Operating System MCQ's

1. A Process Control Block(PCB) does not contain which of the following?
a) Code
b) Stack
c) Bootstrap program
d) Data

Answer: c
Explanation: Process Control Block (PCB) contains information related to a process such as Process State, Program Counter, CPU Register, etc. Process Control Block is also known as Task Control Block. Bootstrap program is a program which runs initially when the system or computer is booted or rebooted.

2. The number of processes completed per unit time is known as _____
a) Output
b) Throughput
c) Efficiency
d) Capacity

Answer: b
Explanation: The number of processes completed per unit time is known as Throughput. Suppose there are 4 processes A, B, C & D they are taking 1, 3, 4 & 7 units of time respectively for their executions. For 10 units of time, throughput is high if process A, B & C are running first as 3 processes can execute. If process C runs first then throughput is low as maximum only 2 processes can execute. Throughput is low for processes which take a long time for execution. Throughput is high for processes which take a short time for execution.

3. The state of a process is defined by _____
a) the final activity of the process
b) the activity just executed by the process
c) the activity to next be executed by the process
d) the current activity of the process

Answer: d
Explanation: The state of a process is defined by the current activity of the process. A process state changes when the process executes. The process states are as New, Ready, Running, Wait, Terminated.

4. Which of the following is not the state of a process?
a) New
b) Old
c) Waiting
d) Running

Answer: b
Explanation: There is no process state such as old. When a process is created then the process is in New state. When the process gets the CPU for its execution then the process is in Running state. When the process is waiting for an external event then the process is in a Waiting state.

5. What is a Process Control Block?
a) Process type variable
b) Data Structure
c) A secondary storage section
d) A Block in memory

Answer: b
Explanation: A Process Control Block (PCB) is a data structure. It contains information related to a process such as Process State, Program Counter, CPU Register, etc. Process Control Block is also known as Task Control Block.

6. The entry of all the PCBs of the current processes is in _____
a) Process Register
b) Program Counter
c) Process Table
d) Process Unit

Answer: c
Explanation: The entry of all the PCBs of the current processes is in Process Table. The Process Table has the status of each and every process that is created in OS along with their PIDs.

7. What is the degree of multiprogramming?
a) the number of processes executed per unit time
b) the number of processes in the ready queue
c) the number of processes in the I/O queue
d) the number of processes in memory

Answer: d
Explanation: Multiprogramming means the number of processes are in the ready states. To increase utilization of CPU, Multiprogramming is one of the most important abilities of OS. Generally, a single process cannot use CPU or I/O at all time, whenever CPU or I/O is available another process can use it. By doing this CPU utilization is increased.

8. A single thread of control allows the process to perform _____
a) only one task at a time
b) multiple tasks at a time
c) only two tasks at a time
d) all of the mentioned

Answer: a
Explanation: A single thread of control allows the process to perform only one task at a time. In the case of multi-core, multiple threads can be run simultaneously and can perform multiple tasks at a time.

9. What is the objective of multiprogramming?
a) Have a process running at all time
b) Have multiple programs waiting in a queue ready to run
c) To increase CPU utilization
d) None of the mentioned

Answer: c
Explanation: The objective of multiprogramming is to increase CPU utilization. Generally, a single process cannot use CPU or I/O at all time, whenever CPU or I/O is available another process can use it. Multiprogramming offers this ability to OS by keeping multiple programs in a ready queue.

10. Which of the following do not belong to queues for processes?
a) Job Queue
b) PCB queue
c) Device Queue
d) Ready Queue

Answer: b
Explanation: None.

11. When the process issues an I/O request _____
a) It is placed in an I/O queue
b) It is placed in a waiting queue
c) It is placed in the ready queue
d) It is placed in the Job queue

Answer: a
Explanation: None.

12. What will happen when a process terminates?
a) It is removed from all queues
b) It is removed from all, but the job queue
c) Its process control block is de-allocated
d) Its process control block is never de-allocated

Answer: a
Explanation: None.

13. What is a long-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Answer: a
Explanation: None.

14. If all processes I/O bound, the ready queue will almost always be _____ and the Short term Scheduler will have a _____ to do.
a) full, little
b) full, lot
c) empty, little
d) empty, lot

Answer: c
Explanation: None.

15. What is a medium-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Answer: c
Explanation: None.

16. What is a short-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Answer: b
Explanation: None.

17. The primary distinction between the short term scheduler and the long term scheduler is _____
a) The length of their queues
b) The type of processes they schedule
c) The frequency of their execution
d) None of the mentioned

Answer: c
Explanation: None.

18. The only state transition that is initiated by the user process itself is
_____
a) block
b) wakeup
c) dispatch
d) none of the mentioned

Answer: a
Explanation: None.

19. In a time-sharing operating system, when the time slot given to a process is
completed, the process goes from the running state to the _____
a) Blocked state
b) Ready state
c) Suspended state
d) Terminated state

Answer: b
Explanation: None.

20. In a multiprogramming environment _____
a) the processor executes more than one process at a time
b) the programs are developed by more than one person
c) more than one process resides in the memory
d) a single user can execute many programs at the same time

Answer: c
Explanation: None.

21. Suppose that a process is in "Blocked" state waiting for some I/O service.
When the service is completed, it goes to the _____
a) Running state
b) Ready state
c) Suspended state
d) Terminated state

Answer: b
Explanation: None.

22. The context of a process in the PCB of a process does not contain _____
a) the value of the CPU registers
b) the process state
c) memory-management information

d) context switch time

Answer: d
Explanation: None.

23. Which of the following need not necessarily be saved on a context switch between processes?
a) General purpose registers
b) Translation lookaside buffer
c) Program counter
d) All of the mentioned

Answer: b
Explanation: None.

24. Which of the following does not interrupt a running process?
a) A device
b) Timer
c) Scheduler process
d) Power failure

Answer: c
Explanation: None.

25. Which process can be affected by other processes executing in the system?
a) cooperating process
b) child process
c) parent process
d) init process

Answer: a
Explanation: None.

26. When several processes access the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place, is called?
a) dynamic condition
b) race condition
c) essential condition
d) critical condition

Answer: b
Explanation: None.

27. If a process is executing in its critical section, then no other processes can be executing in their critical section. This condition is called?
a) mutual exclusion
b) critical exclusion
c) synchronous exclusion
d) asynchronous exclusion

Answer: a
Explanation: None.

28. Which one of the following is a synchronization tool?
a) thread
b) pipe
c) semaphore
d) socket

Answer: c
Explanation: None.

29. A semaphore is a shared integer variable _____
a) that can not drop below zero
b) that can not be more than zero
c) that can not drop below one
d) that can not be more than one

Answer: a
Explanation: None.

30. Mutual exclusion can be provided by the _____
a) mutex locks
b) binary semaphores
c) both mutex locks and binary semaphores
d) none of the mentioned

Answer: c
Explanation: Binary Semaphores are known as mutex locks.

31. When high priority task is indirectly preempted by medium priority task effectively inverting the relative priority of the two tasks, the scenario is called _____
a) priority inversion
b) priority removal
c) priority exchange
d) priority modification

Answer: a
Explanation: None.

32. Process synchronization can be done on _____
a) hardware level
b) software level
c) both hardware and software level
d) none of the mentioned

Answer: c
Explanation: None.

33. A monitor is a module that encapsulates _____
a) shared data structures
b) procedures that operate on shared data structure
c) synchronization between concurrent procedure invocation
d) all of the mentioned

Answer: d
Explanation: None.

34. To enable a process to wait within the monitor _____
a) a condition variable must be declared as condition
b) condition variables must be used as boolean objects
c) semaphore must be used
d) all of the mentioned

Answer: a
Explanation: None.

35. Restricting the child process to a subset of the parent's resources prevents any process from _____
a) overloading the system by using a lot of secondary storage
b) under-loading the system by very less CPU utilization
c) overloading the system by creating a lot of sub-processes
d) crashing the system by utilizing multiple resources

Answer: c
Explanation: None.

36. A parent process calling _____ system call will be suspended until children processes terminate.
a) wait
b) fork
c) exit

d) exec

Answer: a
Explanation: None.

37. Cascading termination refers to termination of all child processes before the parent terminates _____
a) Normally
b) Abnormally
c) Normally or abnormally
d) None of the mentioned

Answer: a
Explanation: None.

38. With _____ only one process can execute at a time; meanwhile all other process are waiting for the processor. With _____ more than one process can be running simultaneously each on a different processor.
a) Multiprocessing, Multiprogramming
b) Multiprogramming, Uniprocessing
c) Multiprogramming, Multiprocessing
d) Uniprogramming, Multiprocessing

Answer: d
Explanation: None.

39. In UNIX, each process is identified by its _____
a) Process Control Block
b) Device Queue
c) Process Identifier
d) None of the mentioned

Answer: c
Explanation: None.

40. In UNIX, the return value for the fork system call is _____ for the child process and _____ for the parent process.
a) A Negative integer, Zero
b) Zero, A Negative integer
c) Zero, A nonzero integer
d) A nonzero integer, Zero

Answer: c
Explanation: None.

41. The child process can _____
a) be a duplicate of the parent process
b) never be a duplicate of the parent process
c) cannot have another program loaded into it
d) never have another program loaded into it

Answer: a
Explanation: None.

42. The child process completes execution, but the parent keeps executing, then the child process is known as _____
a) Orphan
b) Zombie
c) Body
d) Dead

Answer: b
Explanation: None.

43. What is Inter process communication?
a) allows processes to communicate and synchronize their actions when using the same address space
b) allows processes to communicate and synchronize their actions without using the same address space
c) allows the processes to only synchronize their actions without communication
d) none of the mentioned

Answer: b
Explanation: None.

44. Message passing system allows processes to _____
a) communicate with one another without resorting to shared data
b) communicate with one another by resorting to shared data
c) share data
d) name the recipient or sender of the message

Answer: a
Explanation: None.

45. Which of the following two operations are provided by the IPC facility?
a) write & delete message
b) delete & receive message
c) send & delete message
d) receive & send message

Answer: d
Explanation: None.

46. Messages sent by a process _____
a) have to be of a fixed size
b) have to be a variable size
c) can be fixed or variable sized
d) None of the mentioned

Answer: c
Explanation: None.

47. The link between two processes P and Q to send and receive messages is called _____
a) communication link
b) message-passing link
c) synchronization link
d) all of the mentioned

Answer: a
Explanation: None.

48. Which of the following are TRUE for direct communication?
a) A communication link can be associated with N number of process(N = max. number of processes supported by system)
b) A communication link can be associated with exactly two processes
c) Exactly N/2 links exist between each pair of processes(N = max. number of processes supported by system)
d) Exactly two link exists between each pair of processes

Answer: b
Explanation: None.

49. In indirect communication between processes P and Q _____
a) there is another process R to handle and pass on the messages between P and Q
b) there is another machine between the two processes to help communication
c) there is a mailbox to help communication between P and Q
d) none of the mentioned

Answer: c
Explanation: None.

50. In the non blocking send _____
a) the sending process keeps sending until the message is received
b) the sending process sends the message and resumes operation
c) the sending process keeps sending until it receives a message

d) none of the mentioned

Answer: b
Explanation: None.

51. In the Zero capacity queue _____
a) the queue can store at least one message
b) the sender blocks until the receiver receives the message
c) the sender keeps sending and the messages don't wait in the queue
d) none of the mentioned

Answer: b
Explanation: None.

52. The Zero Capacity queue _____
a) is referred to as a message system with buffering
b) is referred to as a message system with no buffering
c) is referred to as a link
d) none of the mentioned

Answer: b
Explanation: None.

53. Bounded capacity and Unbounded capacity queues are referred to as _____
a) Programmed buffering
b) Automatic buffering
c) User defined buffering
d) No buffering

Answer: b
Explanation: None.

54. Remote Procedure Calls are used _____
a) for communication between two processes remotely different from each other on the same system
b) for communication between two processes on the same system
c) for communication between two processes on separate systems
d) none of the mentioned

Answer: c
Explanation: None.

55. To differentiate the many network services a system supports _____ are used.
a) Variables
b) Sockets
c) Ports
d) Service names

Answer: c
Explanation: None.

56. RPC provides a(an) _____ on the client side, a separate one for each remote procedure.
a) stub
b) identifier
c) name
d) process identifier

Answer: a
Explanation: None.

57. What is stub?
a) transmits the message to the server where the server side stub receives the message and invokes procedure on the server side
b) packs the parameters into a form transmittable over the network
c) locates the port on the server
d) all of the mentioned

Answer: d
Explanation: None.

58. To resolve the problem of data representation on different systems RPCs define _____
a) machine dependent representation of data
b) machine representation of data
c) machine-independent representation of data
d) none of the mentioned

Answer: c
Explanation: None.

59. What is the full form of RMI?
a) Remote Memory Installation
b) Remote Memory Invocation
c) Remote Method Installation
d) Remote Method Invocation

Answer: d
Explanation: None.

60. The remote method invocation _____
a) allows a process to invoke memory on a remote object
b) allows a thread to invoke a method on a remote object
c) allows a thread to invoke memory on a remote object
d) allows a process to invoke a method on a remote object

Answer: b
Explanation: None.

61. A process that is based on IPC mechanism which executes on different systems and can communicate with other processes using message based communication, is called _____
a) Local Procedure Call
b) Inter Process Communication
c) Remote Procedure Call
d) Remote Machine Invocation

Answer: c
Explanation: None.

62. The initial program that is run when the computer is powered up is called _____
a) boot program
b) bootloader
c) initializer
d) bootstrap program

Answer: d
Explanation: None.

63. How does the software trigger an interrupt?
a) Sending signals to CPU through bus
b) Executing a special operation called system call
c) Executing a special program called system program
d) Executing a special program called interrupt trigger program

Answer: b
Explanation: None.

64. What is a trap/exception?
a) hardware generated interrupt caused by an error
b) software generated interrupt caused by an error

c) user generated interrupt caused by an error
d) none of the mentioned

Answer: b
Explanation: None.

65. What is an ISR?
a) Information Service Request
b) Interrupt Service Request
c) Interrupt Service Routine
d) Information Service Routine

Answer: c
Explanation: None.

66. What is an interrupt vector?
a) It is an address that is indexed to an interrupt handler
b) It is a unique device number that is indexed by an address
c) It is a unique identity given to an interrupt
d) None of the mentioned

Answer: a
Explanation: None.

67. DMA is used for _____
a) High speed devices(disks and communications network)
b) Low speed devices
c) Utilizing CPU cycles
d) All of the mentioned

Answer: a
Explanation: None.

68. In a memory mapped input/output _____
a) the CPU uses polling to watch the control bit constantly, looping to see if a device is ready
b) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
c) the CPU receives an interrupt when the device is ready for the next byte
d) the CPU runs a user written code and does accordingly

Answer: b
Explanation: None.

69. In a programmed input/output(PIO) _____
a) the CPU uses polling to watch the control bit constantly, looping to see if a device is ready
b) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
c) the CPU receives an interrupt when the device is ready for the next byte
d) the CPU runs a user written code and does accordingly

Answer: a
Explanation: None.

70. In an interrupt driven input/output _____
a) the CPU uses polling to watch the control bit constantly, looping to see if a device is ready
b) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
c) the CPU receives an interrupt when the device is ready for the next byte
d) the CPU runs a user written code and does accordingly

Answer: c
Explanation: None.

80. In the layered approach of Operating Systems _____
a) Bottom Layer(0) is the User interface
b) Highest Layer(N) is the User interface
c) Bottom Layer(N) is the hardware
d) Highest Layer(N) is the hardware

Answer: b
Explanation: None.

81. How does the Hardware trigger an interrupt?
a) Sending signals to CPU through a system bus
b) Executing a special program called interrupt program
c) Executing a special program called system program
d) Executing a special operation called system call

Answer: a
Explanation: None.

82. Which operation is performed by an interrupt handler?
a) Saving the current state of the system
b) Loading the interrupt handling code and executing it
c) Once done handling, bringing back the system to the original state it was before the interrupt occurred

d) All of the mentioned

Answer: d
Explanation: None.

83. Which module gives control of the CPU to the process selected by the short-term scheduler?
a) dispatcher
b) interrupt
c) scheduler
d) none of the mentioned

Answer: a
Explanation: None.

84. The processes that are residing in main memory and are ready and waiting to execute are kept on a list called _____
a) job queue
b) ready queue
c) execution queue
d) process queue

Answer: b
Explanation: None.

85. The interval from the time of submission of a process to the time of completion is termed as _____
a) waiting time
b) turnaround time
c) response time
d) throughput

Answer: b
Explanation: None.

86. Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?
a) first-come, first-served scheduling
b) shortest job scheduling
c) priority scheduling
d) none of the mentioned

Answer: a
Explanation: None.

87. In priority scheduling algorithm _____
a) CPU is allocated to the process with highest priority
b) CPU is allocated to the process with lowest priority
c) Equal priority processes can not be scheduled
d) None of the mentioned

Answer: a
Explanation: None.

88. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of _____
a) all process
b) currently running process
c) parent process
d) init process

Answer: b
Explanation: None.

89. Which algorithm is defined in Time quantum?
a) shortest job scheduling algorithm
b) round robin scheduling algorithm
c) priority scheduling algorithm
d) multilevel queue scheduling algorithm

Answer: b
Explanation: None.

90. Process are classified into different groups in _____
a) shortest job scheduling algorithm
b) round robin scheduling algorithm
c) priority scheduling algorithm
d) multilevel queue scheduling algorithm

Answer: d
Explanation: None.

91. In multilevel feedback scheduling algorithm _____
a) a process can move to a different classified ready queue
b) classification of ready queue is permanent
c) processes are not classified into groups
d) none of the mentioned

Answer: a
Explanation: None.

92. Which one of the following can not be scheduled by the kernel?
a) kernel level thread
b) user level thread
c) process
d) none of the mentioned

Answer: b
Explanation: User level threads are managed by thread library and the kernel is unaware of them.

93. CPU scheduling is the basis of _____
a) multiprocessor systems
b) multiprogramming operating systems
c) larger memory sized systems
d) none of the mentioned

Answer: b
Explanation: None.

94. With multiprogramming _____ is used productively.
a) time
b) space
c) money
d) all of the mentioned

Answer: a
Explanation: None.

95. What are the two steps of a process execution?
a) I/O & OS Burst
b) CPU & I/O Burst
c) Memory & I/O Burst
d) OS & Memory Burst

Answer: b
Explanation: None.

96. An I/O bound program will typically have _____
a) a few very short CPU bursts
b) many very short I/O bursts
c) many very short CPU bursts
d) a few very short I/O bursts

Answer: c
Explanation: None.

97. A process is selected from the _____ queue by the _____ scheduler, to be executed.
a) blocked, short term
b) wait, long term
c) ready, short term
d) ready, long term

Answer: c
Explanation: None.

98. In the following cases non – preemptive scheduling occurs?
a) When a process switches from the running state to the ready state
b) When a process goes from the running state to the waiting state
c) When a process switches from the waiting state to the ready state
d) All of the mentioned

Answer: b
Explanation: There is no other choice.

99. The switching of the CPU from one process or thread to another is called _____
a) process switch
b) task switch
c) context switch
d) all of the mentioned

Answer: d
Explanation: None.

100. What is Dispatch latency?
a) the speed of dispatching a process from running to the ready state
b) the time of dispatching a process from running to ready state and keeping the CPU idle
c) the time to stop one process and start running another one
d) none of the mentioned

Answer: c
Explanation: None.

101. Scheduling is done so as to _____
a) increase CPU utilization
b) decrease CPU utilization
c) keep the CPU more idle

d) none of the mentioned

Answer: a
Explanation: None.

102. Scheduling is done so as to _____
a) increase the throughput
b) decrease the throughput
c) increase the duration of a specific amount of work
d) none of the mentioned

Answer: a
Explanation: None.

103. What is Turnaround time?
a) the total waiting time for a process to finish execution
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

Answer: d
Explanation: None.

104. Scheduling is done so as to _____
a) increase the turnaround time
b) decrease the turnaround time
c) keep the turnaround time same
d) there is no relation between scheduling and turnaround time

Answer: b
Explanation: None.

105. What is Waiting time?
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

Answer: b
Explanation: None.

106. Scheduling is done so as to _____
a) increase the waiting time
b) keep the waiting time the same
c) decrease the waiting time

d) none of the mentioned

Answer: c
Explanation: None.

107. What is Response time?
a) the total time taken from the submission time till the completion time
b) the total time taken from the submission time till the first response is produced
c) the total time taken from submission time till the response is output
d) none of the mentioned

Answer: b
Explanation: None.

108. A monitor is a type of _____
a) semaphore
b) low level synchronization construct
c) high level synchronization construct
d) none of the mentioned

Answer: c
Explanation: None.

109. A monitor is characterized by _____
a) a set of programmer defined operators
b) an identifier
c) the number of variables in it
d) all of the mentioned

Answer: a
Explanation: None.

110. A procedure defined within a _____ can access only those variables declared locally within the _____ and its formal parameters.
a) process, semaphore
b) process, monitor
c) semaphore, semaphore
d) monitor, monitor

Answer: d
Explanation: None.

111. The monitor construct ensures that _____
a) only one process can be active at a time within the monitor

b) n number of processes can be active at a time within the monitor (n being greater than 1)
c) the queue has only one process in it at a time
d) all of the mentioned

Answer: a
Explanation: None.

112. What are the operations that can be invoked on a condition variable?
a) wait & signal
b) hold & wait
c) signal & hold
d) continue & signal

Answer: a
Explanation: None.

113. Which is the process of invoking the wait operation?
a) suspended until another process invokes the signal operation
b) waiting for another process to complete before it can itself call the signal operation
c) stopped until the next process in the queue finishes execution
d) none of the mentioned

Answer: a
Explanation: None.

114. If no process is suspended, the signal operation _____
a) puts the system into a deadlock state
b) suspends some default process execution
c) nothing happens
d) the output is unpredictable

Answer: c
Explanation: None.

115. What is a reusable resource?
a) that can be used by one process at a time and is not depleted by that use
b) that can be used by more than one process at a time
c) that can be shared between various threads
d) none of the mentioned

Answer: a
Explanation: None.

116. Which of the following condition is required for a deadlock to be possible?
a) mutual exclusion
b) a process may hold allocated resources while awaiting assignment of other resources
c) no resource can be forcibly removed from a process holding it
d) all of the mentioned

Answer: d
Explanation: None.

117. A system is in the safe state if _____
a) the system can allocate resources to each process in some order and still avoid a deadlock
b) there exist a safe sequence
c) all of the mentioned
d) none of the mentioned

Answer: a
Explanation: None.

118. The circular wait condition can be prevented by _____
a) defining a linear ordering of resource types
b) using thread
c) using pipes
d) all of the mentioned

Answer: a
Explanation: None.

119. Which one of the following is the deadlock avoidance algorithm?
a) banker's algorithm
b) round-robin algorithm
c) elevator algorithm
d) karn's algorithm

Answer: a
Explanation: None.

120. What is the drawback of banker's algorithm?
a) in advance processes rarely know how much resource they will need
b) the number of processes changes as time progresses
c) resource once available can disappear
d) all of the mentioned

Answer: d
Explanation: None.

121. For an effective operating system, when to check for deadlock?
a) every time a resource request is made
b) at fixed time intervals
c) every time a resource request is made at fixed time intervals
d) none of the mentioned

Answer: c
Explanation: None.

122. A problem encountered in multitasking when a process is perpetually denied necessary resources is called _____
a) deadlock
b) starvation
c) inversion
d) aging

Answer: b
Explanation: None.

123. Which one of the following is a visual (mathematical) way to determine the deadlock occurrence?
a) resource allocation graph
b) starvation graph
c) inversion graph
d) none of the mentioned

Answer: a
Explanation: None.

124. To avoid deadlock _____
a) there must be a fixed number of resources to allocate
b) resource allocation must be done only once
c) all deadlocked processes must be aborted
d) inversion technique can be used

Answer: a
Explanation: None.

125. The number of resources requested by a process _____
a) must always be less than the total number of resources available in the system
b) must always be equal to the total number of resources available in the system
c) must not exceed the total number of resources available in the system

d) must exceed the total number of resources available in the system

Answer: c
Explanation: None.

126. The request and release of resources are _____
a) command line statements
b) interrupts
c) system calls
d) special programs

Answer: c
Explanation: None.

127. What are Multithreaded programs?
a) lesser prone to deadlocks
b) more prone to deadlocks
c) not at all prone to deadlocks
d) none of the mentioned

Answer: b
Explanation: Multiple threads can compete for shared resources.

128. For a deadlock to arise, which of the following conditions must hold simultaneously?
a) Mutual exclusion
b) No preemption
c) Hold and wait
d) All of the mentioned

Answer: d
Explanation: None.

129. For Mutual exclusion to prevail in the system _____
a) at least one resource must be held in a non sharable mode
b) the processor must be a uniprocessor rather than a multiprocessor
c) there must be at least one resource in a sharable mode
d) all of the mentioned

Answer: a
Explanation: If another process requests that resource (non – shareable resource), the requesting process must be delayed until the resource has been released.

130. For a Hold and wait condition to prevail _____
a) A process must be not be holding a resource, but waiting for one to be freed, and

then request to acquire it
b) A process must be holding at least one resource and waiting to acquire additional resources that are being held by other processes
c) A process must hold at least one resource and not be waiting to acquire additional resources
d) None of the mentioned

Answer: b
Explanation: None.

131. Deadlock prevention is a set of methods _____
a) to ensure that at least one of the necessary conditions cannot hold
b) to ensure that all of the necessary conditions do not hold
c) to decide if the requested resources for a process have to be given or not
d) to recover from a deadlock

Answer: a
Explanation: None.

132. For non sharable resources like a printer, mutual exclusion _____
a) must exist
b) must not exist
c) may exist
d) none of the mentioned

Answer: a
Explanation: A printer cannot be simultaneously shared by several processes.

133. For sharable resources, mutual exclusion _____
a) is required
b) is not required
c) may be or may not be required
d) none of the mentioned

Answer: b
Explanation: They do not require mutually exclusive access, and hence cannot be involved in a deadlock.

134. To ensure that the hold and wait condition never occurs in the system, it must be ensured that _____
a) whenever a resource is requested by a process, it is not holding any other resources
b) each process must request and be allocated all its resources before it begins its execution
c) a process can request resources only when it has none

d) all of the mentioned

Answer: d
Explanation: c – A process may request some resources and use them. Before it can can request any additional resources, however it must release all the resources that it is currently allocated.

135. The disadvantage of a process being allocated all its resources before beginning its execution is _____
a) Low CPU utilization
b) Low resource utilization
c) Very high resource utilization
d) None of the mentioned

Answer: b
Explanation: None.

135. To ensure no preemption, if a process is holding some resources and requests another resource that cannot be immediately allocated to it _____
a) then the process waits for the resources be allocated to it
b) the process keeps sending requests until the resource is allocated to it
c) the process resumes execution without the resource being allocated to it
d) then all resources currently being held are preempted

Answer: d
Explanation: None.

136. One way to ensure that the circular wait condition never holds is to _____
a) impose a total ordering of all resource types and to determine whether one precedes another in the ordering
b) to never let a process acquire resources that are held by other processes
c) to let a process wait for only one resource at a time
d) all of the mentioned

Answer: a
Explanation: None.

137. Each request requires that the system consider the _____ to decide whether the current request can be satisfied or must wait to avoid a future possible deadlock.
a) resources currently available
b) processes that have previously been in the system
c) resources currently allocated to each process

d) future requests and releases of each process

Answer: a
Explanation: None.

138. Given a priori information about the _____ number of resources of each type that maybe requested for each process, it is possible to construct an algorithm that ensures that the system will never enter a deadlock state.
a) minimum
b) average
c) maximum
d) approximate

Answer: c
Explanation: None.

139. A deadlock avoidance algorithm dynamically examines the _____ to ensure that a circular wait condition can never exist.
a) resource allocation state
b) system storage state
c) operating system
d) resources

Answer: a
Explanation: Resource allocation states are used to maintain the availability of the already and current available resources.

140. A state is safe, if _____
a) the system does not crash due to deadlock occurrence
b) the system can allocate resources to each process in some order and still avoid a deadlock
c) the state keeps the system protected and safe
d) all of the mentioned

Answer: b
Explanation: None.

141. A system is in a safe state only if there exists a _____
a) safe allocation
b) safe resource
c) safe sequence
d) all of the mentioned

Answer: c
Explanation: None.

142. All unsafe states are _____
a) deadlocks
b) not deadlocks
c) fatal
d) none of the mentioned

Answer: b
Explanation: None.

143. If no cycle exists in the resource allocation graph _____
a) then the system will not be in a safe state
b) then the system will be in a safe state
c) all of the mentioned
d) none of the mentioned

Answer: b
Explanation: None.

144. The resource allocation graph is not applicable to a resource allocation system _____
a) with multiple instances of each resource type
b) with a single instance of each resource type
c) single & multiple instances of each resource type
d) none of the mentioned

Answer: a
Explanation: None.

145. The Banker's algorithm is _____ than the resource allocation graph algorithm.
a) less efficient
b) more efficient
c) equal
d) none of the mentioned

Answer: a
Explanation: None.

146. The data structures available in the Banker's algorithm are _____
a) Available
b) Need
c) Allocation
d) All of the mentioned

Answer: d
Explanation: None.

147. The content of the matrix Need is _____
a) Allocation – Available
b) Max – Available
c) Max – Allocation
d) Allocation – Max

Answer: c
Explanation: None.

148. The wait-for graph is a deadlock detection algorithm that is applicable when _____
a) all resources have a single instance
b) all resources have multiple instances
c) all resources have a single 7 multiple instances
d) all of the mentioned

Answer: a
Explanation: None.

149. An edge from process Pi to Pj in a wait for graph indicates that _____
a) Pi is waiting for Pj to release a resource that Pi needs
b) Pj is waiting for Pi to release a resource that Pj needs
c) Pi is waiting for Pj to leave the system
d) Pj is waiting for Pi to leave the system

Answer: a
Explanation: None.

150. If the wait for graph contains a cycle _____
a) then a deadlock does not exist
b) then a deadlock exists
c) then the system is in a safe state
d) either deadlock exists or system is in a safe state

Answer: b
Explanation: None.

151. If deadlocks occur frequently, the detection algorithm must be invoked _____
a) rarely
b) frequently
c) rarely & frequently

d) none of the mentioned

Answer: b
Explanation: None.

152. What is the disadvantage of invoking the detection algorithm for every request?
a) overhead of the detection algorithm due to consumption of memory
b) excessive time consumed in the request to be allocated memory
c) considerable overhead in computation time
d) all of the mentioned

Answer: c
Explanation: None.

153. A deadlock eventually cripples system throughput and will cause the CPU utilization to _____
a) increase
b) drop
c) stay still
d) none of the mentioned

Answer: b
Explanation: None.

154. Every time a request for allocation cannot be granted immediately, the detection algorithm is invoked. This will help identify _____
a) the set of processes that have been deadlocked
b) the set of processes in the deadlock queue
c) the specific process that caused the deadlock
d) all of the mentioned

Answer: a
Explanation: None.

155. A computer system has 6 tape drives, with 'n' processes competing for them. Each process may need 3 tape drives. The maximum value of 'n' for which the system is guaranteed to be deadlock free is?
a) 2
b) 3
c) 4
d) 1

Answer: a
Explanation: None.

156. A system has 3 processes sharing 4 resources. If each process needs a maximum of 2 units then, deadlock _____
a) can never occur
b) may occur
c) has to occur
d) none of the mentioned

Answer: a
Explanation: None.

157. 'm' processes share 'n' resources of the same type. The maximum need of each process doesn't exceed 'n' and the sum of all their maximum needs is always less than m+n. In this setup, deadlock _____
a) can never occur
b) may occur
c) has to occur
d) none of the mentioned

Answer: a
Explanation: None.

157. A deadlock can be broken by _____
a) abort one or more processes to break the circular wait
b) abort all the process in the system
c) preempt all resources from all processes
d) none of the mentioned

Answer: a
Explanation: None.

158. The two ways of aborting processes and eliminating deadlocks are _____
a) Abort all deadlocked processes
b) Abort all processes
c) Abort one process at a time until the deadlock cycle is eliminated
d) All of the mentioned

Answer: c
Explanation: None.

159. Those processes should be aborted on occurrence of a deadlock, the termination of which?
a) is more time consuming
b) incurs minimum cost
c) safety is not hampered

d) all of the mentioned

Answer: b
Explanation: None.

160. The process to be aborted is chosen on the basis of the following factors?
a) priority of the process
b) process is interactive or batch
c) how long the process has computed
d) all of the mentioned

Answer: d
Explanation: None.

161. Cost factors for process termination include _____
a) Number of resources the deadlock process is not holding
b) CPU utilization at the time of deadlock
c) Amount of time a deadlocked process has thus far consumed during its execution
d) All of the mentioned

Answer: c
Explanation: None.

162. If we preempt a resource from a process, the process cannot continue with its normal execution and it must be _____
a) aborted
b) rolled back
c) terminated
d) queued

Answer: b
Explanation: None.

163. To _____ to a safe state, the system needs to keep more information about the states of processes.
a) abort the process
b) roll back the process
c) queue the process
d) none of the mentioned

Answer: b
Explanation: None.

164. If the resources are always preempted from the same process _____ can occur.
a) deadlock
b) system crash
c) aging
d) starvation

Answer: d
Explanation: None.

165. What is the solution to starvation?
a) the number of rollbacks must be included in the cost factor
b) the number of resources must be included in resource preemption
c) resource preemption be done instead
d) all of the mentioned

Answer: a
Explanation: None.

166. What is Address Binding?
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) a mapping from one address space to another

Answer: d
Explanation: None.

167. Binding of instructions and data to memory addresses can be done at _____
a) Compile time
b) Load time
c) Execution time
d) All of the mentioned

Answer: d
Explanation: None.

168. If the process can be moved during its execution from one memory segment to another, then binding must be _____
a) delayed until run time
b) preponed to compile time
c) preponed to load time

d) none of the mentioned

Answer: a
Explanation: None.

169. What is Dynamic loading?
a) loading multiple routines dynamically
b) loading a routine only when it is called
c) loading multiple routines randomly
d) none of the mentioned

Answer: b
Explanation: None.

170. What is the advantage of dynamic loading?
a) A used routine is used multiple times
b) An unused routine is never loaded
c) CPU utilization increases
d) All of the mentioned

Answer: b
Explanation: None.

171. The idea of overlays is to _____
a) data that are needed at any given time
b) enable a process to be larger than the amount of memory allocated to it
c) keep in memory only those instructions
d) all of the mentioned

Answer: d
Explanation: None.

172. The _____ must design and program the overlay structure.
a) programmer
b) system architect
c) system designer
d) none of the mentioned

Answer: a
Explanation: None.

173. The _____ swaps processes in and out of the memory.
a) Memory manager
b) CPU
c) CPU manager

d) User

Answer: a
Explanation: None.

174. If a higher priority process arrives and wants service, the memory 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

Answer: c
Explanation: None.

175. If binding is done at assembly or load time, then the process _____ be moved to different locations after being swapped out and in again.
a) can
b) must
c) can never
d) may

Answer: c
Explanation: None.

176. In a system that does not support swapping _____
a) the compiler normally binds symbolic addresses (variables) to relocatable addresses
b) the compiler normally binds symbolic addresses to physical addresses
c) the loader binds relocatable addresses to physical addresses
d) binding of symbolic addresses to physical addresses normally takes place during execution

Answer: a
Explanation: None.

177. Which of the following is TRUE?
a) Overlays are used to increase the size of physical memory
b) Overlays are used to increase the logical address space
c) When overlays are used, the size of a process is not limited to the size of the physical memory
d) Overlays are used whenever the physical address space is smaller than the logical address space

Answer: c
Explanation: None.

178. The address generated by the CPU is referred to as _____
a) Physical address
b) Logical address
c) Neither physical nor logical
d) None of the mentioned

Answer: b
Explanation: None.

179. The address loaded into the memory address register of the memory is referred to as _____
a) Physical address
b) Logical address
c) Neither physical nor logical
d) None of the mentioned

Answer: a
Explanation: None.

180. The run time mapping from virtual to physical addresses is done by a hardware device called the _____
a) Virtual to physical mapper
b) Memory management unit
c) Memory mapping unit
d) None of the mentioned

Answer: b
Explanation: None.

181. The base register is also known as the _____
a) basic register
b) regular register
c) relocation register
d) delocation register

Answer: c
Explanation: None.

182. The size of a process is limited to the size of _____
a) physical memory
b) external storage
c) secondary storage

d) none of the mentioned

Answer: a
Explanation: None.

183. If execution time binding is being used, then a process _____ be swapped to a different memory space.
a) has to be
b) can never
c) must
d) may

Answer: d
Explanation: None.

184. Swapping requires a _____
a) motherboard
b) keyboard
c) monitor
d) backing store

Answer: d
Explanation: None.

185. The backing store is generally a _____
a) fast disk
b) disk large enough to accommodate copies of all memory images for all users
c) disk to provide direct access to the memory images
d) all of the mentioned

Answer: d
Explanation: None.

186. The _____ consists of all processes whose memory images are in the backing store or in memory and are ready to run.
a) wait queue
b) ready queue
c) cpu
d) secondary storage

Answer: b
Explanation: None.

187. The _____ time in a swap out of a running process and swap in of a new process into the memory is very high.

a) context – switch
b) waiting
c) execution
d) all of the mentioned

Answer: a
Explanation: None.

188. The major part of swap time is _____ time.
a) waiting
b) transfer
c) execution
d) none of the mentioned

Answer: b
Explanation: None.

189. Swapping _____ be done when a process has pending I/O, or has to execute I/O operations only into operating system buffers.
a) must
b) can
c) must never
d) maybe

Answer: c
Explanation: None.

190. Swap space is allocated _____
a) as a chunk of disk
b) separate from a file system
c) into a file system
d) all of the mentioned

Answer: a
Explanation: None.

191. CPU fetches the instruction from memory according to the value of _____
a) program counter
b) status register
c) instruction register
d) program status word

Answer: a
Explanation: None.

192. A memory buffer used to accommodate a speed differential is called
_____
a) stack pointer
b) cache
c) accumulator
d) disk buffer

Answer: b
Explanation: None.

193. Which one of the following is the address generated by CPU?
a) physical address
b) absolute address
c) logical address
d) none of the mentioned

Answer: c
Explanation: None.

194. Run time mapping from virtual to physical address is done by _____
a) Memory management unit
b) CPU
c) PCI
d) None of the mentioned

Answer: a
Explanation: None.

195. Memory management technique in which system stores and retrieves data
from secondary storage for use in main memory is called?
a) fragmentation
b) paging
c) mapping
d) none of the mentioned

Answer: b
Explanation: None.

196. The address of a page table in memory is pointed by _____
a) stack pointer
b) page table base register
c) page register

d) program counter

Answer: b
Explanation: None.

197. Program always deals with _____
a) logical address
b) absolute address
c) physical address
d) relative address

Answer: a
Explanation: None.

198. The page table contains _____
a) base address of each page in physical memory
b) page offset
c) page size
d) none of the mentioned

Answer: a
Explanation: None.

200. What is compaction?
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

Answer: c
Explanation: None.

201. Operating System maintains the page table for _____
a) each process
b) each thread
c) each instruction
d) each address

Answer: a
Explanation: None.

202. The main memory accommodates _____
a) operating system
b) cpu

c) user processes
d) all of the mentioned

Answer: a
Explanation: None.

203. What is the operating system?
a) in the low memory
b) in the high memory
c) either low or high memory (depending on the location of interrupt vector)
d) none of the mentioned

Answer: c
Explanation: None.

204. In contiguous memory allocation _____
a) each process is contained in a single contiguous section of memory
b) all processes are contained in a single contiguous section of memory
c) the memory space is contiguous
d) none of the mentioned

Answer: a
Explanation: None.

205. The relocation register helps in _____
a) providing more address space to processes
b) a different address space to processes
c) to protect the address spaces of processes
d) none of the mentioned

Answer: c
Explanation: None.

206. With relocation and limit registers, each logical address must be _____ the limit register.
a) less than
b) equal to
c) greater than
d) none of the mentioned

Answer: a
Explanation: None.

207. The operating system and the other processes are protected from being modified by an already running process because _____

a) they are in different memory spaces
b) they are in different logical addresses
c) they have a protection algorithm
d) every address generated by the CPU is being checked against the relocation and limit registers

Answer: d
Explanation: None.

208. Transient operating system code is code that _____
a) is not easily accessible
b) comes and goes as needed
c) stays in the memory always
d) never enters the memory space

Answer: b
Explanation: None.

209. Using transient code, _____ the size of the operating system during program execution.
a) increases
b) decreases
c) changes
d) maintains

Answer: c
Explanation: None.

210. When memory is divided into several fixed sized partitions, each partition may contain _____
a) exactly one process
b) at least one process
c) multiple processes at once
d) none of the mentioned

Answer: a
Explanation: None.

211. In fixed size partition, the degree of multiprogramming is bounded by _____
a) the number of partitions
b) the CPU utilization
c) the memory size
d) all of the mentioned

Answer: a
Explanation: None

212. The first fit, best fit and worst fit are strategies to select a _____
a) process from a queue to put in memory
b) processor to run the next process
c) free hole from a set of available holes
d) all of the mentioned

Answer: c
Explanation: None

213. In internal fragmentation, memory is internal to a partition and _____
a) is being used
b) is not being used
c) is always used
d) none of the mentioned

Answer: b
Explanation: None.

214. A solution to the problem of external fragmentation is _____
a) compaction
b) larger memory space
c) smaller memory space
d) none of the mentioned

Answer: a
Explanation: None.

215. Another solution to the problem of external fragmentation problem is to _____
a) permit the logical address space of a process to be noncontiguous
b) permit smaller processes to be allocated memory at last
c) permit larger processes to be allocated memory at last
d) all of the mentioned

Answer: a
Explanation: None.

216. If relocation is static and is done at assembly or load time, compaction _____
a) cannot be done
b) must be done
c) must not be done

d) can be done

Answer: a
Explanation: None.

217. The disadvantage of moving all process to one end of memory and all holes to the other direction, producing one large hole of available memory is _____
a) the cost incurred
b) the memory used
c) the CPU used
d) all of the mentioned

Answer: a
Explanation: None.

218. _____ is generally faster than _____ and _____
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

Answer: a
Explanation: None.

219. External fragmentation exists when?
a) enough total memory exists to satisfy a request but it is not contiguous
b) the total memory is insufficient to satisfy a request
c) a request cannot be satisfied even when the total memory is free
d) none of the mentioned

Answer: a
Explanation: None.

220. External fragmentation will not occur when?
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

Answer: d
Explanation: None.

221. Sometimes the overhead of keeping track of a hole might be _____
a) larger than the memory

b) larger than the hole itself
c) very small
d) all of the mentioned

Answer: b
Explanation: None.

222. When the memory allocated to a process is slightly larger than the process, then _____
a) internal fragmentation occurs
b) external fragmentation occurs
c) both internal and external fragmentation occurs
d) neither internal nor external fragmentation occurs

Answer: a
Explanation: None.

223. Physical memory is broken into fixed-sized blocks called _____
a) frames
b) pages
c) backing store
d) none of the mentioned

Answer: a
Explanation: None.

224. Logical memory is broken into blocks of the same size called _____
a) frames
b) pages
c) backing store
d) none of the mentioned

Answer: b
Explanation: None.

225. Every address generated by the CPU is divided into two parts. They are _____
a) frame bit & page number
b) page number & page offset
c) page offset & frame bit
d) frame offset & page offset

Answer: b
Explanation: None.

226. The _____ is used as an index into the page table.
a) frame bit
b) page number
c) page offset
d) frame offset

Answer: b
Explanation: None.

227. The _____ table contains the base address of each page in physical memory.
a) process
b) memory
c) page
d) frame

Answer: c
Explanation: None.

228. The size of a page is typically _____
a) varied
b) power of 2
c) power of 4
d) none of the mentioned

Answer: b
Explanation: None.

229. If the size of logical address space is 2 to the power of m, and a page size is 2 to the power of n addressing units, then the high order _____ bits of a logical address designate the page number, and the _____ low order bits designate the page offset.
a) m, n
b) n, m
c) m – n, m
d) m – n, n

Answer: d
Explanation: None.

8230. With paging there is no _____ fragmentation.
a) internal
b) external
c) either type of
d) none of the mentioned

Answer: b
Explanation: None.

231. The operating system maintains a _____ table that keeps track of how many frames have been allocated, how many are there, and how many are available.
a) page
b) mapping
c) frame
d) memory

Answer: c
Explanation: None.

232. Paging increases the _____ time.
a) waiting
b) execution
c) context – switch
d) all of the mentioned

Answer: c
Explanation: None.

233. Smaller page tables are implemented as a set of _____
a) queues
b) stacks
c) counters
d) registers

Answer: d
Explanation: None.

234. The page table registers should be built with _____
a) very low speed logic
b) very high speed logic
c) a large memory space
d) none of the mentioned

Answer: b
Explanation: None.

235. For larger page tables, they are kept in main memory and a _____ points to the page table.
a) page table base register
b) page table base pointer
c) page table register pointer

d) page table base

Answer: a
Explanation: None.

236. For every process there is a _____
a) page table
b) copy of page table
c) pointer to page table
d) all of the mentioned

Answer: a
Explanation: None.

237. Time taken in memory access through PTBR is _____
a) extended by a factor of 3
b) extended by a factor of 2
c) slowed by a factor of 3
d) slowed by a factor of 2

Answer: d
Explanation: None.

238. In segmentation, each address is specified by _____
a) a segment number & offset
b) an offset & value
c) a value & segment number
d) a key & value

Answer: a
Explanation: None.

239. In paging the user provides only _____ which is partitioned by the hardware into _____ and _____
a) one address, page number, offset
b) one offset, page number, address
c) page number, offset, address
d) none of the mentioned

Answer: a
Explanation: None.

240. Each entry in a segment table has a _____
a) segment base

b) segment peak
c) segment value
d) none of the mentioned

Answer: a
Explanation: None.

241. The segment base contains the _____
a) starting logical address of the process
b) starting physical address of the segment in memory
c) segment length
d) none of the mentioned

Answer: b
Explanation: None.

242. The segment limit contains the _____
a) starting logical address of the process
b) starting physical address of the segment in memory
c) segment length
d) none of the mentioned

Answer: c
Explanation: None.

243. The offset 'd' of the logical address must be _____
a) greater than segment limit
b) between 0 and segment limit
c) between 0 and the segment number
d) greater than the segment number

Answer: b
Explanation: None.

244. If the offset is legal _____
a) it is used as a physical memory address itself
b) it is subtracted from the segment base to produce the physical memory address
c) it is added to the segment base to produce the physical memory address
d) none of the mentioned

Answer: a
Explanation: None.

245. When the entries in the segment tables of two different processes point to the same physical location _____

a) the segments are invalid
b) the processes get blocked
c) segments are shared
d) all of the mentioned

Answer: c
Explanation: None.

246. The protection bit is 0/1 based on _____
a) write only
b) read only
c) read – write
d) none of the mentioned

Answer: c
Explanation: None.

247. If there are 32 segments, each of size 1Kb, then the logical address should have _____
a) 13 bits
b) 14 bits
c) 15 bits
d) 16 bits

Answer: a
Explanation: To specify a particular segment, 5 bits are required. To select a particular byte after selecting a page, 10 more bits are required. Hence 15 bits are required.

248. Consider a computer with 8 Mbytes of main memory and a 128K cache. The cache block size is 4 K. It uses a direct mapping scheme for cache management. How many different main memory blocks can map onto a given physical cache block?
a) 2048
b) 256
c) 64
d) 8

Answer: c
Explanation: None.

249. A multilevel page table is preferred in comparison to a single level page table for translating virtual address to physical address because _____
a) it reduces the memory access time to read or write a memory location
b) it helps to reduce the size of page table needed to implement the virtual address space of a process

c) it is required by the translation lookaside buffer
d) it helps to reduce the number of page faults in page replacement algorithms

Answer: b
Explanation: None.

250. If one or more devices use a common set of wires to communicate with the computer system, the connection is called _____
a) CPU
b) Monitor
c) Wirefull
d) Bus

Answer: d
Explanation: None.

251. A _____ a set of wires and a rigidly defined protocol that specifies a set of messages that can be sent on the wires.
a) port
b) node
c) bus
d) none of the mentioned

Answer: c
Explanation: None.

252. When device A has a cable that plugs into device B, and device B has a cable that plugs into device C and device C plugs into a port on the computer, this arrangement is called a _____
a) port
b) daisy chain
c) bus
d) cable

Answer: b
Explanation: None.

253. The _____ present a uniform device-access interface to the I/O subsystem, much as system calls provide a standard interface between the application and the operating system.
a) Devices
b) Buses
c) Device drivers
d) I/O systems

Answer: c
Explanation: None.

254. A _____ is a collection of electronics that can operate a port, a bus, or a device.
a) controller
b) driver
c) host
d) bus

Answer: a
Explanation: None.

255. An I/O port typically consists of four registers status, control, _____ and _____ registers.
a) system in, system out
b) data in, data out
c) flow in, flow out
d) input, output

Answer: b
Explanation: None.

256. The _____ register is read by the host to get input.
a) flow in
b) flow out
c) data in
d) data out

Answer: c
Explanation: None.

257. The _____ register is written by the host to send output.
a) status
b) control
c) data in
d) data out

Answer: d
Explanation: None.

258. The hardware mechanism that allows a device to notify the CPU is called _____
a) polling
b) interrupt
c) driver

d) controlling

Answer: b
Explanation: None.

259. The CPU hardware has a wire called _____ that the CPU senses after executing every instruction.
a) interrupt request line
b) interrupt bus
c) interrupt receive line
d) interrupt sense line

Answer: a
Explanation: None.

260. The _____ determines the cause of the interrupt, performs the necessary processing and executes a return from the interrupt instruction to return the CPU to the execution state prior to the interrupt.
a) interrupt request line
b) device driver
c) interrupt handler
d) all of the mentioned

Answer: c
Explanation: None.

261. In general the two interrupt request lines are _____
a) maskable & non maskable interrupts
b) blocked & non maskable interrupts
c) maskable & blocked interrupts
d) none of the mentioned

Answer: a
Explanation: None.

262. The _____ are reserved for events such as unrecoverable memory errors.
a) non maskable interrupts
b) blocked interrupts
c) maskable interrupts
d) none of the mentioned

Answer: a

262. Buffering is done to _____
a) cope with device speed mismatch
b) cope with device transfer size mismatch
c) maintain copy semantics
d) all of the mentioned

Answer: d
Explanation: None.

263. Caching is _____ spooling.
a) same as
b) not the same as
c) all of the mentioned
d) none of the mentioned

Answer: b
Explanation: None.

264. Caching _____
a) holds a copy of the data
b) is fast memory
c) holds the only copy of the data
d) holds output for a device

Answer: a
Explanation: None.

265. Spooling _____
a) holds a copy of the data
b) is fast memory
c) holds the only copy of the data
d) holds output for a device

Answer: c
Explanation: None.

266. The _____ keeps state information about the use of I/O components.
a) CPU
b) OS
c) kernel
d) shell

Answer: c
Explanation: None.

267. The kernel data structures include _____
a) process table
b) open file table
c) close file table
d) all of the mentioned

Answer: b
Explanation: None.

268. Windows NT uses a _____ implementation for I/O.
a) message – passing
b) draft – passing
c) secondary memory
d) cache

Answer: a
Explanation: None.

269. A _____ is a full duplex connection between a device driver and a user level process.
a) Bus
b) I/O operation
c) Stream
d) Flow

Answer: c
Explanation: None.

270. I/O is a _____ in system performance.
a) major factor
b) minor factor
c) does not matter
d) none of the mentioned

Answer: a
Explanation: None.

271. If the number of cycles spent busy – waiting is not excessive, then _____
a) interrupt driven I/O is more efficient than programmed I/O
b) programmed I/O is more efficient than interrupt driven I/O
c) both programmed and interrupt driven I/O are equally efficient
d) none of the mentioned

Answer: b
Explanation: None.

272. Linux uses a time-sharing algorithm _____
a) to pair preemptive scheduling between multiple processes
b) for tasks where absolute priorities are more important than fairness
c) all of the mentioned
d) none of the mentioned

Answer: a
Explanation: None.

273. The first linux kernel which supports the SMP hardware?
a) linux 0.1
b) linux 1.0
c) linux 1.2
d) linux 2.0

Answer: d
Explanation: None.

274. Which one of the following linux file system does not support journaling feature?
a) ext2
b) ext3
c) ext4
d) none of the mentioned

Answer: a
Explanation: None.

275. Which binary format is supported by linux?
a) a.out
b) elf
c) both a.out and ELF
d) none of the mentioned

Answer: c
Explanation: None.

276. Which one of the following bootloader is not used by linux?
a) GRUB
b) LILO
c) NTLDR

d) None of the mentioned

Answer: c
Explanation: None.

277. The first process launched by the linux kernel is _____
a) init process
b) zombie process
c) batch process
d) boot process

Answer: a
Explanation: None.

278. Which desktop environment is not used in any linux distribution?
a) gnome
b) kde
c) unity
d) none of the mentioned

Answer: d
Explanation: None.

279. Standard set of functions through which interacts with kernel is defined by _____
a) system libraries
b) kernel code
c) compilers
d) utility programs

Answer: a
Explanation: None.

280. What is Linux?
a) single user, single tasking
b) single user, multitasking
c) multi user, single tasking
d) multi user, multitasking

Answer: d
Explanation: None.

281. Which one of the following is not a linux distribution?
a) debian
b) gentoo

c) open SUSE
d) multics

Answer: d
Explanation: None.

282. Because of virtual memory, the memory can be shared among _____
a) processes
b) threads
c) instructions
d) none of the mentioned

Answer: a
Explanation: None.

283. _____ is the concept in which a process is copied into the main memory from the secondary memory according to the requirement.
a) Paging
b) Demand paging
c) Segmentation
d) Swapping

Answer: b
Explanation: None.

284. The pager concerns with the _____
a) individual page of a process
b) entire process
c) entire thread
d) first page of a process

Answer: a
Explanation: None.

285. Swap space exists in _____
a) primary memory
b) secondary memory
c) cpu
d) none of the mentioned

Answer: b
Explanation: None.

286. When a program tries to access a page that is mapped in address space but not loaded in physical memory, then _____
a) segmentation fault occurs
b) fatal error occurs
c) page fault occurs
d) no error occurs

Answer: c
Explanation: None.

287. Effective access time is directly proportional to _____
a) page-fault rate
b) hit ratio
c) memory access time
d) none of the mentioned

Answer: a
Explanation: None.

288. In FIFO page replacement algorithm, when a page must be replaced _____
a) oldest page is chosen
b) newest page is chosen
c) random page is chosen
d) none of the mentioned

Answer: a
Explanation: None.

289. Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?
a) first in first out algorithm
b) additional reference bit algorithm
c) least recently used algorithm
d) counting based page replacement algorithm

Answer: c
Explanation: None.

290. A process is thrashing if _____
a) it is spending more time paging than executing
b) it is spending less time paging than executing
c) page fault occurs
d) swapping can not take place

Answer: a
Explanation: None.

291. Working set model for page replacement is based on the assumption of _____
a) modularity
b) locality
c) globalization
d) random access

Answer: b
Explanation: None.

292. _____ is a unique tag, usually a number identifies the file within the file system.
a) File identifier
b) File name
c) File type
d) None of the mentioned

Answer: a
Explanation: None.

293. To create a file _____
a) allocate the space in file system
b) make an entry for new file in directory
c) allocate the space in file system & make an entry for new file in directory
d) none of the mentioned

Answer: c
Explanation: None.

294. By using the specific system call, we can _____
a) open the file
b) read the file
c) write into the file
d) all of the mentioned

Answer: d
Explanation: None.

295. File type can be represented by _____
a) file name
b) file extension
c) file identifier

d) none of the mentioned

Answer: b
Explanation: None.

296. Which file is a sequence of bytes organized into blocks understandable by the system's linker?
a) object file
b) source file
c) executable file
d) text file

Answer: a
Explanation: None.

297. What is the mounting of file system?
a) crating of a filesystem
b) deleting a filesystem
c) attaching portion of the file system into a directory structure
d) removing the portion of the file system into a directory structure

Answer: c
Explanation: None.

298. Mapping of file is managed by _____
a) file metadata
b) page table
c) virtual memory
d) file system

Answer: a
Explanation: None.

299. Mapping of network file system protocol to local file system is done by
_____
a) network file system
b) local file system
c) volume manager
d) remote mirror

Answer: a
Explanation: None.

300. Which one of the following explains the sequential file access method?
a) random access according to the given byte number

b) read bytes one at a time, in order
c) read/write sequentially by record
d) read/write randomly by record

Answer: b
Explanation: None.

301. When will file system fragmentation occur?
a) unused space or single file are not contiguous
b) used space is not contiguous
c) unused space is non-contiguous
d) multiple files are non-contiguous

Answer: a
Explanation: None.

302. The three major methods of allocating disk space that are in wide use are
_____
a) contiguous
b) linked
c) indexed
d) all of the mentioned

Answer: d
Explanation: None.

303. In contiguous allocation _____
a) each file must occupy a set of contiguous blocks on the disk
b) each file is a linked list of disk blocks
c) all the pointers to scattered blocks are placed together in one location
d) none of the mentioned

Answer: a
Explanation: None.

304. In linked allocation _____
a) each file must occupy a set of contiguous blocks on the disk
b) each file is a linked list of disk blocks
c) all the pointers to scattered blocks are placed together in one location
d) none of the mentioned

Answer: b
Explanation: None.

305. In indexed allocation _____
a) each file must occupy a set of contiguous blocks on the disk
b) each file is a linked list of disk blocks
c) all the pointers to scattered blocks are placed together in one location
d) none of the mentioned

Answer: c
Explanation: None.

306. On systems where there are multiple operating system, the decision to load a particular one is done by _____
a) boot loader
b) bootstrap
c) process control block
d) file control block

Answer: a
Explanation: None.

307. The VFS (virtual file system) activates file system specific operations to handle local requests according to their _____
a) size
b) commands
c) timings
d) file system types

Answer: d
Explanation: None.

308. What is the real disadvantage of a linear list of directory entries?
a) size of the linear list in memory
b) linear search to find a file
c) it is not reliable
d) all of the mentioned

Answer: b
Explanation: None.

309. Contiguous allocation of a file is defined by _____
a) disk address of the first block & length
b) length & size of the block
c) size of the block
d) total size of the file

Answer: a
Explanation: None.

310. One difficulty of contiguous allocation is _____
a) finding space for a new file
b) inefficient
c) costly
d) time taking

Answer: a
Explanation: None.

311. _____ and _____ are the most common strategies used to select a free hole from the set of available holes.
a) First fit, Best fit
b) Worst fit, First fit
c) Best fit, Worst fit
d) None of the mentioned

Answer: a
Explanation: None.

312. The first fit and best fit algorithms suffer from _____
a) internal fragmentation
b) external fragmentation
c) starvation
d) all of the mentioned

Answer: b
Explanation: None.

313. To solve the problem of external fragmentation _____ needs to be done periodically.
a) compaction
b) check
c) formatting
d) replacing memory

Answer: a
Explanation: None.

314. If too little space is allocated to a file _____
a) the file will not work
b) there will not be any space for the data, as the FCB takes it all
c) the file cannot be extended

d) the file cannot be opened

Answer: c
Explanation: None.

315. A device driver can be thought of like a translator. Its input consists of _____ commands and output consists of _____ instructions.
a) high level, low level
b) low level, high level
c) complex, simple
d) low level, complex

Answer: a
Explanation: None.

316. The file organization module knows about _____
a) files
b) logical blocks of files
c) physical blocks of files
d) all of the mentioned

Answer: d
Explanation: None.

317. Metadata includes _____
a) all of the file system structure
b) contents of files
c) both file system structure and contents of files
d) none of the mentioned

Answer: c
Explanation: None.

318. For each file there exists a _____ that contains information about the file, including ownership, permissions and location of the file contents.
a) metadata
b) file control block
c) process control block
d) all of the mentioned

Answer: b
Explanation: None.

319. For processes to request access to file contents, they need _____
a) to run a seperate program
b) special interrupts
c) to implement the open and close system calls
d) none of the mentioned

Answer: c
Explanation: None.

320. During compaction time, other normal system operations _____ be permitted.
a) can
b) cannot
c) is
d) none of the mentioned

Answer: b
Explanation: None.

321. When in contiguous allocation the space cannot be extended easily?
a) the contents of the file have to be copied to a new space, a larger hole
b) the file gets destroyed
c) the file will get formatted and lost all its data
d) none of the mentioned

Answer: a
Explanation: None.

322. In the linked allocation, the directory contains a pointer to which block?
I. first block
II. last block
a) I only
b) II only
c) Both I and II
d) Neither I nor II

Answer: c
Explanation: None.

323. There is no _____ with linked allocation.
a) internal fragmentation
b) external fragmentation
c) starvation
d) all of the mentioned

Answer: b
Explanation: None.

324. What is the major disadvantage with a linked allocation?
a) internal fragmentation
b) external fragmentation
c) there is no sequential access
d) there is only sequential access

Answer: d
Explanation: None.

325. What if a pointer is lost or damaged in a linked allocation?
a) the entire file could get damaged
b) only a part of the file would be affected
c) there would not be any problems
d) none of the mentioned

Answer: a
Explanation: None.

326. FAT stands for _____
a) File Attribute Transport
b) File Allocation Table
c) Fork At Time
d) None of the mentioned

Answer: b
Explanation: None.

327. By using FAT, random access time is _____
a) the same
b) increased
c) decreased
d) not affected

Answer: c

328. _____ tend to represent a major bottleneck in system performance.
a) CPUs
b) Disks
c) Programs
d) I/O

Answer: b
Explanation: None.

329. In UNIX, even an 'empty' disk has a percentage of its space lost to _____
a) programs
b) inodes
c) virtual memory
d) stacks

Answer: b
Explanation: None.

330. By preallocating the inodes and spreading them across the volume, we
_____ the system performance.
a) improve
b) decrease
c) maintain
d) do not affect

Answer: a
Explanation: None.

331. _____ writes occur in the order in which the disk subsystem receives
them, and the writes are not buffered.
a) Asynchronous
b) Regular
c) Synchronous
d) Irregular

Answer: c
Explanation: None.

332. In _____ writes, the data is stored in the cache.
a) Asynchronous
b) Regular
c) Synchronous
d) Irregular

Answer: a
Explanation: None.

333. A file being read or written sequentially should not have its pages replaced in
LRU order, because _____
a) it is very costly
b) the most recently used page will be used last
c) it is not efficient

d) all of the mentioned

Answer: b
Explanation: None.

334. In the optimized technique for sequential access _____ removes a page from the buffer as soon as the next page is requested.
a) write ahead
b) read ahead
c) free-behind
d) add-front

Answer: c
Explanation: None.

335. With _____ a requested page and several subsequent pages are read and cached.
a) write ahead
b) read ahead
c) free-behind
d) add-front

Answer: b
Explanation: None.

336. Some directory information is kept in main memory or cache to _____
a) fill up the cache
b) increase free space in secondary storage
c) decrease free space in secondary storage
d) speed up access

Answer: d
Explanation: None.

337. A systems program such as fsck in _____ is a consistency checker.
a) UNIX
b) Windows
c) Macintosh
d) Solaris

Answer: a
Explanation: None.

338. A consistency checker _____ and tries to fix any inconsistencies it finds.
a) compares the data in the secondary storage with the data in the cache
b) compares the data in the directory structure with the data blocks on disk
c) compares the system generated output and user required output
d) all of the mentioned

Answer: b
Explanation: None.

339. Each set of operations for performing a specific task is a _____
a) program
b) code
c) transaction
d) all of the mentioned

Answer: c
Explanation: None.

340. Once the changes are written to the log, they are considered to be _____
a) committed
b) aborted
c) completed
d) none of the mentioned

Answer: a
Explanation: None.

341. When an entire committed transaction is completed, _____
a) it is stored in the memory
b) it is removed from the log file
c) it is redone
d) none of the mentioned

Answer: b
Explanation: None.

342. What is a circular buffer?
a) writes to the end of its space and then continues at the beginning
b) overwrites older values as it goes
c) all of the mentioned
d) none of the mentioned

Answer: a
Explanation: None.

343. All the changes that were done from a transaction that did not commit before the system crashed, have to be _____
a) saved
b) saved and the transaction redone
c) undone
d) none of the mentioned

Answer: c
Explanation: None.

344. In distributed system, each processor has its own _____
a) local memory
b) clock
c) both local memory and clock
d) none of the mentioned

Answer: c
Explanation: None.

345. If one site fails in distributed system then _____
a) the remaining sites can continue operating
b) all the sites will stop working
c) directly connected sites will stop working
d) none of the mentioned

Answer: a
Explanation: None.

346. Network operating system runs on _____
a) server
b) every system in the network
c) both server and every system in the network
d) none of the mentioned

Answer: a
Explanation: None.

347. Which technique is based on compile-time program transformation for accessing remote data in a distributed-memory parallel system?
a) cache coherence scheme
b) computation migration
c) remote procedure call
d) message passing

Answer: b
Explanation: None.

348. Logical extension of computation migration is _____
a) process migration
b) system migration
c) thread migration
d) data migration

Answer: a
Explanation: None.

349. Processes on the remote systems are identified by _____
a) host ID
b) host name and identifier
c) identifier
d) process ID

Answer: b
Explanation: None.

350. Which routing technique is used in a distributed system?
a) fixed routing
b) virtual routing
c) dynamic routing
d) all of the mentioned

Answer: d
Explanation: None.

351. In distributed systems, link and site failure is detected by _____
a) polling
b) handshaking
c) token passing
d) none of the mentioned

Answer: b
Explanation: None.

352. The capability of a system to adapt the increased service load is called _____
a) scalability
b) tolerance
c) capacity
d) none of the mentioned

Answer: a
Explanation: None.

353. Internet provides _____ for remote login.
a) telnet
b) http
c) ftp
d) rpc

Answer: a
Explanation: None.