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**Started on** Thursday, 27 April 2023, 4:00 PM

**State** Finished

**Completed on** Thursday, 27 April 2023, 4:11 PM

**Time taken** 11 mins 26 secs

**Grade** 25.00 out of 30.00 (83.33%)

Information

**The theory part of this exam uses free navigation when presenting the questions.**

Information

## SECTION 1. True or False questions (2 points each)

Question **1**

Correct

Mark 2.00 out of 2.00

A page is a fixed-length block of main memory.

Select one:

- ☐ True
- ☒ False ✓

Question **2**

Correct

Mark 2.00 out of 2.00

A physical or absolute address represents an actual location in main memory.

Select one:

- ☒ True ✓
- ☐ False

Question **3**

Correct

Mark 2.00 out of 2.00

In an inverted page table, the indexes of page table entries are the virtual page numbers.

Select one:

- ☐ True
- ☒ False ✓

Question **4**

Incorrect

Mark 0.00 out of 2.00

The rate monotonic scheduling algorithm selects the tasks with the highest rate.

Select one:

- ☐ True
- ☒ False ✗

Question **5**

Correct

Mark 2.00 out of 2.00

DMA does not use interrupts

Select one:

- ☐ True
- ☒ False ✓

Question **6**

Correct

Mark 2.00 out of 2.00

In contiguous file allocation, compaction is performed to deal with the external fragmentation problem

Select one:

- ☒ True ✓
- ☐ False

Information

**SECTION 2. Simple choice questions** (3 points each)Question **7**

Correct

Mark 3.00 out of 3.00

Select the memory management technique that suffers from internal fragmentation.

Select one:

- ☐ a. Simple Segmentation
- ☒ b. Simple Paging ✓
- ☐ c. Virtual Memory Segmentation
- ☐ d. Dynamic Partitioning

Question **8**

Correct

Mark 3.00 out of 3.00

The resident set management combination where the page to be replaced is chosen from all available frames in main memory is:

Select one:

- ☐ a. Fixed Allocation - Local Replacement
- ☐ b. Fixed Allocation - Global Replacement
- ☐ c. Variable Allocation - Local Replacement
- ☒ d. Variable Allocation - Global Replacement ✓

Question **9**

Correct

Mark 3.00 out of 3.00

In the two-handed clock page replacement algorithm (UNIX SVR4), if the front-hand finds a page with the reference bit equal to zero, then:

Select one:

- ☐ a. The page gets replaced
- ☒ b. The reference bit remains unchanged ✓
- ☐ c. The frame is locked
- ☐ d. The reference bit is set to 1

Question **10**

Correct

Mark 3.00 out of 3.00

Select the task chosen to be executed by the EDF scheduling algorithm at time zero, given four tasks A, B, C, and D, with completion deadlines equal to 5,7,9,3 respectively

Select one:

- ☐ a. A
- ☒ b. D ✓
- ☐ c. C
- ☐ d. B

Question **11**

Correct

Mark 3.00 out of 3.00

Select the block-oriented device:

Select one:

- ☐ a. Printer
- ☒ b. Disk ✓
- ☐ c. Communications Port
- ☐ d. None of the above

Question **12**

Incorrect

Mark 0.00 out of 3.00

Assuming that the disk head is located at track 100, select next track chosen by the shortest service time first (SSTF) algorithm

Select one:

- ☒ a. 10 ✗
- ☐ b. 160
- ☐ c. 90
- ☐ d. 115

[◀ Extra credit question - Deadlocks](#)

Jump to...

[Algorithms' Part \(70 points\) ►](#)