The following 7 questions are True/False questions

✓   1. Bootstrap program is loaded after power-up or reboot *   1/1

○ ⦿ True   ✓

○ False

✓   2. Any process may pass data to other process *   1/1

◉ True   ✓

○ False

✓   3. Process is a passive entity, i.e. Process is a program before running *   1/1

○ True

◉ False   ✓

✓   4. The one program running at all times on the computer is the kernel *   1/1

◉ True   ✓

○ False

✓   5. In RAM, each byte has a unique physical address *   1/1

◉ True   ✓

○ False

✓   6. Operating System is a program that acts as an intermediary between a *1/1
          user of a computer and the computer hardware.

   ◉ True   ✓

   ○ False

✓   7. Using a larger page size makes page tables larger. *   1/1

   ◉ True   ✓

   ○ False

The following 38 questions are multiple choice questions

✓   1. We can describe the Process Control Block (PCB) as: *   1/1

   ○ It is just using by operating system designers for design purpose

   ○ A way to transfer a process between different types of operating systems

   ◉ Each process is represented in the operating system by a PCB   ✓

   ○ type of addressing

✓   2. Device Queue is: *   1/1

○   a. A set of all processes in the system

○   b. A set of all processes residing in main memory, ready and waiting to execute.

◉   c. A set of processes waiting for an I/O device.   ✓

○   d. A set of terminated processes

✓   3. In memory management, compaction is an operation to reduce: *   1/1

○   a. Internal Fragmentation

◉   b. External Fragmentation   ✓

○   c. Overhead allocation problem

○   d. None of the above

✓   4. The types of addressing in a computer system: (*Select all the correct*   *1/1
Answers)

☑   a. Physical address   ✓

☐   b. Loaded address

☑   c. Logical address   ✓

☐   d. None of the above

✓   5. The Deadlock problem is: *(Select all the correct Answers)* *   1/1

☑   a. A set of blocked processes each holding a resource and waiting to acquire a   ✓
     resource held by another process in the same set

☐   b. Any number of blocked processes more than 2 processes

☐   c. More than two processes wait I/O operations

☐   d. None of the above

✓   6. Any process may be at one of the following states: *(Select all the   *1/1
     correct Answers)*

☑   a. ready   ✓

☑   b. running   ✓

☐   c. interrupting

☑   d. waiting

✓   7. Ready Queue is: *   1/1

◯   a. A set of all processes in the system

◉   b. A set of all processes residing in main memory, ready and waiting to execute. ✓

◯   c. A set of processes waiting for an I/O device.

◯   d. A set of terminated processes

✓   8. Computer System Components are: *   1/1

○   a. Hardware

○   b. Application Programs

○   c. Operating System

○   d. Users

◉   e. All of the above   ✓

✓   9. How to satisfy a request of size n from a list of free holes in main   *1/1
       memory- in Dynamic Storage-Allocation technique:

○   a. First-fit

○   b. Best-fit

○   c. Worst-fit

◉   d. All of the above.   ✓

✓   10. The meaning of preemptive CPU scheduling schema is: *   1/1

○   a. Waiting for another process.

○   b. Bring a process from ready queue.

◉   c. Process is releasing the CPU before finishing its execution to execute another ✓
       process.

○   d. None of the above.

✓   11. The advantages of Multi-processing system: *   1/1

○   a. Increase throughput

○   b. Increase reliability

○   c. If CPU fail, other CPU's pick up work

◉   d. All of the above   ✓

✓   12. Some of Scheduling Algorithms are: *(Select all the correct Answers)* *   1/1

☑   a. First Come First Serviced.   ✓

☐   b. Ideal Job First.

☑   c. Priority.   ✓

☑   d. Round Robin.   ✓

✓ You are given the following information about some of processes which   *1/1
are ready to be running with a CPU in an Operating System (Questions 13,
14 and 15):

13. In case of using FCFS scheduling algorithm, the average waiting time
for the above situation is:

Process	Arrival Time	Burst Time	Priority
P1	0.0	7	5
P2	5.0	10	2
P3	7.0	7	1
P4	8.0	3	4

○ a. 19/4.

○ b. 29/4.

○ c. 33/4.

○ d. 18/4.

◉ e. None of the above   ✓

✓ 14. In case of using Non-preemptive Shortest Job First (SJF) scheduling *1/1
algorithm, the process P3 starts at time unit:

⦿ a. 7.0   ✓

○ b. 17.0

○ c. 27.0

○ d. 8.0

✓ 15. In case of using preemptive Priority scheduling algorithm, the waiting *1/1
time for process P3 is:

⦿ a. 0   ✓

○ b. 7

○ c. 10

○ d. 17

✓   16. Match the following three: *   1/1

i) Mutual exclusion

ii) Hold and wait

iii) No preemption

with the following three:

a) A process may hold allocated resources while waiting assignment.

b) No resource can be forcibly removed from a process holding it.

c) Only one process may use a resource at a time.

○   a) i-a, ii-b, iii-c

○   b) i-b, ii-c, iii-a

◉   c) i-c, ii-a, iii-b   ✓

✓   17. A process is selected from the _____ queue by the scheduler, to be   *1/1
     executed.

○   a) blocked

○   b) wait

◉   c) ready   ✓

✗ 18. What is Waiting time? *   0/1

  ◉ a) the total time in the blocked and waiting queues   ✗

  ○ b) the total time spent in the ready queue

  ○ c) the total time spent in the running queue

  ○ d) the total time from the completion till the submission of a process

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✗ 19. Scheduling is done so as to _____ *   0/1

  ○ a) increase CPU utilization, throughput and the waiting time

  ◉ b) decrease CPU utilization and increase throughput and the waiting time   ✗

  ○ c) increase both CPU utilization and the waiting time and decrease throughput

  ○ d) none of the mentioned

✓ 20. With round robin scheduling algorithm in a time shared system   *1/1
        _____

  ◉ a) using very large time slices converts it into First come First served   ✓
        scheduling algorithm

  ○ b) using very small time slices converts it into First come First served scheduling
        algorithm

  ○ c) using extremely small time slices increases performance

  ○ d) using very small time slices converts it into Shortest Job First algorithm

✓ 21. The real difficulty with SJF scheduling technique is _____ *   1/1

○ a) it is too good an algorithm

◉ b) knowing the length of the next CPU request   ✓

○ c) it is too complex to understand

○ d) none of the mentioned

✓ 22. Consider the following set of processes, the length of the CPU burst   *1/1
time given in milliseconds.

Process   Burst time

P1   6

P2   8

P3   7

P4   3

Assuming the above process being scheduled with the SJF scheduling
algorithm.

○ a) The waiting time for process P1 is 0 ms

◉ b) The waiting time for process P1 is 3 ms   ✓

○ c) The waiting time for process P1 is 16 ms

○ d) The waiting time for process P1 is 9 ms

✓ 23. Preemptive Shortest Job First scheduling is sometimes called   *1/1
_____

○ a) Fast SJF scheduling

○ b) EDF scheduling – Earliest Deadline First

○ c) HRR scheduling – Highest Response Ratio

◉ d) SRT scheduling – Shortest Remaining Time   ✓

✓ 24. Choose one of the disadvantages of the priority scheduling   *1/1
algorithm?

○ a) it schedules in a very complex manner

○ b) its scheduling takes up a lot of time

◉ c) it can lead to some low priority process waiting indefinitely for the CPU   ✓

○ d) none of the mentioned

✓ 25. What is Address Binding? *   1/1

○ a) going to an address in memory

○ b) locating an address with the help of another address

○ c) binding two addresses together to form a new address in a different memory
space

◉ d) the process of mapping from one address space to another address space   ✓

✓   26. If a higher priority process arrives and wants service, the memory   *1/1
manager can swap out the lower priority process to execute the higher
priority process. When the higher priority process finishes, the lower
priority process is swapped back in and continues execution. This variant
of swapping is sometimes called?

○   a) priority swapping

○   b) pull out, push in

◉   c) roll out, roll in   ✓

○   d) none of the mentioned

✓   27. The run time mapping from virtual to physical addresses is done by a *1/1
hardware device called the _____

○   a) Virtual to physical mapper

◉   b) Memory management unit   ✓

○   c) Memory mapping unit

○   d) None of the mentioned

✓   28. The _____ time in a swap out of a running process and swap in of *1/1
a new process into the memory is very high.

○   a) execution

○   b) waiting

◉   c) context switching   ✓

○   d) all of the mentioned

✓ 29.   What is compaction? *   1/1

○   a) a technique for overcoming internal fragmentation

○   b) a paging technique

◉   c) a technique for overcoming external fragmentation   ✓

○   d) a technique for overcoming fatal error

✓ 30. Program always deals with _____ and the address generated by   *1/1
        CPU is _____

○   a) logical address, physical address

○   b) physical address, absolute address

○   c) physical address, logical address

◉   d) none of the mentioned   ✓

✓ 31. _____ is generally faster than _____ and _____ *   1/1

◉   a) first fit, best fit, worst fit   ✓

○   b) best fit, first fit, worst fit

○   c) worst fit, best fit, first fit

○   d) none of the mentioned

✓   32. External fragmentation will not occur when? *   1/1

○   a) first fit is used

○   b) best fit is used

○   c) worst fit is used

◉   d) no matter which algorithm is used, it will always occur   ✓

✕   33. With paging there is no _____ fragmentation. *   0/1

◉   a) internal   ✕

○   b) external

○   c) either type of

○   d) none of the mentioned

✓   34. With paging, physical memory is broken into fixed-sized blocks called *1/1
_____

◉   a) frames   ✓

○   b) pages

○   c) backing store

○   d) none of the mentioned

✓ 35. If a page number is not found in the TLB, then it is known as a   *1/1
_____

○ a) TLB hit

○ b) Buffer miss

◉ c) TLB miss   ✓

○ d) All of the mentioned

✓ 36. In paged memory systems, if the page size is increased, then the   *1/1
internal fragmentation generally _____

○ a) becomes less

◉ b) becomes more   ✓

○ c) remains constant

○ d) none of the mentioned

✓ 37. The _____ present a uniform device-access interface to the I/O   *1/1
subsystem, much as system calls provide a standard interface between
the application and the operating system.

○ a) Devices

○ b) Device controller

◉ c) Device drivers   ✓

○ d) I/O systems

✓   38. Character device transfers _____ *   1/1

   ● a) bytes one by one   ✓

   ○ b) block of bytes as a unit

   ○ c) with unpredictable response times

   ○ d) none of the mentioned

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