S.NO	QUESTION	A	B	C	D	ANSWER
1	What is a reusable resource?	that can be used by one process at a time and is not depleted by that use	that can be used by more than one process at a time that can be shared between various threads	that can be shared between various threads	none of the mentioned	A
2	Which of the following condition is required for a deadlock to be possible?	mutual exclusion	a process may hold allocated resources while awaiting assignment of other resources.	no resource can be forcibly removed from a process holding it	all of the mentioned	D
3	. A system is in the safe state if _____	the system can allocate resources to each process in some order and still avoid a deadlock	there exist a safe sequence	all of the mentioned	none of the mentioned	A
4	The circular wait condition can be prevented by _____	defining a linear ordering of resource types	using thread	using pipes	all of the mentioned	A
5	Which one of the following is the deadlock avoidance algorithm?	banker's algorithm	round-robin algorithm	elevator algorithm	karn's algorithm	A
6	What is the drawback of banker's algorithm?	in advance processes rarely know how much resource they will need	the number of processes changes as time progresses	resource once available can disappear	all of the mentioned	D
7	For an effective operating system, when to check for deadlock?	every time a resource request is made	at fixed time intervals	every time a resource request is made at fixed time intervals	none of the mentioned	C
8	A problem encountered in	deadlock	starvation	inversion	aging	B

	multitasking when a process is perpetually denied necessary resources is called _____					
9	Which one of the following is a visual (mathematical) way to determine the deadlock occurrence?	resource allocation graph	starvation graph	inversion graph	none of the mentioned	A
10	To avoid deadlock _____	there must be a fixed number of resources to allocate	resource allocation must be done only once	all deadlocked processes must be aborted	inversion technique can be used	A
11	The number of resources requested by a process _____	must always be less than the total number of resources available in the system	must always be equal to the total number of resources available in the system	must not exceed the total number of resources available in the system	must exceed the total number of resources available in the system	C
12	The request and release of resources are _____	command line statements	interrupts	system calls	special programs	C
13	What are Multithreaded programs?	lesser prone to deadlocks	more prone to deadlocks	not at all prone to deadlocks	none of the mentioned	B
14	For a deadlock to arise, which of the following conditions must hold simultaneously?	Mutual exclusion	No preemption	Hold and wait	All of the mentioned	D
15	For Mutual exclusion to prevail in the system _____	at least one resource must be held in a non sharable mode	the processor must be a uniprocessor rather than a multiprocessor	there must be at least one resource in a sharable mode	all of the mentioned	A

16	For a Hold and wait condition to prevail _____	A process must be not be holding a resource, but waiting for one to be freed, and then request to acquire it	A process must be holding at least one resource and waiting to acquire additional resources that are being held by other processes	c	None of the mentioned	B
17	Deadlock prevention is a set of methods _____	to ensure that at least one of the necessary conditions cannot hold.	to ensure that all of the necessary conditions do not hold	to decide if the requested resources for a process have to be given or not	to recover from a deadlock	A
18	For non sharable resources like a printer, mutual exclusion _____	must exist	must not exist	may exist	none of the mentioned	A
19	For sharable resources, mutual exclusion _____	is required	is not required	may be or may not be required	none of the mentioned	B
20	The disadvantage of a process being allocated all its resources before beginning its execution is _____	Low CPU utilization	Low resource utilization	Very high resource utilization	None of the mentioned	B
21	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.	resources currently available	processes that have previously been in the system	resources currently allocated to each process	future requests and releases of each process	A

22	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.	minimum	average	maximum	approximate	C
23	A deadlock avoidance algorithm dynamically examines the _____ to ensure that a circular wait condition can never exist	resource allocation state	system storage state	operating system	resources	A
24	A state is safe, if _____	the system does not crash due to deadlock occurrence	the system can allocate resources to each process in some order and still avoid a deadlock	the state keeps the system protected and safe	all of the mentioned	B
25	A system is in a safe state only if there exists a _____	safe allocation	safe resource	safe sequence	all of the mentioned	C
26	All unsafe states are _____	deadlocks	not deadlocks	fatal	none of the mentioned	B
27	If no cycle exists in the resource allocation graph _____	then the system will not be in a safe state	then the system will be in a safe state	all of the mentioned	none of the mentioned	B
28	The resource allocation graph is not applicable to a resource allocation system _____	with multiple instances of each resource type	with a single instance of each resource type	single & multiple instances of each resource type	none of the mentioned	A
29	The Banker's algorithm is _____ than the	less efficient	more efficient	equal	none of the mentioned	A

	resource allocation graph algorithm.					
30	The data structures available in the Banker's algorithm are _____	Available	Need	Allocation	All of the mentioned	D
31	The content of the matrix Need is _____	Allocation – Available	Max – Available	Max – Allocation	Allocation – Max	C
32	A deadlock can be broken by _____	abort one or more processes to break the circular wait	abort all the process in the system	preempt all resources from all processes	none of the mentioned	A
33	The two ways of aborting processes and eliminating deadlocks are _____	Abort all deadlocked processes	Abort all processes	Abort one process at a time until the deadlock cycle is eliminated	All of the mentioned	C
34	Those processes should be aborted on occurrence of a deadlock, the termination of which?	is more time consuming	incurs minimum cost	safety is not hampered	all of the mentioned	B
35	The process to be aborted is chosen on the basis of the following factors?	priority of the process	process is interactive or batch	how long the process has computed	all of the mentioned	D
36	Cost factors for process termination include _____	Number of resources the deadlock process is not holding	CPU utilization at the time of deadlock	Amount of time a deadlocked process has thus far consumed during its execution	All of the mentioned	C
37	If we preempt a resource from a process, the	aborted	rolled back	terminated	queued	B

	process cannot continue with its normal execution and it must be _____					
38	To _____ to a safe state, the system needs to keep more information about the states of processes.	abort the process	roll back the process	queue the process	none of the mentioned	B
39	If the wait for graph contains a cycle _____	then a deadlock does not exist	then a deadlock exists	then the system is in a safe state	either deadlock exists or system is in a safe state	B
40	A deadlock eventually cripples system throughput and will cause the CPU utilization to _____	increase	drop	stay still	none of the mentioned	B

S.NO	QUESTION	A	B	C	D	ANSWER
1	What is Address Binding?	going to an address in memory	locating an address with the help of another address	binding two addresses together to form a new address in a different memory space	a mapping from one address space to another	D
2	. Binding of instructions and data to memory addresses can be done at _____	Compile time	Load time	Execution time	All of the mentioned	D
3	If the process can be moved during its execution from	delayed until run time	prepone d to compile	preponed to load	none of the	A

	one memory segment to another, then binding must be _____		time	time	mentioned	
4	What is Dynamic loading?	loading multiple routines dynamically	loading a routine only when it is called	loading multiple routines randomly	none of the mentioned	B
5	What is the advantage of dynamic loading?	A used routine is used multiple times	An unused routine is never loaded	CPU utilization increases	All of the mentioned	B
6	In contiguous memory allocation _____	each process is contained in a single contiguous section of memory	all processes are contained in a single contiguous section of memory	the memory space is contiguous	none of the mentioned	A
7	The relocation register helps in _____	providing more address space to processes	a different address space to processes	to protect the address spaces of processes	none of the mentioned	C
8	With relocation and limit registers, each logical address must be _____ the limit register.	less than	equal to	greater than	none of the mentioned	A

9	When memory is divided into several fixed sized partitions, each partition may contain _____	exactly one process	at least one process	multiple processes at once	none of the mentioned	A
10	Logical memory is broken into blocks of the same size called _____	frames	pages	backing store	none of the mentioned	B
11	Every address generated by the CPU is divided into two parts. They are _____	frame bit & page number	page number & page offset	page offset & frame bit	frame offset & page offset	B
12	The _____ is used as an index into the page table	frame bit	page number	page offset	frame offset	B
13	The _____ table contains the base address of each page in physical memory.	process	memory	page	frame	C
14	The size of a page is typically _____	varied	power of 2	power of 4	none of the mentioned	B
15	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	m, n	n, m	m – n, m	m – n, n	D

16	n paging the user provides only _____ which is partitioned by the hardware into _____ and _____	one address, page number, offset	one offset, page number, address	page number, offset, address	none of the mentioned	A
17	Each entry in a segment table has a _____	segment base	segment peak	segment value	none of the mentioned	A
18	The segment base contains the _____	starting logical address of the process	starting physical address of the segment in memory	segment length	none of the mentioned	B
19	The segment limit contains the _____	starting logical address of the process	starting physical address of the segment in memory	segment length	none of the mentioned	C
20	The offset ‘d’ of the logical address must be _____	greater than segment limit	between 0 and segment limit	between 0 and the segment number	greater than the segment number	B
21	Because of virtual memory, the memory can be shared among _____	processes	threads	instructions	none of the mentioned	A
22	_____ is the concept in which a process is copied into the main memory from the	Paging	Demand paging	Segmentation	Swapping	B

	secondary memory according to the requirement					
23	The pager concerns with the _____	individual page of a process	entire process	entire thread	first page of a process	A
24	Swap space exists in _____	primary memory	secondary memory	cpu	none of the mentioned	B
25	When a program tries to access a page that is mapped in address space but not loaded in physical memory, then _____	segmentation fault occurs	fatal error occurs	page fault occurs	no error occurs	C
26	Virtual memory allows _____	execution of a process that may not be completely in memory	a program to be smaller than the physical memory	a program to be larger than the secondary storage	execution of a process without being in physical memory	A
27	The instruction being executed, must be in _____	physical memory	logical memory	physical & logical memory	none of the mentioned	A
28	Error handler codes, to handle **unusual** errors are _____	almost never executed	executed very often	executed periodically	none of the mentioned	A
29	The ability to execute a program that is only partially in memory has	The amount of physical memory cannot put	Programs for an extremely large virtual	Throughput increases	All of the mentioned	D

	benefits like _____	a constraint on the program	space can be created			
30	In virtual memory. the programmer _____ of overlays.	has to take care	does not have to take care	all of the mentioned	none of the mentioned	B
31	Which of the following page replacement algorithms suffers from Belady's Anomaly?	Optimal replacement	LRU	FIFO	Both optimal replacement and FIFO	C
32	A process refers to 5 pages, A, B, C, D, E in the order : A, B, C, D, A, B, E, A, B, C, D, E. If the page replacement algorithm is FIFO, the number of page transfers with an empty internal store of 3 frames is?	8	10	9	7	C
33	In question 32, if the number of page frames is increased to 4, then the number of page transfers _____	decreases	increases	remains the same	none of the mentioned	B
34	A memory page containing a heavily used variable that was initialized very	LRU	LFU	FIFO	None of the mentioned	C

	early and is in constant use is removed, then the page replacement algorithm used is _____					
35	A virtual memory system uses First In First Out (FIFO) page replacement policy and allocates a fixed number of frames to a process. Consider the following statements. P : Increasing the number of page frames allocated to a process sometimes increases the page fault rate Q : Some programs do not exhibit locality of reference Which of the following is TRUE?	Both P and Q are true, and Q is the reason for P	Both P and Q are true, but Q is not the reason for P	P is false but Q is true	Both P and Q are false	C
36	A process is thrashing if _____	it spends a lot of time executing, rather than paging	it spends a lot of time paging than executing	it has no memory allocated to it	none of the mentioned	B

37	Thrashing _____ the CPU utilization	increases	keeps constant	decreases	none of the mentioned	C
38	What is a locality?	a set of pages that are actively used together	a space in memory	an area near a set of processes	none of the mentioned	A
39	When a subroutine is called _____	it defines a new locality	it is in the same locality from where it was called	it does not define a new locality	none of the mentioned	A
40	In the working set model, for: 2 6 1 5 7 7 7 7 5 1 6 2 3 4 1 2 3 4 4 4 3 4 3 4 4 4 1 3 2 3 if DELTA = 10, then the working set at time t1 (....7 5 1) is?	{1, 2, 4, 5, 6}	{2, 1, 6, 7, 3}	{1, 6, 5, 7, 2}	{1, 2, 3, 4, 5}	C

S.NO	QUESTION	A	B	C	D	ANSWER
1	In _____ information is recorded magnetically on platters.	magnetic disks	electrical disks	assemblies	cylinders	A
2	. The heads of the magnetic disk are attached to a _____ that moves all the heads as a unit.	spindle	disk arm	track	none of the mentioned	B

3	The set of tracks that are at one arm position make up a _____	magnetic disks	electrical disks	assemblies	cylinders	D
4	The time taken to move the disk arm to the desired cylinder is called the _____	positioning time	random access time	seek time	rotational latency	C
5	The time taken for the desired sector to rotate to the disk head is called _____	positioning time	random access time	seek time	rotational latency	D
6	When the head damages the magnetic surface, it is known as _____	disk crash	head crash	magnetic damage	all of the mentioned	B
7	A floppy disk is designed to rotate _____ as compared to a hard disk drive.	Faster	Slower	at the same speed	none of the mentioned	B
8	What is the host controller?	controller built at the end of each disk	controller at the computer end of the bus	all of the mentioned	none of the mentioned	B
9	_____ controller sends the command placed into it,	host, host	disk, disk	host, disk	disk, host	C

	via messages to the _____ controller.					
10	What is the disk bandwidth?	the total number of bytes transferred	total time between the first request for service and the completion on the last transfer	the total number of bytes transferred divided by the total time between the first request for service and the completion on the last transfer	none of the mentioned	C
11	Whenever a process needs I/O to or from a disk it issues a _____	system call to the CPU	system call to the operating system	a special procedure	all of the mentioned	B
12	If a process needs I/O to or from a disk, and if the drive or controller is busy then _____	the request will be placed in the queue of pending requests for that drive	the request will not be processed and will be ignored completely	the request will not be processed and will be ignored completely	none of the mentioned	A
13	Consider a disk queue with requests for I/O to blocks on cylinders. 98 183 37 122 14 124 65 67 Considering	600	620	630	640	D

	FCFS (first cum first served) scheduling, the total number of head movements is, if the disk head is initially at 53 is? memory.					
14	Consider a disk queue with requests for I/O to blocks on cylinders. 98 183 37 122 14 124 65 67 Considering SSTF (shortest seek time first) scheduling, the total number of head movements is, if the disk head is initially at 53 is?	224	236	245	240	B
15	Random access in magnetic tapes is _____ compared to magnetic disks	Fast	Very fast	Slow	Very slow	D
16	Magnetic tape drives can write data at a	much lesser than	comparable to	much faster than	none of the mentioned	B

	speed _____ disk drives					
17	On media that use constant linear velocity (CLV), the _____ is uniform.	density of bits on the disk	density of bits per sector	the density of bits per track	none of the mentioned	C
18	SSTF algorithm, like SJF _____ of some requests.	may cause starvation	will cause starvation	does not cause starvation	causes aging	A
19	In the _____ algorithm, the disk arm starts at one end of the disk and moves toward the other end, servicing requests till the other end of the disk. At the other end, the direction is reversed and servicing continues	LOOK	SCAN	C-SCAN	C-LOOK	B
20	In the _____ algorithm, the disk head moves from one end to the other, servicing requests along the way. When the head reaches the other end, it immediately returns to the	LOOK	SCAN	C-SCAN	C-LOOK	C

	beginning of the disk without servicing any requests on the return trip.					
21	In the _____ algorithm, the disk arm goes as far as the final request in each direction, then reverses direction immediately without going to the end of the disk.	LOOK	SCAN	C-SCAN	C-LOOK	A
22	The process of dividing a disk into sectors that the disk controller can read and write, before a disk can store data is known as _____	partitioning	swap space creation	low-level formatting	none of the mentioned	C
23	The data structure for a sector typically contains _____	Header	data area	Trailer	all of the mentioned	D
24	The header and trailer of a sector contain information used by the disk controller	main section & disk identifier	error correcting codes (ECC) & sector number	sector number & main section	disk identifier & sector number	B

	such as _____ and _____					
25	The two steps the operating system takes to use a disk to hold its files are _____ and _____	partitioning & logical formatting	swap space creation & caching	caching & logical formatting	logical formatting & swap space creation	A
26	The _____ program initializes all aspects of the system, from CPU registers to device controllers and the contents of main memory, and then starts the operating system	main	Bootloader	Bootstrap	rom	C
27	For most computers, the bootstrap is stored in _____	RAM	ROM	Cache	Tertiary storage	B
28	A disk that has a boot partition is called a _____	start disk	end disk	boot disk	all of the mentioned	C
29	Defective sectors on disks are often known as _____	good blocks	destroyed blocks	bad blocks	none of the mentioned	C
30	The scheme used in the above	sector sparing &	forwarding & sector utilization	backwarding & forwarding	sector utilization &	A

	question is known as _____ or _____	forwarding			backwarding	
31	An unrecoverable error is known as _____	hard error	tough error	soft error	none of the mentioned	A
32	In SCSI disks used in high end PCs, the controller maintains a list of _____ on the disk. The disk is initialized during _____ formatting which sets aside spare sectors not visible to the operating system.	destroyed blocks, high level formatting	bad blocks, partitioning	bad blocks, low level formatting	destroyed blocks, partitioning	C
33	Disk scheduling includes deciding	which should be accessed next	order in which disk access requests must be serviced	the physical location of the file	the logical location of the file	B
34	Virtual memory uses disk space as an extension of _____	secondary storage	main memory	tertiary storage	) none of the mentioned	b
35	Using swap space significantly _____	Both P and Q are true, and Q is the reason for	Both P and Q are true, but Q is not the reason	P is false but Q is true	Both P and Q are false	C

	system performance	P	for P			
36	Linux _____ the use of multiple swap spaces.	Allows	does not allow	may allow	none of the mentioned	a
37	A single swap space _____ reside in two places.	Can	Cannot	must not	none of the mentioned	a
38	If the swap space is simply a large file, within the file system, _____ used to create it, name it and allocate its space.	special routines must be	normal file system routines can be	normal file system routines cannot be	swap space storage manager is	b
39	For swap space created in a separate disk partition where no file system or directory structure is placed, _____ used to allocate and deallocate the blocks	special routines must be	normal file system routines can be	normal file system routines cannot be	swap space storage manager is	D
40	When a fixed amount of swap space is created	only I	only II	both I and II	neither I nor II	c

	during disk partitioning, more swap space can be added only by? I) repartitioning of the disk II) adding another swap space elsewhere					