Name Date

5IT-OS-Internal Unit Test 2

1. A situation where several processes access and manipulate the same data concurrently and the outcome of the execution depends on the particular order in which access takes place is called : *points: 1*

- ○ data consistency
- ○ race condition
- ○ aging
- ○ starvation

2. The segment of code in which the process may change common variables, update tables, write into files is known as : *points: 1*

- ○ program
- ○ critical section
- ○ non – critical section
- ○ synchronizing

3. The following three conditions must be satisfied to solve the critical section problem : *points: 1*

- ○ Mutual Exclusion
- ○ Progress
- ○ Bounded Waiting
- ○ All of the mentioned

4. When there is enough memory to fit a process in memory, but space is not contiguous we need *points: 1*

- ◯ Internal Fragmentation
- ◯ Virtual Fragmentation
- ◯ External Fragmentation
- ◯ None of them

5. Which memory allocation policy allocates the largest hole to the process? *points: 1*

- ◯ Best-Fit
- ◯ Worst-Fit
- ◯ First-Fit
- ◯ None of them

6. Which of the following is not the approach to Handling Deadlocks *points: 1*

- ◯ Deadlock Prevention
- ◯ Deadlock Avoidance
- ◯ Detect & Recover
- ◯ Virtual Memory

7. Paging is implemented in *points: 1*

- ◯ Operating System
- ◯ Hardware
- ◯ Software
- ◯ All of them

8. Which of the following is NOT a valid deadlock prevention scheme? *points: 1*

- ◯ Release all resources before requesting a new resource
- ◯ Number the resources uniquely and never request a lower numbered resource than the last one requested.
- ◯ Never request a resource after releasing any resource
- ◯ Request and all required resources be allocated before execution

9. Consider a machine with 64 MB physical memory and a 32-bit virtual address space. If the page size is 4KB, what is the approximate size of the page table? *points: 3*

- ◯ 16 MB
- ◯ 8 MB
- ◯ 2 MB
- ◯ 24 MB

10. Using a larger block size in a fixed block size file system leads to *points: 1*

- ◯ better disk throughput but poorer disk space utilization
- ◯ better disk throughput and better disk space utilization
- ◯ poorer disk throughput but better disk space utilization
- ◯ poorer disk throughput and poorer disk space utilization

11. Consider the virtual page reference string 1, 2, 3, 2, 4, 1, 3, 2, 4, 1 On a demand paged virtual memory system running on a computer system that main memory size of 3 pages frames which are initially empty. Let LRU, FIFO, and OPTIMAL denote the number of page faults under the corresponding page replacements policy. Then *points: 3*

- ◯ OPTIMAL < LRU < FIFO
- ◯ OPTIMAL < FIFO < LRU
- ◯ OPTIMAL = LRU
- ◯ OPTIMAL = FIFO

12. A multilevel page table is preferred in comparison to a single-level page table for translating virtual address to physical address because : *points: 1*

- ○ it reduces the memory access time to read or write a memory location
- ○ it helps to reduce the size of page table needed to implement the virtual address space of a process
- ○ it is required by the translation look aside buffer
- ○ it helps to reduce the number of page faults in page replacement algorithms

13. The _____ is used as an index into the page table. *points: 1*

- ○ frame bit
- ○ page number
- ○ page offset
- ○ frame offset

14. The _____ table contains the base address of each page in physical memory *points: 1*

- ○ process
- ○ memory
- ○ page
- ○ frame

15. If deadlocks occur frequently, the detection algorithm must be invoked _____ *points: 1*

- ○ rarely
- ○ frequently
- ○ rarely & frequently
- ○ none of the mentioned

16. In paging the user provides only _____ which is partitioned by the hardware into _____ and _____ *points: 1*

- ○ one address, page number, offset
- ○ one offset, page number, address
- ○ page number, offset, address
- ○ none of the mentioned

17. Each entry in a segment table has a : *points: 1*

- ○ segment base
- ○ segment peak
- ○ segment value
- ○ none of the mentioned

18. What is the drawback of the banker's algorithm? *points: 1*

- ○ in advance processes rarely know that how much resource they will need
- ○ the number of processes changes as time progresses
- ○ resource once available can disappear
- ○ all of the mentioned

19. To avoid deadlock *points: 1*

- ○ there must be a fixed number of resources to allocate
- ○ resource allocation must be done only once
- ○ all deadlocked processes must be aborted
- ○ inversion technique can be used

20. Deadlock prevention is a set of methods : *points: 1*

- ◯ to ensure that at least one of the necessary conditions cannot hold
- ◯ to ensure that all of the necessary conditions do not hold
- ◯ to decide if the requested resources for a process have to be given or not
- ◯ to recover from a deadlock

21. Physical memory is broken into fixed-sized blocks called _____ *points: 1*

- ◯ frames
- ◯ pages
- ◯ backing store
- ◯ none of the mentioned

22. Logical memory is broken into blocks of the same size called _____ *points: 1*

- ◯ frames
- ◯ pages
- ◯ backing store
- ◯ none of the mentioned

23. Paging increases the _____ time. *points: 1*

- ◯ waiting
- ◯ execution
- ◯ context – switch
- ◯ all of the mentioned

24. Smaller page tables are implemented as a set of _____ *points: 1*

- ◯ queues
- ◯ stacks
- ◯ counters
- ◯ registers

25. The page table registers should be built with _____ *points: 1*

- ◯ very low speed logic
- ◯ very high speed logic
- ◯ a large memory space
- ◯ none of the mentioned

26. For non-sharable resources like a printer, mutual exclusion : *points: 1*

- ◯ must exist
- ◯ must not exist
- ◯ may exist
- ◯ none of the mentioned