Question-1: What is known as a race condition?

a) When a deadlock occurs
b) When it has a starvation and not a deadlock
c) When the result of a computation depends on the speed of the processes involved
d) When it cannot have a subroutine call

Question-2: Consider a system with 32 bit virtual addresses and 1 Kbyte page size. Why is it not possible to use one level page tables for virtual to physical address translation?

a) The amount of external fragmentation
b) The amount of internal fragmentation
c) The large computation overhead in the translation process
d) The large memory overhead in maintaining page tables

Question-3: Which of the following helps a system call to invoke?

a) Polling
b) A software interrupt
c) Call function
d) Queues

Question-4: What should be the size of ROM if it is used to store the table for multiplication of two 8-bit unsigned integers?

a) 64k x 8
b) 64k x 16
c) 4k x 8
d) 64k x 16

Question-5: What is the use of thrashing?

a) It improves system performance
b) It implies excessive page I/O
c) It decreases the degree of multiprogramming
d) It reduces page I/O

Question-6: CPU can access which type of memory directly?

a) Random Access Memory (RAM)
b) Magnetic Disk
c) Magnetic Tape
d) None of the above

Question-7: Interrupts which are initiated by an instruction are

a) Internal
b) External
c) Hardware
d) Software

Question-8: What are the necessary conditions to occur the deadlock?

a) Sharable resource, Hold and wait, Preemption, Circular wait
b) Mutual exclusion, Hold and wait, No preemption, Circular wait
c) Mutual exclusion, Hold and wait, Preemption, Circular wait
d) None of the above

Question-9: The main function of the command interpreter is
a) to handle the compiler
b) to handle the parser
c) to get and execute the next user-specified command
d) None of the above

Question-10: When size of the memory is increased the page replacement policy that sometimes leads to more page faults is called _____
a) FIFO
b) Optimal
c) LRU
d) None of the above

Question-11: What works on the principle of locality?
a) Cache memory
b) Interrupts
c) Polling
d) DMA

Question-12: Operating System: The address generated by the CPU is referred to as:
a) Physical address
b) Logical address
c) Physical as well as logical address
d) None of the above

Question-13: CPU fetches the instruction from memory according to the value of:
a) Program counter
b) Status register
c) Instruction register
d) Program status word

Question-14: A memory buffer used to accommodate a speed differential is called:
a) Stack pointer
b) Cache
c) Accumulator
d) Disk buffer

Question-15: Which one of the following is the address generated by CPU?
a) Physical address
b) Absolute address
c) Logical address
d) None of the above

Question-16: Run time mapping from virtual to physical address is done by:
a) Memory Management Unit
b) CPU
c) PCI
d) None of the above

Question-17: 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 above

Question-18: 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

Question-19: Program always deals with:

a) Logical address
b) Absolute address
c) Physical address
d) Relative address

Question-20: The page table contains:

a) Base address of each page in physical memory
b) Page offset
c) Page size
d) None of the above

Question-21: 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

Question-22: Operating System maintains the page table for:

a) Each process
b) Each thread
c) Each instruction
d) Each address

Question-23: 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 above

Question-24: 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 above

Question-25: 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 above

Question-26: 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

Question-27: 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

Question-28: 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 above

Question-29: In fixed sized 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 above

Question-30: 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 above

Question-31: 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 above

Question-32: A solution to the problem of external fragmentation is:
a) Compaction
b) Larger memory space
c) Smaller memory space
d) None of the above

Question-33: Another solution to the problem of external fragmentation problem is to:
a) Permit the logical address space of a process to be non-contiguous
b) Permit smaller processes to be allocated memory at last
c) Permit larger processes to be allocated memory at last
d) All of the above

Question-34: 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

Question-35: 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 above

Question-36: _____ 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 above

Question-37: 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 above

Question-38: 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

Question-39: When the memory allocated to a process is slightly larger than the process, then:
a) Internal fragmentation occurs
b) External fragmentation occurs
c) Both (a) and (b)
d) Neither (a) nor (b)

Question-40: Because of virtual memory, the memory can be shared among:
a) Processes
b) Threads
c) Instructions
d) None of the above

Question-41: _____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.
a) Paging
b) Demand paging
c) Segmentation
d) Swapping

Question-42: The pager concerns with the:
a) Individual page of a process
b) Entire process
c) Entire thread
d) First page of a process

Question-43: Swap space exists in:
a) Primary Memory
b) Secondary Memory
c) CPU
d) None of the above

Question-44: 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

Question-45: Effective access time is directly proportional to:
a) Page-fault rate
b) Hit ratio
c) Memory access time
d) None of the above

Question-46: 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 above

Question-47: 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

Question-48: 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 cannot take place

Question-49: Working set model for page replacement is based on the assumption of:

a) Modularity
b) Locality
c) Globalization
d) Random access

Question-50: Each entry in a translation look aside buffer (TLB) consists of _____

a) Key
b) Value
c) Bit value
d) Constant