

d. preemptive

The correct answers are: indulgent, preemptive

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

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

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

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

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

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

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

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

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

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

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)

A program compiled for execution in paged memory can be executed in regular memory.

True

False

The correct answer is 'False'.

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

Semaphores are used to solve the problem:

- a. races
- b. mutual exclusion
- c. process scheduling
- d. Belady problem

The correct answer is: mutual exclusion

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

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

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

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

Static relocation is performed by:

- a.  
Linker
- b. Compiler
- c.  
Segment descriptors
- d. Paging system

The correct answers are: Compiler, Linker

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

Tvoja odpowiedź jest poprawna.

The correct answer is: It does not change the value of the semaphore

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

Tvoja 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

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

Tvoja odpowiedź jest poprawna.

The correct answers are: Performing V operation on the semaphore, Starting a new process, Completing an I/O operation

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

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

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

Address translation is handled by a unit called (give the abbreviation):

Answer:

MMU (Memory Management Unit)

The correct answer is: MMU

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

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

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

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

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

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

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

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

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

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

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

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.

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

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

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

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

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.

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

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

Dynamic relocation is performed by:

- a. Segment descriptors
- b. Linker
- c. Loader
- d. Compiler

The correct answer is: Segment descriptors

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Answer:

Thrashing

The correct answer is: anomaly

he 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

Tvoja odpowiedź jest poprawna.

The correct answers are: Processor time, Primary memory, Peripheral devices

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

Tvoja 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

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

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

What is the average time in the system for tasks in the batch, using SJF algorithm?

The system is equipped with 2 processors

task1234

processing

time3.45.531.1

Answer:

4.3

The correct answer is: 4.3

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:

01001Parity disk

11111Disk 3

10110Disk 2

10101Disk 1

01100Disk 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:

1001

The correct answer is: 11001

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:

16384

The correct answer is: 8

#####

#####

##### File: Final Test2.txt #####

#####

Interrupt vector:

Question 1 Select all correct:

a.  
contains the instruction counter, condition bits, interrupt mask, and general purpose registers

b.  
it is saved automatically when an interrupt is accepted

c.  
contains minimal information that cannot be saved programmatically

d.  
contains the ID of the process that should be restarted

Feedback

Your answer is correct.

The correct answers are: it is saved automatically when an interrupt is accepted, contains minimal information that cannot be saved programmatically

In what states can a task occur?

Question 2 Select all correct:

a.  
ready

b.  
current

c.  
blocked

d.  
resetted

Feedback

Your answer is correct.

The correct answers are: current, ready, blocked

Which of the following are affected by the thrashing phenomenon?

Question 3 Answer

a.  
and.

program structure

b.  
mass memory

c.  
primary memory

d.  
program size

Feedback

The correct answer is: primary memory

The kernel is \_\_\_\_\_ user-level threads.

Question 4Answer

and.  
part

b.  
creator.creator

c.  
aware

d.  
unaware

Feedback

The correct answer is: unaware

Indulgent scheduling is the best mechanism for:

Question 5Select all correct:

and.  
real-time system

b.  
system with many process classes

c.  
time-sharing system

d.  
every system

Feedback  
Your answer is correct.

The correct answer is: real-time system

The interrupt acceptance sequence consists of (in the sequence):

Question 6 Select all correct:

a.  
identification of the interrupt level, saving the interrupt vector, performing a jump 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, saving the interrupt vector, performing a jump with a trace according to the interrupt table

d.  
identification of the interrupt level, performing a jump with the trace according to the interrupt table, saving the interrupt vector

Feedback  
Your answer is incorrect.

The correct answer is: identifying of the interrupt level, saving the interrupt vector, performing a jump with a trace according to the interrupt table

MMU uses index tables to:

Question 7 Select all correct:

a.  
generate an effective address

b.  
generate a relative address

c.  
generating a physical address



d.  
generate a logical address

Feedback  
Your answer is correct.

The correct answer is: generating a physical address

Which scheduler needs to make a decision the fastest?

Question 8Answer

and.  
medium-term

b.  
additional

c.  
short-term

d.  
long-term

Feedback  
The correct answer is: short-term

The following paging exceptions allow for returning to the program after they occur:

Question 9Select all correct:

and.  
interrupt on write (IOW)

b.  
pagefault

c.  
attempting to write to a write-protected frame

d.  
attempt to read from the frame storing the code

Feedback  
Your answer is correct.

The correct answers are: page fault, interrupt on write (IOW)

Which of the following memory allocation schemes causes external fragmentation?

Question 10 Answer

a.

Multiple contiguous fixed partitions of various sizes

b.

Multiple contiguous fixed partitions of equal size

c.

Sweeping

d.

Paging

Feedback

The correct answers are: Sweeping, Multiple contiguous fixed partitions of various sizes

Discontinuous allocation:

Question 11 Select all correct:

a.

increases internal fragmentation

b.

reduces external fragmentation

c.

reduces internal fragmentation

d.

increases external fragmentation

Feedback

Your answer is incorrect.

The correct answer is: reduces external fragmentation

Round-robin scheduling is the best mechanism for:

Question 12 Select all correct:

a.  
system with different classes of tasks

b.  
time-sharing system

c.  
every system

d.  
real-time system

Feedback  
Your answer is correct.

The correct answer is: time-sharing system

In a four-level page index table, the page number is:

Question 13 Select all correct:

a.  
in the first level table - the leftmost in the figure

b.  
in the table of the last level - the rightmost in the figure

c.  
part in the table of each level

d.  
none of the above answers

Feedback  
Your answer is incorrect.

The correct answer is: none of the above answers

Sequence of actions when starting a new task:

1.

Answer 1 Question 14  
filling in the descriptor in the kernel

2.

Answer 2 Question 14  
memory allocation if this is the first task of the program

3.

Answer 3 Question 14  
initialize the stack, fill the first frame

4.

Answer 4 Question 14  
instruction to transfer control to the task

Feedback  
Your answer is correct.

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

Paging - two-level index tables mode of operation

Question 15 Select all correct:

a.

The content of the level 1 table element is concatenated (combined) with the content of the level 2 table element

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 a level 1 table element points to a level 2 table

Feedback  
Your answer is incorrect.

The correct answer is: The content of a level 1 table element points to a level 2 table

The behavior of the exchange algorithm opposite to that expected with the measures taken is called:

Answer:Question 16

thrashing

Feedback

The correct answer is: anomalies

MMU uses index tables to:

Question 17Select all correct:

a.

generate a physical address

b.

generate a relative address

c.

generate an effective address

d.

generate a logical address

Feedback

Your answer is incorrect.

The correct answer is: generate a physical address

Using the Test-And-Set instruction in synchronization:

Question 18Select all correct:

a.

Stops the processor if 0 is read

b.

Requires organizing inactive waiting in queues

c.

Requires the use of semaphores

d.

It requires processes to actively wait

Feedback

Your answer is correct.

The correct answer is: It requires processes to actively wait

Physical address:

Question 19Select all correct:

a.

points to a location in the address space of primary memory

b.

points to a cell in the process address space

c.

indicates a relative address to the segment register

d.

is contained in the address field of the instruction

Feedback

Your answer is correct.

The correct answer is: points to a location in the address space of primary memory

What mechanism is part of batch systems?

Question 20Answer

a.

medium-level scheduler

b.

no scheduler is needed

c.

low-level scheduler

d.

high-level scheduler

Feedback

The correct answers are: high-level scheduler, medium-level scheduler

A process always transitions from the "user" state to the "system" state as a result of:

Question 21 Select all correct:

a.

Process suspension

b.

A software interrupt that calls a system function

c.

Hardware interrupt

d.

Debugger trap

Feedback

Your answer is partially correct.

You correctly selected: 1.

The correct answers are: A software interrupt that calls a system function, Debugger trap

What can happen when a job leaves the critical section and more than 1 task is waiting for the critical section?

Question 22 Select all correct:

a.

active waiting for a critical section

b.

deadlock waiting for critical section

c.

starvation awaiting a critical section

d.

letting both tasks into the critical section

Feedback

Your answer is correct.

The correct answer is: starvation awaiting a critical section

In operating system:

Question 23 Select all correct:

a.  
the decision to handle an exception or not is made dynamically

b.  
some exceptions are handled, some not

c.  
timer interrupt may not be handled

d.  
every exception must be handled

Feedback  
Your answer is correct.

The correct answer is: every exception must be handled

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?

Question 24 Select all correct:

a.  
initializes the kernel system stack from the scratch

b.  
switches to the next kernel system stack

c.  
nothing special, it builds the context on the kernel system stack

d.  
switches back to the application program stack

Feedback  
Your answer is correct.

The correct answer is: nothing special, it builds the context on the kernel system stack



The direct resume rule means that:

Question 25 Select all correct:

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 summing process gets a critical region after the resumed process exits the critical region

Feedback

Your answer is correct.

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

Is memory protection useless on a single-user system?

Question 26 Answer

True

Falsehood

Feedback

The correct answer is "False".

The effective address is also:

Question 27 Select all correct:

a.

Absolute address

b.

Physical address

c.

Logical address

d.

Indirect address

Feedback

Your answer is correct.

The correct answer is: Logical address

The Test-And-Set or Compare-And-Swap instruction has the following characteristics:

Question 28 Select all correct:

a.

Requires active waiting from tasks

b.

It is possible to use only on computers with common memory

c.

It is possible to deadlock with TAS/CAS operations on multiple variables

d.

It is possible to use only in 1-processor systems

Feedback

Your answer is correct.

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

A single-program system is one that, in principle :

Question 29 Select all correct:

a.

Doesn't allow you to delete the program from memory (uses non-volatile memory)

b.

Requires static relocation

c.

Runs on a uniprocessor computer

d.

Allows for storing only one program in primary memory

Feedback

Your answer is correct.

The correct answer is: Allows for storing only one program in primary memory

What is this technique where the operating system gathers programs and data together before processing?

Question 30Answer

and.

Batch processing

b.

Real-time processing

c.

Interactive processing

d.

Distributed processing

Feedback

The correct answer is: Batch processing

The system stack must provide space for:

Question 31Select all correct:

and.

Processor registers in as many copies as there are interrupt lines +1

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.

CPU registers

Feedback

Your answer is correct.

The correct answer is: Processor registers in as many copies as there are interrupt lines +1

System/user threads:

Question 32 Select all correct:

and.

System level thread descriptors are stored in the operating system kernel.

b.

User-level threads share the same stack.

c.

User-level threads share the same execution context.

Feedback

Your answer is correct.

The correct answers are: System level thread descriptors are stored in the operating system kernel., User-level threads share the same execution context.

By definition , a deadlock is a situation where:

Question 33 Select all correct:

and.

any greater than zero number of processes are waiting for conditions that cannot be met

b.

at least two 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 one process is waiting for a condition that cannot be met

Feedback

Your answer is correct.

The correct answer is: any greater than zero number of processes are waiting for conditions that cannot be met

Allocation unit for file storage:

Question 34Answer

and.  
it should be selected to match the characteristics of the data

b.  
may differ between files in a partition

c.  
may be a variable in a partition

d.  
may vary between partitions

Feedback

The correct answer is: may vary between partitions

The common allocation queue to fixed blocks of memory of different sizes causes:

Question 35Select all correct:

and.  
internal fragmentation

b.  
external fragmentation

c.  
need for compaction

Feedback

Your answer is correct.

The correct answers are: internal fragmentation, external fragmentation

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:

Question 36Answer

and.  
0,2,6,12,0,0

b.  
12,21,60,123,7,9

c.  
1,2,6,12,0,0

d.  
1,2,6,12

Feedback  
The correct answer is: 1,2,6,12,0,0

In UNIX, access rights are attributes:

Question 37 Select all correct:

and.  
A directory entry for a file

b.  
A special table specifying access rights

c.  
User descriptor

d.  
An entry in the I-node table

Feedback  
Your answer is incorrect.

The correct answer is: An entry in the I-node table

In the four-level page index table, the frame number is:

Question 38 Select all correct:

and.

part in the table of each level

b.  
in the table of the last level - the rightmost in the figure

c.  
in the first level table - the leftmost in the figure

d.  
none of the above answers

Which of the following few common services can be partially provided by software other than the operating system?

Question 39Answer

a.  
Running programs

b.  
I/O operations

c.  
Security and protection

d.  
Manipulating the file system

Feedback

The correct answers are: Security and protection, Manipulating the file system

Memory partitioning into blocks of any size:

Question 40Select all correct:

a.  
It implies external fragmentation

b.  
It implies internal fragmentation

c.  
It does not imply fragmentation

Feedback

Your answer is incorrect.

The correct answer is: It does not imply fragmentation

The number of tasks performed on the system in a given time is:

Question 41 Select all correct:

a.  
efficiency

b.  
throughput

c.  
utilization

d.  
response time

Feedback

Your answer is correct.

The correct answer is: throughput

The sequence of actions in interrupt handling:

1.

2.

3.

4.

Feedback

Your answer is correct.

The correct answer is:

The sequence of actions in interrupt handling:

1.[saving a copy of the interrupt vector (PC and SR)]

2.[switching to system mode (modification of PC and status register)]

3.[programmatic context saving]



4. [switching to the system stack]

Scheduling disk access involves deciding on the following:

Question 43Answer

a.  
the order in which disk access requests should be handled

b.  
about the type of disks the system should have

c.  
which drive should be used next

d.  
about the physical location of the files

Feedback

The correct answer is: the order in which disk access requests should be handled

Which of the following information is stored on task switching?

Question 44Answer

a.  
scheduler data

b.  
I/O status information

c.  
Contents of general purpose registers, program counter, and similar registers available to the program

d.  
Contents of datum, limit and other registers inaccessible to the program

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

The hardware resources of a computer system are:

Question 45 Select all correct:

and.

Virtual memory

b.

Windows on the screen

c.

Processor time

d.

Peripheral devioces

Feedback

Your answer is correct.

The correct answers are: Processor time , Peripheral devioces

Address translation is handled by a unit called (give the abbreviation):

Answer: Question 46

MMU

Feedback

The correct answer is: MMU

At the suspended state is a process that:

Question 47 Select all correct:

and.

waits for an I/O operation to complete

b.

waits for a processor

c.

fills the processor idle time

d.

occupations and processor

Feedback

Your answer is correct.

The correct answer is: waits for an I/O operation to complete

Address translation mechanism:

Question 48 Select all correct:

- a.  
adds the frame number to the page number
- b.  
concatenates the frame number and page number
- c.  
concatenates the frame number and offset on the page
- d.  
concatenates the page number and page offset

Feedback

Your answer is correct.

The correct answer is: concatenates the frame number and offset on the page

Address translation aims to:

Question 49 Select all correct:

- 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

Feedback

Your answer is incorrect.

The correct answer is: converting a virtual address to a physical one

In the "current" state, there is a process that:

Question 50 Select all correct:

a.  
waits for a processor

b.  
fills the CPU idle time

c.  
waits for an I/O operation to complete

d.  
occupies a processor

Feedback  
Your answer is correct.

The correct answer is: occupies a processor

In a FAT-based disk system, file size is directly limited by:

Question 51 Select all correct:

a.  
FAT table size

b.  
Allocation unit size

c.  
The number of bits of the field describing the size of the file

d.  
The number of bits of the disk address

e.

The size of the disk space

Feedback

Your answer is partially correct.

You correctly selected: 1.

The correct answers are: The size of the disk space , The number of bits of the field describing the size of the file

On UNIX, the number of files is directly limited by:

Question 52Select all correct:

a.

FAT size

b.

The number of bits of the disk address

c.

Allocation unit size

d.

The number of bits of the field describing the size of the file

e.

The size of the space allocated for files

Feedback

Your answer is incorrect.

The correct answer is: The size of the space allocated for files

The program supervisor layer in the operating system has the following role:

Question 53Select all correct:

a.

Intercepts all program system calls and routes them to the appropriate layers

b.

Deals with the management of primary memory (memory allocation to programs)

c.  
Runs programs

d.  
Deals with buffering data written and read from mass memory

Feedback  
Your answer is partially correct.

You chose correctly: 2.

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)

The multi-level interrupt controller includes :

Question 54 Select all correct:

and.  
Individual interrupt mask

b.  
Priority encoder

c.  
The register of interrupt being serviced

d.  
Collective interrupt mask

Feedback  
Your answer is correct.

The correct answers are: Collective interrupt mask , Individual interrupt mask , Priority encoder

A concurrent system is one that, in principle :

Question 55 Select all correct:

and.  
It allows multiple programs/processes/threads to run physically simultaneously

b.  
Requires the use of timer interrupts

c.  
Allows multiple programs/processes/threads to run simultaneously or seemingly simultaneously

d.  
It runs on a multiprocessor computer

Feedback  
Your answer is incorrect.

The correct answer is: Allows multiple programs/processes/threads to run simultaneously or seemingly simultaneously

Address translation aims to:

Question 56 Select all correct:

and.  
Converting a virtual address to a physical one

b.  
Detecting the phenomenon of locality of references

c.  
Converting a physical address to a virtual one

d.  
Generating a "frame error" interrupt when the page is out of memory

Feedback  
Your answer is incorrect.

The correct answer is: Converting a virtual address to a physical one

Which swapping algorithms use the history of page references (when was it last used or in which time slices was it used)?

Question 57 Select all correct:

and.  
working set

b.  
LRU

c.  
clock

d.  
LFU

e.  
second chance

f.  
no algorithm

g.  
NRU

h.  
FIFO

Feedback  
Your answer is incorrect.

The correct answers are: second chance, LRU, LFU, working set

If the loader inserts a program with absolute addresses into a fixed address space, it is called:

Question 58Answer

a.  
Dynamic loading

b.  
Static relocation

c.  
Static loading

d.  
Dynamic relocation

Feedback  
The correct answer is: Dynamic relocation



Static relocation is performed by:

Question 59Answer

a.  
Loader

b.  
Linker

c.  
Paging system

d.  
Special registers (DATUM)

Feedback

The correct answers are: Linker, Loader

What is a scheduler?

Question 60Select all correct:

a.  
the system process that allocates the processor

b.  
memory allocation procedure

c.  
procedure that schedules frame release in the page replace algorithm

d.  
a kernel routine that selects a task to execute

Feedback

Your answer is correct.

The correct answer is: a kernel routine that selects a task to execute

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

3.2

6.2

2.7

1.6

Answer:Question 61

3.82

Feedback

The correct answer is: 3.8

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 zero 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 odds.

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: Question 62

1, 1, 0, 1

Feedback

The correct answer is: 11001

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

16

Feedback

The correct answer is: 2

#####

#####

##### File: Test2 Den.txt #####

#####

Question 1

A memory management technique in which the system divides memory into equal-sized portions to easily manage relocation is called:

Question 1Select one or more:

a.  
swapping

b.  
mapping

c.  
sweeping

d.  
paging

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: paging

Question 2

A multiprogram system is one that, in principle:

Question 2Select one or more:

a.  
Requires dynamic relocation

b.

Requires relocation or equivalent mechanism

c.  
It allows for storing many programs in primary memory

d.  
It allows for running programs only one after another

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: It allows for storing many programs in primary memory, Requires relocation or equivalent mechanism

Question 3

Static relocation is performed by:

Question 3Answer

a.  
Segment descriptors

b.  
Paging system

c.  
Special registers (DATUM)

d.  
Loader

Feedback

The correct answer is: Loader

Question 4

Partially correct

Mark 0.50 out of 1.00

Flag question

The common allocation queue to fixed blocks of memory of different sizes causes:

Question 4Select one or more:

a.  
external fragmentation

b.  
need for compaction

c.  
internal fragmentation

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: internal fragmentation, external fragmentation

Question 5

Incorrect

Mark 0.00 out of 1.00

Flag question

On what system is it not worth using memory protection?

Question 5Answer

a.  
Without OS

b.  
One-user

c.  
Not concurrent

d.  
One-program

Feedback

The correct answer is: Without OS

Question 6

Incorrect

Mark 0.00 out of 1.00

Flag question

Frame protection bits:

Question 6Select one or more:

a.  
must be available for writing

b.  
must be readable

c.  
must be group readable

d.  
must be available for group clear

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: must be available for writing  
Question 7

The resources of the computer system are:

Question 7Select one or more:

a.  
Peripheral devices

b.  
Files

c.  
Primary memory

d.  
User programs

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Files  
Question 8

Which of the following applies to user-level threads?

Question 8Answer

a.  
User-level threads can themselves be multi-threaded.

b.  
User-level threads cost no execution time in system mode.

c.  
The organization of user-level threads is specific to the operating system.

d.  
User-level threads require their descriptors in the kernel.

Feedback

The correct answer is: User-level threads cost no execution time in system mode.

Question 9

The return from interrupt instruction:

Question 9 Select one or more:

- a.  
restores the conditions register
- b.  
causes the processor to switch to a process other than the interrupted one
- c.  
restores the program counter
- d.  
restores the process stack

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

Question 10

Partially correct

Mark 0.67 out of 1.00

Flag question

The hardware resources of a computer system are:

Question 10 Select one or more:

- a.  
Peripheral devices
- b.  
Windows on the screen
- c.  
Primary memory
- d.  
Processor time

Feedback

Twoja odpowiedź jest częściowo poprawna.



You have correctly selected 2.

The correct answers are: Processor time, Primary memory, Peripheral devices

Question 11

Incorrect

Mark 0.00 out of 1.00

Flag question

After accepting an interrupt, the next interrupts are:

Question 11 Select one or more:

- a.  
some blocked, some unblocked, developer decides
- b.  
partly blocked, partly unblocked, according to the level of the accepted interrupt
- c.  
unblocked
- d.  
blocked

Feedback

Tvoja odpowiedź jest niepoprawna.

The correct answer is: blocked

Question 12

Incorrect

Mark 0.00 out of 1.00

Flag question

The root directory of the disk should be located:

Question 12 Answer

- a.  
in a place hard-coded in the structures of the operating system
- b.  
in a place designated by the data structure in a fixed location on the disk
- c.  
at a fixed address in main memory
- d.

in a permanent place on the disk

Feedback

The correct answer is: in a place designated by the data structure in a fixed location on the disk

Question 13

Incorrect

Mark 0.00 out of 1.00

Flag question

"Soft" real-time system:

Question 13 Select one or more:

a.  
Guarantees interrupt handling time

b.  
Guarantees average response time

c.  
Guaranteed response time

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Guarantees average response time

Question 14

The sequence of actions in interrupt handling:

1.

2.

3.

4.

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is:

The sequence of actions in interrupt handling:

1.[saving a copy of the interrupt vector (PC and SR)]

2.[switching to system mode (modification of PC and status register)]

3.[programmatic context saving]

4.[switching to the system stack]

## Question 15

The page reference and modification bits are used to:

Question 15 Select one or more:

- a.  
address translation support
- b.  
checking whether the frame is empty or contains a page
- c.  
counting references for swapping optimization
- d.  
locality of references detection

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: counting references for swapping optimization

## Question 16

The system stack must provide space for:

Question 16 Select one or more:

- a.  
CPU registers
- b.  
Processor registers in as many copies as there are interrupt lines and possible software interrupts
- c.  
Processor registers in as many copies as there are devices in the system +1
- d.  
Processor registers in as many copies as there are interrupt lines +1

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Processor registers in as many copies as there are interrupt lines +1

## Question 17

How does the operating system call the task completion subroutine?

1.

Answer 1 Question 17

builds the frame of the terminating subroutine on the task stack

4.

Answer 2 Question 17

recreates the context programmatically and executes the IRET instruction

3.

Answer 3 Question 17

builds an interrupt vector on the system stack pointing to the terminating subroutine code

2.

Answer 4 Question 17

sets the trace in the terminating subroutine to the current position

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: 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, 2. → sets the trace in the terminating subroutine to the current position

Question 18

Incorrect

Mark 0.00 out of 1.00

Flag question

Virtual memory consists of:

Question 18 Select one or more:

a.

primary memory and cloud storage

b.

primary and mass memory

c.

primary memory and cache

d.

cache memory and mass storage

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: primary and mass memory

Question 19

Incorrect

Mark 0.00 out of 1.00

Flag question

Effective address is:

Question 19 Select one or more:

a.  
indirect address

b.  
relative address

c.  
logical address

d.  
physical address

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: logical address

Question 20

Incorrect

Mark 0.00 out of 1.00

Flag question

The multi-level interrupt controller includes:

Question 20 Select one or more:

a.  
Collective interrupt mask

b.  
The register of interrupt being serviced

c.  
Priority encoder

d.  
Individual interrupt mask

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: Collective interrupt mask, Individual interrupt mask, Priority encoder  
Question 21

Which scheduler needs to make a decision the fastest?

Question 21 Answer

a.  
medium-term

b.  
additional

c.  
long-term

d.  
short-term

Feedback

The correct answer is: short-term

Question 22

Incorrect

Mark 0.00 out of 1.00

Flag question

The page reference and modification bits are used to:

Question 22 Select one or more:

a.  
Detection of locality of references

b.  
Indication whether the frame is empty or contains a page

c.  
Counting references to optimize exchanges

d.  
Address translation support

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Counting references to optimize exchanges

### Question 23

What mechanism is part of time-sharing systems?

Question 23Answer

- a.  
short-term scheduler
- b.  
long-term scheduler
- c.  
swapping
- d.  
medium-term scheduler

Feedback

The correct answer is: short-term scheduler

### Question 24

Multiprogramming is a technique in which, as a rule:

Question 24Select one or more:

- a.  
is a memory allocation method by which a program is divided into equal parts
- b.  
only addresses that can be generated by the processor when performing calculations are used
- c.  
many programs can be stored in primary memory
- d.  
is a method of allocating processor time

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: many programs can be stored in primary memory

### Question 25

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

## Question 25Answer

- a.  
task management
- b.  
task shedding
- c.  
task timetable management
- d.  
traffic control

### Feedback

The correct answer is: task shedding

## Question 26

Partially correct

Mark 0.33 out of 1.00

Flag question

Onion algorithm:

Question 26Select one or more:

- a.  
Causes external fragmentation
- b.  
Causes internal fragmentation
- c.  
Reduces external fragmentation by aligning the allocation order with the process hierarchy

### Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: Causes internal fragmentation, Causes external fragmentation, Reduces external fragmentation by aligning the allocation order with the process hierarchy

## Question 27

Incorrect

Mark 0.00 out of 1.00

Flag question

If the loader inserts a program with absolute addresses into a fixed address space, it is called:



Question 27Answer

- a.  
Static relocation
- b.  
Static loading
- c.  
Dynamic loading
- d.  
Dynamic relocation

Feedback

The correct answer is: Dynamic relocation

Question 28

In which swapping algorithms is the M bit value used?

Question 28Select one or more:

- a.  
no algorithm
- b.  
clock
- c.  
LFU
- d.  
second chance
- e.  
working set
- f.  
LRU
- g.  
FIFO
- h.

NRU

i.  
optimal

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: NRU

Question 29

When is the scheduler called?

Question 29 Select one or more:

a.  
when the scheduler decides itself

b.  
at the end of the execution of each kernel procedure

c.  
at the start of execution of each kernel procedure

d.  
at the request of a user task

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: at the end of the execution of each kernel procedure

Question 30

Incorrect

Mark 0.00 out of 1.00

Flag question

Memory partitioning into blocks of any size:

Question 30 Select one or more:

a.  
It implies internal fragmentation

b.  
It does not imply fragmentation

c.  
It implies external fragmentation

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: It does not imply fragmentation

Question 31

Incorrect

Mark 0.00 out of 1.00

Flag question

Dynamic relocation:

Question 31 Select one or more:

a.  
Requires hardware support in the form of a DATUM register

b.  
Requires hardware support in the form of a LIMIT register

c.  
Requires relative references to be addressed when the program is loaded into memory

d.  
Allows for temporal elimination of external fragmentation

Feedback

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 32

Physical address:

Question 32 Select one or more:

a.  
points to a location in the address space of primary memory

b.  
points to a cell in the process address space

c.  
indicates a relative address to the segment register

d.  
is contained in the address field of the instruction

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: points to a location in the address space of primary memory

Question 33

The page index table address is stored in:

Question 33Select one or more:

a.  
page register

b.  
page table base register

c.  
instruction pointer

d.  
segment base register

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: page table base register

Question 34

The combination of paging and segmentation consists in:

Question 34Select 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.  
dividing pages into segments

c.  
identifying segments with pages

d.  
Generating a "frame error" interrupt when the frame containing the page does not belong to the current

segment

Feedback

Tvoja 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 35

Partially correct

Mark 0.50 out of 1.00

Flag question

Two successive executions of operation V in one process on a binary semaphore in down state:

Question 35 Select one or more:

a.

Increases semaphore value by 2

b.

Raises the semaphore if there are no suspended processes

c.

It doesn't change anything

d.

If the semaphore guards a critical region, it can let two processes enter the critical region

Feedback

Tvoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

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 36

Partially correct

Mark 0.50 out of 1.00

Flag question

Which of the following memory allocation schemes causes external fragmentation?

Question 36 Answer

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 37

A memory management technique in which the system divides memory into equal-sized portions to easily manage relocation is called:

Question 37Select one or more:

a.  
swapping

b.  
mapping

c.  
paging

d.  
fragmentation

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: paging

Question 38

In UNIX, the disk contains the following areas:

Question 38Select one or more:

a.  
Directories

b.  
I-node table

c.  
Files data

d.  
SuperBlock

Feedback  
Twoja odpowiedź jest poprawna.

The correct answers are: SuperBlock, I-node table, Files data  
Question 39

The process context includes:

Question 39Select one or more:

a.  
General purpose registers

b.  
Process descriptor

c.  
External devices registers

d.  
The content of the file containing the program

Feedback  
Twoja odpowiedź jest poprawna.

The correct answers are: General purpose registers, Process descriptor  
Question 40

In the case of hardware interrupt summation ("wire or"):

Question 40Select one or more:

a.  
the bus driver can poll devices about issuing an interrupt

b.  
the interrupt source is identified by a special bus signal

c.  
the processor can programatically poll devices about issuing an interrupt

d.  
the interrupt circuit can query devices about issuing an interrupt

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: the processor can programatically poll devices about issuing an interrupt, the bus driver can poll devices about issuing an interrupt

Question 41

Incorrect

Mark 0.00 out of 1.00

Flag question

Discontinuous allocation is the result of:

Question 41 Select one or more:

a.  
compaction

b.  
relocation

c.  
paging

d.  
segmentation

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: paging, segmentation

Question 42

Static relocation is performed by:

Question 42 Answer

a.  
Linker

b.  
Paging system

c.  
Special registers (DATUM)



d.  
Segment descriptors

Feedback

The correct answer is: Linker

Question 43

The number of condition variables is by definition in the monitor:

Question 43Select one or more:

- a.  
one
- b.  
as many as there are different conditions for the continuation of processes plus one for mutual exclusion
- c.  
as many as there are different conditions for the continuation of processes
- d.  
two

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: as many as there are different conditions for the continuation of processes

Question 44

Incorrect

Mark 0.00 out of 1.00

Flag question

In a four-level page index table, the page number is:

Question 44Select one or more:

- a.  
in the first level table - the leftmost in the figure
- b.  
in the table of the last level - the rightmost in the figure
- c.  
part in the table of each level
- d.

none of the above answers

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: none of the above answers

Question 45

Partially correct

Mark 0.50 out of 1.00

Flag question

What does the file system layer do?

Question 45Answer

a.

Manages remote file systems

b.

Manages files

c.

Manages remote files

d.

Tracks the status of information

Feedback

The correct answers are: Tracks the status of information, Manages files

Question 46

Incorrect

Mark 0.00 out of 1.00

Flag question

On UNIX, the number of files is directly limited by:

Question 46Select one or more:

a.

The size of the space allocated for files

b.

The number of bits of the field describing the size of the file

c.

Allocation unit size

d.

I-node table size

e.  
The number of bits of the disk address

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answers are: I-node table size, The size of the space allocated for files

Question 47

Incorrect

Mark 0.00 out of 1.00

Flag question

Opening a file in UNIX writes the following entries in the operating system's data structures:

Question 47Select one or more:

- a.  
Inserting a new item into the Table of Open Files of the Process
- b.  
Inserting a new entry into the Table of Active I-nodes or increasing the counter in an existing entry
- c.  
Inserting a new entry into the System Table of Open Files or incrementing a counter in an existing entry

Feedback  
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 48

Which of the following facilities or abilities are required to provide mutual exclusion support?

Question 48Select one or more:

- a.  
The relative speeds of the tasks must be taken into account.
- b.  
A task that is performed outside the critical section must not affect the behavior of a task in the critical section.
- 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 49

Incorrect

Mark 0.00 out of 1.00

Flag question

Page thrashing is a phenomenon involving:

Question 49Select 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

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answer is: frequent downloading of pages that have just been swapped out from memory

Question 50

Threads in operating system:

Question 50Select one or more:

- a.  
They share context except registers and stack
- b.  
They share context except stack
- c.  
They share the entire context

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: They share context except registers and stack

Question 51

What paging element is NOT used in real-time systems?

Question 51 Select one or more:

- a.  
page swapping
- b.  
protection bits
- c.  
address translation
- d.  
reference bits

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: page swapping

Question 52

What does the kernel do when there is no task (process) to run?

Question 52 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

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: starts the idle task

Question 53

The resources of the computer system are:

Question 53 Select one or more:

- a.  
User programs
- b.  
Peripheral devices
- c.  
Primary memory
- d.  
Processor time

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Primary memory, Peripheral devices, Processor time

Question 54

Partially correct

Mark 0.50 out of 1.00

Flag question

The direct resume rule means that:

Question 54 Select one or more:

- a.  
The resuming process gets a critical region after the resumed process exits the monitor
- b.  
The resuming process applies for the critical region just like other processes on monitor input
- c.  
The resuming process loses the critical region  
Proces wznowiający traci region krytyczny

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: 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

Question 55

Incorrect

Mark 0.00 out of 1.00

Flag question

By definition, a deadlock is a situation where:

Question 55 Select one or more:

- a.  
any greater than one number of processes are waiting for conditions that cannot be met
- b.  
at least two processes are waiting for conditions that cannot be met
- c.  
any greater than zero 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 niepoprawna.

The correct answer is: any greater than zero number of processes are waiting for conditions that cannot be met

Question 56

What is true about system level threads?

Question 56 Answer

- a.  
Thread switching does not require interaction with the operating system.
- b.  
All process threads share the same address space.
- c.  
.All threads of the process must execute on the same processor.
- d.  
All process threads can share the same set of open files.

Feedback

The correct answers are: All process threads can share the same set of open files., All process threads

share the same address space.

Question 57

The environment in which the process is executed includes:

Question 57 Select one or more:

- a.  
Process address space
- b.  
A set of environment variables
- c.  
General purpose registers content
- d.  
Contents of the interrupt request register
- e.  
The content in the memory management unit
- f.  
Open files

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: A set of environment variables, Process address space, General purpose registers content, Open files

Question 58

In a concurrent environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

Question 58 Answer

- a.  
task scheduling
- b.  
task management
- c.



traffic management

d.  
task timetable planning

Feedback

The correct answer is: task scheduling

Question 59

What mechanism is part of batch systems?

Question 59Answer

a.  
short-term scheduler

b.  
medium-term scheduler

c.  
no scheduler is needed

d.  
long-term scheduler

Feedback

The correct answers are: long-term scheduler, medium-term scheduler

Question 60

What is a scheduler?

Question 60Select one or more:

a.  
memory allocation procedure

b.  
a kernel routine that selects a task to execute

c.  
procedure that schedules frame release in the page replace algorithm

d.  
the system process that allocates the processor

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: a kernel routine that selects a task to execute

Question 61

Correct

Mark 5.00 out of 5.00

Flag question

What is the average time in the system for tasks in the batch, using SJF algorithm?

The system is equipped with 4 processors

task

1

2

3

4

processing time

3.6

5.6

2.8

1.7

Answer:Question 61

3.425

Feedback

The correct answer is: 3.4

Question 62

Incorrect

Mark 0.00 out of 5.00

Flag question

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

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 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:Question 62

1

Feedback

The correct answer is: 11011

Question 63

Correct

Mark 5.00 out of 5.00

Flag question

The virtual address consists of 8b page number and 8b offset. The page index table is shown below (index, content). For decimal address 1928, binary 0000 0111 1000 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

12

6

0

5

-1

4

4

3

9

2

5

1

-1

0

2

Answer:Question 63

12.136

Feedback

The correct answer is: 12.136

#####

#####

##### File: exam1\_review.txt #####

#####

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:

Question 1Answer

a.1,2,6,12

b.1,2,6,12,0,0

c.12,21,60,123,7,9

d.0,2,6,12,0,0

Feedback

The correct answer is: 1,2,6,12,0,0

=====

=====

Interrupt vector:

a.contains the ID of the process that should be restarted

b.it is saved automatically when an interrupt is accepted

c.contains the instruction counter, condition bits, interrupt mask, and general purpose registers

d.contains minimal information that cannot be saved programmatically

Feedback

The correct answers are: it is saved automatically when an interrupt is accepted, contains minimal information that cannot be saved programmatically

=====

=====

Individual interrupt mask:

a.register in which addresses of devices reporting individual interrupts are stored

b.a register whose bits are ANDed (conjunction) with the bits from the interrupt request register

c.a register whose bits are ORed (alternative) with the bits from the interrupt request register

d.a combinational circuit that calculates the number of the interrupt received

The correct answer is: a register whose bits are ANDed (conjunction) with the bits from the interrupt request register

=====

=====

Frame access bits (reference and modification):

Question 4Select one or more:

a.  
must be readable

b.  
must be available for writing

c.

must be group readable

d.  
must be available for group clear

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: must be readable, must be available for group clear, must be group readable

=====

Having two-level page index tables:

Question 5Select one or more:

a.  
the content of a level I table element is an index in a level II table

b.  
the content of the level I table element is concatenated (combined) with the content of the 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 added to the content of a level II table element

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: the content of a level I table element points to a level II table

=====

In the philosophers problem, if there are 4 of them:

Question 6Select one or more:

a.  
Starvation is possible

b.  
Deadlock is not possible

c.  
Starvation is not possible

d.

Deadlock is possible

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Deadlock is possible, Starvation is not possible

=====

The program supervisor layer in the operating system has the following role:

Question 7Select one or more:

- a.  
Intercepts all program system calls and routes them to the appropriate layers
- b.  
Runs programs
- c.  
Deals with the management of primary memory (memory allocation to programs)
- d.  
Deals with buffering data written and read from mass memory

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

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)

=====

The return from interrupt instruction:

Question 8Select one or more:

- a.  
restores the conditions register
- b.  
causes the processor to switch to a process other than the interrupted one
- c.  
restores the program counter
- d.  
restores the process stack

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: restores the program counter, restores the conditions register

Address translation mechanism:

Question 9 Select one or more:

- a.  
Adds the frame number to the page number
- b.  
Concatenates the frame number and page number
- c.  
Concatenates the page number and page offset
- d.  
Concatenates the frame number and offset on the page

The correct answer is: Concatenates the frame number and offset on the page

Using the Test-And-Set instruction in synchronization:

Question 10 Select one or more:

- a.  
Requires an explicit relinquishment of the processor to another process
- b.  
Requires organizing inactive waiting in queues
- c.  
Stops the processor if 0 is read
- d.  
It requires processes to actively wait

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait



=====

In what states can a task occur?

Question 11Select one or more:

a.  
current

b.  
ready

c.  
blocked

d.  
resetted

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: current, ready, blocked

=====

What does the file system layer do?

Question 12Answer

a.  
Manages remote files

b.  
Tracks the location of the data

c.  
Manages remote file systems

d.  
Keeps track of how information is recorded

Feedback

The correct answers are: Keeps track of how information is recorded, Tracks the location of the data

=====

Indulgent scheduling is the best mechanism for:

Question 13Select one or more:

a.  
system with many process classes

b.  
real-time system

c.  
time-sharing system

d.  
every system

Feedback  
Twoja odpowiedź jest poprawna.

The correct answer is: real-time system

=====

Inter-process communication can be organized using:

Question 14 Select one or more:

a.  
interrupts

b.  
shared directly addressable memory fields

c.  
shared memory fields accessible through system calls

d.  
messages

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answers are: messages, shared directly addressable memory fields, shared memory fields accessible through system calls

=====

There are three processes in the system:

C - calculation process (batch process performing complex calculations lasting several hours),  
T - text editor (user edits text document)  
K - compiler (the user compiles the program, e.g. in C++).  
Assign processes to priorities in the operating system from the highest to the lowest priority.

highest Blank 1 Question 15  
T

intermediate Blank 2 Question 15

K

lowest Blank 3 Question 15

C

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is:

There are three processes in the system:

C - calculation process (batch process performing complex calculations lasting several hours),

T - text editor (user edits text document)

K - compiler (the user compiles the program, e.g. in C++).

Assign processes to priorities in the operating system from the highest to the lowest priority.

highest [T]

intermediate [K]

lowest [C]

=====

What mechanism is part of batch systems?

Question 16Answer

a.  
no scheduler is needed

b.  
low-level scheduler

c.  
medium-tevel scheduler

d.  
high-level scheduler

Feedback

The correct answers are: high-level scheduler, medium-tevel scheduler

Q=====

Which of the following memory allocation schemes causes external fragmentation?

Question 17Answer

a.  
Multiple contiguous fixed partitions of various sizes

b.  
Multiple contiguous fixed partitions of equal size

c.  
Paging

d.  
Segmentation

Feedback

The correct answers are: Segmentation, Multiple contiguous fixed partitions of various sizes

Q=====

Allocation unit for file storage:

Question 18Answer

a.  
may differ between files in a partition

b.  
may be a variable in a partition

c.  
may vary between partitions

d.  
it should be selected to match the characteristics of the data

Feedback

The correct answer is: may vary between partitions

Q=====

For concurrency in OS:

Question 19Answer

a.  
special processor support is required

b.  
cache memory is necessary

c.  
interrupt handling is necessary

d.  
timer interrupts are necessary

Feedback

The correct answer is: interrupt handling is necessary

Q=====

=====

In a multitasking environment, the operating system decides which task the CPU gets, when, and for how long. This feature is called:

Question 20Answer

a.  
task scheduling

b.  
traffic control

c.  
task timetable management

d.  
task management

Feedback

The correct answer is: task scheduling

Q=====

=====

The result of cooperation of concurrent processes:

Question 21Select one or more:

a.  
it is always deterministic

b.  
it may depend on how processes are scheduled

c.  
it can be non-deterministic

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: it may depend on how processes are scheduled, it can be non-deterministic

Q=====

=====

At the blocked state is a process that:

Question 22Select one or more:

a.  
waits for an I/O operation to complete

b.  
occupies a processor

c.  
fills the processor idle time

d.  
waits for a processor

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: waits for an I/O operation to complete

Q=====

=====

A multiprogram system is one that, in principle:

Question 23Select one or more:

a.  
It allows for storing many programs in primary memory

b.  
It allows for running programs only one after another

c.  
Requires relocation or equivalent mechanism

d.  
Requires dynamic relocation

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: It allows for storing many programs in primary memory, Requires relocation or equivalent mechanism

=====

=====

In UNIX, access rights are specified:

Question 24Select 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 the user, the group to which the user belongs and for all others

d.  
Separately for write, read and execute/search

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

=====

=====

In the "current" state, there is a process that:

Question 25Select one or more:

a.  
waits for an I/O operation to complete

b.  
fills the CPU idle time

c.  
occupies a processor

d.  
waits for a processor

Feedback  
Twoja odpowiedź jest poprawna.

The correct answer is: occupies a processor

=====

=====

The address translation function is:

Question 26Select one or more:

a.  
monotonic

b.  
multivalent

c.  
partial

d.  
reverse

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: multivalent, partial

=====

The interrupt encoder is:

Question 27Select one or more:

a.  
a combinational circuit that transmits to the processor the number of the interrupt to be serviced

b.  
a combinational circuit that computes the number of the reported and unmasked interrupt with the highest priority

c.  
a register that tells the processor the interrupt number to be handled

d.  
a combinational circuit that calculates the value of a new individual interrupt mask

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: a combinational circuit that computes the number of the reported and unmasked interrupt with the highest priority, a combinational circuit that calculates the value of a new individual interrupt mask, a combinational circuit that transmits to the processor the number of the interrupt to be serviced

=====

The segment descriptor table contains:

Question 28Select one or more:

a.  
addresses of all segment page index tables

b.  
address of the segment page index table of the bottom-level (last level) in the hierarchy



c.  
address of the segment page index table of the top-level (first level) in the hierarchy

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: address of the segment page index table of the top-level (first level) in the hierarchy

=====

Which of the following statements is true for system level threads?

Question 29Answer

a.  
User-level threads can be synchronized by the kernel.

b.  
Kernel-level threads require their descriptors in the kernel.

c.  
Multithreaded applications cannot use multiprocessing.

d.  
The threading implementation at the kernel level is done by the thread library attached to the program.

Feedback

The correct answer is: Kernel-level threads require their descriptors in the kernel.

=====

In a FAT-based disk system (without sharing allocation units by files), the number of files is directly limited by:

Question 30Select one or more:

a.  
The number of bits of the disk address

b.  
Allocation unit size

c.  
The number of bits of the field describing the size of the file

d.  
FAT table size

e.  
The size of the disk space

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: FAT table size, The size of the disk space

=====

Dynamic relocation is performed by:

Question 31Answer

a.  
Segment descriptors

b.  
Compiler

c.  
Linker

d.  
Loader

Feedback

The correct answer is: Segment descriptors

Q=====

Compaction uses the mechanism:

Question 32Select one or more:

a.  
deleting segments from memory

b.  
dynamic relocation

c.  
paging

d.  
static relocation

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: dynamic relocation

=====

Page Index Table address is kept in:

Question 33Select one or more:

a.  
page table base register

b.  
program counter

c.  
stack pointer

d.  
page register

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: page table base register

=====

The program must be specially compiled to run in paged memory.

Question 34Answer

True

False

Feedback

The correct answer is 'False'.

=====

The microkernel of the operating system performs the following role:

Question 35Select one or more:

a.  
Runs programs

b.  
Synchronizes processes

c.  
It receives interrupts and routes them to the appropriate drivers and other layers of the system

Feedback

Twoja odpowiedź jest poprawna.

The correct answers are: Synchronizes processes, It receives interrupts and routes them to the appropriate drivers and other layers of the system

=====

The sweeping mechanism consists in:

Question 36Select one or more:

- a.  
Moving programs around in memory to eliminate fragmentation
- b.  
Loading pages into the primary memory and sending them to the disk
- c.  
Loading segments into primary memory and sending them to disk
- d.  
Merging adjacent free memory blocks

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: Loading segments into primary memory and sending them to disk

Q=====

Swap area is placed in:

Question 37Answer

- a.  
Primary memory
- b.  
Index tables
- c.  
Virtual memory
- d.  
Mass memory

Feedback

The correct answer is: Mass memory

=====

How does the operating system call the task completion subroutine?

1.

Answer 1 Question 38

builds an interrupt vector on the system stack pointing to the terminating subroutine code

2.

Answer 2 Question 38

sets the trace in the terminating subroutine to the current position

3.

Answer 3 Question 38

builds the frame of the terminating subroutine on the task stack

4.

Answer 4 Question 38

recreates the context programmatically and executes the IRET instruction

Feedback

Tvoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answer is: 1. → builds the frame of the terminating subroutine on the task stack, 2. → 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, 4. → recreates the context programmatically and executes the IRET instruction

=====

Dynamic relocation is performed by:

Question 39Answer

a.

Loader

b.

Paging system

c.

Compiler

d.

Linker

Feedback

The correct answer is: Paging system

=====

MMU uses index tables to:

Question 40Select one or more:

- a.  
generate a logical address
- b.  
generate a physical address
- c.  
generate an effective address
- d.  
generate a relative address

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: generate a physical address

Qu=====

What paging element is NOT used in real-time systems?

Question 41Select one or more:

- a.  
address translation
- b.  
reference bits
- c.  
page swapping
- d.  
protection bits

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: page swapping

=====

When starting a program, how is control passed to it from the operating system?

Question 42Select one or more:

- a.

jump

b.  
extracode

c.  
return from interrupt handler IRET

d.  
jump with trace

Feedback  
Twoja odpowiedź jest poprawna.

The correct answer is: return from interrupt handler IRET

=====

=====  
A multiprogram system is one that, in principle:

Question 43Select one or more:

a.  
It allows you to store many programs in mass memory

b.  
It allows for storing many programs in primary memory

c.  
Allows more than one program to run simultaneously

d.  
It allows for running programs only one after another

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answer is: It allows for storing many programs in primary memory

=====

=====  
Which technique was introduced because a single task could occupy both the CPU and I/O devices?

Question 44Select one or more:

a.  
Interrupts

b.

## Multiprogramming

c.  
Preemptive scheduling

d.  
Buffering

Feedback  
Twoja odpowiedź jest niepoprawna.

The correct answer is: Interrupts

=====

What are the functions of the kernel?

Question 45Answer

a.  
Program management

b.  
Memory management

c.  
File management

d.  
Interrupt handling

Feedback  
The correct answer is: Interrupt handling

=====

Semaphores are used to solve the problem:

a.  
races

b.  
Belady problem

c.  
process scheduling

d.



mutual exclusion

Feedback

The correct answer is: mutual exclusion

Static relocation is performed by:

Question 47Answer

- a.  
Paging system
- b.  
Loader
- c.  
Special registers (DATUM)
- d.  
Linker

Feedback

The correct answers are: Linker, Loader

The hardware mechanisms necessary for paging are

(note: "frame error" is also called "page fault", "frame fault"):

Question 48Select one or more:

- a.  
Address translation, page index tables, page reference bits, "frame error" interrupt, associative memory
- b.  
Address translation, page index tables, "frame error" interrupt
- c.  
Address translation, page index tables, page reference bits, "frame error" interrupt
- d.  
Address translation, page index tables, "frame error" interrupt, associative memory, page swapper

Feedback

Tvoja odpowiedź jest niepoprawna.

The correct answer is: Address translation, page index tables, "frame error" interrupt

Q=====

=====

Allocation unit for file storage:

Question 49Answer

- a.  
may be a variable in a partition
- b.  
must be constant across the disk 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

=====

=====

What is this technique where the operating system gathers programs and data together before processing?

Question 50Answer

- a.  
Real-time processing
- b.  
Batch processing
- c.  
Interactive processing
- d.  
Distributed processing

Feedback

The correct answer is: Batch processing

=====

=====

Page thrashing is a phenomenon involving:

Question 51Select one or more:

- a.  
frequent downloading of pages that have just been swapped out from memory

- b.  
frequent context changes that require page index tables to be reloaded
- c.  
loading the same page over and over again
- d.  
frequently changing the values of bits describing pages in frames

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answer is: frequent downloading of pages that have just been swapped out from memory

=====

Using the Test-And-Set instruction in synchronization:

Question 52 Select one or more:

- a.  
It requires processes to actively wait
- b.  
Requires the use of semaphores
- c.  
Requires organizing inactive waiting in queues
- d.  
Stops the processor if 0 is read

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: It requires processes to actively wait

Q=====

The scheduler decisions take the form:

Question 53 Select one or more:

- a.  
change from waiting to ready state
- b.  
change from active to ready state

c.  
change from waiting to active state

d.  
change from ready to active state

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: change from ready to active state

=====

Dynamic relocation is performed by:

Question 54Answer

a.  
Segment descriptors

b.  
Compiler

c.  
Special registers (LIMIT)

d.  
Paging system

Feedback

The correct answers are: Paging system, Segment descriptors

=====

Calling the program with the "exec" operation results in (accurately to the result of the exec operation):

Question 55Select one or more:

a.  
Loading a code segment from disk, duplicating data segments and the calling process stack

b.  
Loading code and data segments from disk, initializing a new stack segment

c.  
Loading a code segment from disk, duplicating the data segment of the calling process

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: Loading code and data segments from disk, initializing a new stack segment

=====

=====

In operating system:

Question 56Select one or more:

- a.  
some exceptions are handled, some not
- b.  
timer interrupt may not be handled
- c.  
every exception must be handled
- d.  
the decision to handle an exception or not is made dynamically

Feedback

Twoja odpowiedź jest poprawna.

The correct answer is: every exception must be handled

=====

=====

The page fault exception is specific in that:

Question 57Select one or more:

- a.  
is reported in the "middle" of an instruction execution
- b.  
execution of the instruction may require decrementing the program counter
- c.  
continuation of the instruction execution may require the saving of internal processor registers storing intermediate values
- d.  
there is no return to the program from it

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 2.

The correct answers are: 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

Q=====

=====

Twice consecutive execution in one process of operation P on a raised binary semaphore:

Question 58Select one or more:

- a.  
Decreases semaphore value by 2
- b.  
If a semaphore guards a critical region, it leads to a deadlock
- c.  
Causes the semaphore to get down
- d.  
It doesn't change anything

Feedback

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

=====

=====

BEST-FIT algorithm:

Question 59Select one or more:

- a.  
Requires sorting the cut part into the list of free blocks
- b.  
Requires a descending sort of the list of free blocks
- c.  
It allows for quick determining whether there is a free block of the required size
- d.  
Avoids external fragmentation

Feedback

Twoja odpowiedź jest częściowo poprawna.

You have correctly selected 1.

The correct answers are: It allows for quick determining whether there is a free block of the required size, Requires sorting the cut part into the list of free blocks

=====

=====

Which swapping algorithms use page reference history?

Question 60Select one or more:

- a.  
LRU
- b.  
LFU
- c.  
NRU
- d.  
working set
- e.  
second chance
- f.  
FIFO
- g.  
working set clock

Feedback

Twoja odpowiedź jest niepoprawna.

The correct answers are: LRU, LFU

=====

What is the average time in the system for tasks in the batch, using SJF algorithm?

task

1

2

3

4

processing time

3.4

6.4

2.7

1.1

Answer:Question 61

6.4

Feedback

The correct answer is: 6.4

=====

Assuming that memory cells are 1-byte, the page number in the address field is 11 bits, the offset is 13 bits, the frame number is 12 bits, and all entries in the TIS page index table are on a 32-bit word boundary, please enter:

- the maximum size of the program's physical memory in MB

Answer:Question 63

32

Feedback

The correct answer is: 32

=====

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

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 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

11111

Feedback

The correct answer is: 10110

#####

#####

##### File: DocumentTrf.txt #####

#####

The process context includes:

- a.Process descriptor
- b.General purpose registers
- c.The content of the file containing the program
- d.External devices registers

The correct answers are: General purpose registers , Process descriptor

The optimal scheduling algorithm in terms of minimizing the average time in the system of a given task is:

- a.FCFS
- b.S.J.F
- c.time slicing
- d.priority

%%%%%%%%%

The correct answer is: SJF

Scheduler function is:

and.scheduling tasks on the processor

- b.changing task priorities
- c.selecting a task to run
- d.counting the CPU time used by tasks

%%%%%%%%%

The correct answer is: selecting a task to run

What does the kernel do when there is no task (process) to run?

- 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

%%%%%%%%%

The correct answer is: starts the idle task

With indulgent scheduling, once a CPU is allocated to a task, the task keeps it until:

- a.transition a task from the active state to the ready state
- b.releasing the processor by the task
- c.task termination
- d.transition a task from the ready state to the active state

The correct answers are: task termination, releasing the processor by the task

Imprecise interrupts are:

- a.transferred in any state of the processor, not just between the execution of successive instructions
- b.unblocked in any state of the processor, not just between executions of instructions
- c.accepted 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

%%%%%%%%%

The correct answer is: accepted in any state of the processor, not just between the execution of successive instructions

The following situations trigger "error" exceptions:

- a.an attempt to execute an instruction from the area of the page for which the "no code" bit was set
- 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.memory reference beyond limit register value

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

Sequence of actions when starting a new task:

%%%%%%%%%

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

The scheduler decisions take the form:

- 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

%%%%%%%%%

The correct answer is: change from ready to active state

Interrupt vector:

- a.contains the ID of the process that should be restarted
- b.it is saved automatically when an interrupt is accepted
- c.contains minimal information that cannot be saved programmatically
- d.contains the instruction counter, condition bits, interrupt mask, and general purpose registers

The correct answers are: it is saved automatically when an interrupt is accepted, contains minimal information that cannot be saved programmatically

By definition , a deadlock is a situation where:

- a.any greater than one number of processes are waiting for conditions that cannot be met
- b.exactly two processes are waiting for conditions that cannot be met
- c.at least two processes are waiting for conditions that cannot be met
- d.any greater than zero number of processes are waiting for conditions that cannot be met

%%%%%%%%%

The correct answer is: any greater than zero number of processes are waiting for conditions that cannot be met

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?

- a.switches to the next kernel system stack
- b.switches back to the application program stack
- c.nothing special, it builds the context on the kernel system stack
- d.initializes the kernel system stack from the scratch

%%%%%%%%%

The correct answer is: nothing special, it builds the context on the kernel system stack

Interrupt mask:

- a.can unblock interrupts when the interrupt handler completes
- b.must be part of the status register
- c.can be set and reset by special processor instructions
- d.causes interrupts to be disabled when an interrupt is accepted

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

Scheduling aims to optimize:

- a.reaction time
- b.processor utilization
- c.wait time
- d.throughput system

The correct answers are: processor utilization, system throughput, wait time, reaction time

Which scheduler needs to make a decision the fastest?

- a.short-term
- b.long-term
- c.additional
- d.medium-term

%%%%%%%%%

The correct answer is: short-term

What is true about system level threads?

- a.All process threads can share the same set of open files.
- b.All process threads share the same address space.
- c.Thread switching does not require interaction with the operating system.
- d.All process threads can share the same set of child processes.

Feedback

The correct answers are: All process threads can share the same set of open files., All process threads share the same address space., All process threads can share the same set of child processes.

What mechanism is part of time-sharing systems?

- a.short-term scheduler
- b.long-term scheduler
- c.medium-term scheduler
- d.swapping

%%%%%%%%%

The correct answer is: short-term scheduler

Using the Test-And-Set instruction in synchronization:

- a.Requires an explicit relinquishment of the processor to another process
- b.Requires organizing inactive waiting in queues
- c.It requires processes to actively wait
- d.Stops the processor if 0 is read

Your answer is correct.

%%%%%%%%%

The correct answer is: It requires processes to actively wait

In the "current" state, there is a process that:

- a.fills the CPU idle time
- b.waits for a processor
- c.occupations and processor
- d.waits for an I/O operation to complete

%%%%%%%%%

The correct answer is: occupies a processor

There are three processes in the system:

C - calculation process (batch process performing complex calculations lasting several hours),

T - text editor (user edits text document)

K - compiler (the user compiles the program, eg in C++).

Assign processes to priorities in the operating system from the highest to the lowest priority.

highest [T]

intermediate [K]

lowest [C]

Which mechanism is a part of Time-sharing systems?

- a.Short-Term Scheduler
- b.no scheduler is needed
- c.Medium-Term Scheduler
- d.Long-Term Scheduler

%%%%%%%%%

The correct answer is: Short-Term Scheduler

At the suspended state is a process that:

- a.waits for a processor
- b.fills the processor idle time
- c.waits for an I/O operation to complete
- d.occupations and processor

%%%%%%%%%

The correct answer is: waits for an I/O operation to complete

SJF selects the task:

- a.with the least CPU requirement
- b.which was last placed in the queue
- c.who waited the longest in the queue
- d.which was first placed in the queue

%%%%%%%%%

The correct answer is: with the least CPU requirement

How does the operating system call the task completion subroutine?

%%%%%%%%%

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

The multi-level interrupt controller includes :

- a.Collective interrupt mask
- b.The register of interrupt being serviced
- c.Individual interrupt mask
- d.Priority encoder

The correct answers are: Collective interrupt mask , Individual interrupt mask , Priority encoder

When is the scheduler called?

- a.when the scheduler decides itself
- b.at the end of the execution of each kernel procedure
- c.at the request of a user task
- d.at the start of execution of each kernel procedure

%%%%%%%%%

The correct answer is: at the end of the execution of each kernel procedure

Semaphores are used to solve the problem:

- a.races
- b.Belady problem
- c.process scheduling
- d.mutual exclusion

%%%%%%%%%

The correct answer is: mutual exclusion

The direct resume rule means that:

- a.The resuming process applies for the critical region just like other processes on monitor input
- b.The resuming process loses the critical region

The resuming process loses a critical region

- c.The summarizing process gets a critical region after the resumed process exits the monitor

The correct answers are: The resuming process loses the critical region , The resuming process applies for the critical region just like other processes on monitor input

Using the Test-And-Set instruction in synchronization:

- a.Requires organizing inactive waiting in queues
- b.It requires processes to actively wait
- c.Requires the use of semaphores
- d.Stops the processor if 0 is read

%%%%%%%%%

The correct answer is: It requires processes to actively wait

The result of cooperation of concurrent processes:

- a.it is always deterministic
- b.it may depend on how processes are scheduled
- c.it can be non-deterministic

The correct answers are: it may depend on how processes are scheduled , it can be non-deterministic

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

%%%

The correct answer is: 4.3

#####