Comprehensive-OS-Question-Bank

Qno	Question	Answer
1	What portrays the hierarchical representation of data? a) Stack b) Array c) Linked List d) Tree	D
2	When does page fault occur? A) Page is present in memory B) The deadlock occurs C) The page does not present in memory D) The buffering occurs	C
3	Which of the following is the allocation method of a disk space? A)Contiguous allocation B)Linked allocation C)Indexed allocation D)All of the Above	D
4	In a time sharing operating system, when the time slot given to a process is completed, the process goes from running state to A)Blocked state B)Ready state C) Suspended state D)Terminated state	B
5	Which of the following is a condition that causes deadlock? A) Mutual exclusion B) Hold and wait C) No preemption D) All of these	D
6	What else is a command interpreter called? A.prompt B.kernel C.shell D.command	C

Qno	Question	Answer
7	When a process creates a new process using the fork() operation,which of the following states is shared between the parent process and the child process? A.Stack B.Heap C.Shared memory segments D.NONE of the above	D
8	Which of the following is also known as elevator algorithm? (A)SSTF (B) CSCAN (C) SCAN (D)LOOK	C
9	The size of the virtual memory is based on which of the following a) CPU. b) RAM c). Address bus. d). Data bus	C
10	A Process Control Block(PCB) does not contain which of the following? a) Code b) Stack c) Bootstrap program d) Data	C
11	Consider a system with 3 processes that share 4 instances of the same resource type. Each process can request a maximum of K instances. Resource instances can be requested and released only one at a time. The largest value of K that will always avoid deadlock is ____	2 to 2
12	Which of the following memory unit the processor can access rapidly: A)Main memory B) Virtual memory C) Cache memory D) Read Only memory	C
13	FIFO scheduling is (A) Fair-share scheduling (B) Deadline scheduling (C) Non-preemptive scheduling (D) Preemptive scheduling	C
14	A file control block contains the information about a) File Ownership b) File Permissions c) Location of file contents d) All of the mentioned	D

Qno	Question	Answer
15	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	B
16	Which of the following is not an operating system? A Windows B Linux C Oracle D DOS	C
17	The LRU algorithm A) Pages out pages that have been used recently B) Pages out pages that have not been used recently C) Pages out pages that have been least used recently D) Pages out the first page in a given area E) None of the above	C
18	Which is the linux Operating System ? a)Private Operating System b)Windows Operating System c)Open-source Operating System d)None of thes	C
19	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	B
20	A _____ allows a process to be pre-empted while it is running in kernel mode. a) Kernel mode b) Pre-emptive kernel mode c) Non pre-emptive kernel mode d) Critical section	B
21	If the page size increases, the internal fragmentation is also?..? A)Decreases B)Increases	B

Qno	Question	Answer
	C)Remains constant D)None of these	
22	Which one of the following is not shared by threads? a) program counter b)kerck c) both program counter and stack d) none of the mentioned	C
23	BIOS is used? A)By operating system B)By compiler C)By interpreter D)By application software	A
24	Banker's algorithm is used? A To prevent deadlock B To deadlock recovery C To solve the deadlock D None of these	A
25	Who provides the interface to access the services of the operating system? a. API b. System call c. Library d. Assembly instruction	B
26	In a time sharing operating system, when the time slot given to a process is completed, the process goes from running state to A)Blocked state B)Ready state C) Suspended state D)Terminated state	B
27	Where are placed the list of processes that are prepared to be executed and waiting? a. Job queue b. Ready queue c. Execution queue d. Process queue	B
28	The Basic Input Output System (BIOS) resides in a) RAM b) ROM c) The CPU d) Memory Cache	B

Qno	Question	Answer
29	The size of the virtual memory is based on which of the following b) CPU. b) RAM c). Address bus. d). Data bus	C
30	What is used to make a connection between two applications? a) Kernel b) Thread c) Socket	C
31	Which of the following is the major part of time taken when accessing data on the disk? A)Settle time B)Rotational latency C)Seek time D)Waiting time	C
32	Each process represented on the OS by a PCB is also called A) Control block B) Process block C) management block D) ALU	A
33	When does page fault occur? A.The page is present in memory. B.The deadlock occurs. C.The page does not present in memory. D.The buffering occurs.	C
34	Which of the following does not interrupt the running process? a)Timer interrupt b) Device c) Power failure d) Scheduler process	D
35	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	B
36	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	B

Qno	Question	Answer
37	Data blocks of very large file in the unix system are allocated using A.contigious allocation B.linked allocation C.indexed allocation D. An extension of indexed allocation	D
38	A program in execution is called a) A Paging b) A Process c) A virtual memory d) A Demand Page	B
39	What is POST a) Power on self test b) Power on start test c) Power off self test d) Power off start test	A
40	Piece of code that only one thread can execute at a time is called a) Mutual Exclusion b) Critical Section c) Synchronization d) All of them	B
41	Logical memory is broken into blocks of the same size called A) frames B) pages C) backing store D) none of the mentioned	B
42	What is the mean of the Booting in the operating system? A)Restarting computer B)Install the program C)To scan D) To turn off	A
43	If a page number is not found in the translation lookaside buffer, then it is known as a? A) Translation Lookaside Buffer miss B) Buffer miss C) Translation Lookaside Buffer hit D) All of the mentioned	A
44	When the entries in the segment tables of two different processes point to the same physical location ___	C

Qno	Question	Answer
	a) the segments are invalid b) the processes get blocked c) segments are shared d) all of the mentioned	
45	Banker’s algorithm is used in (A) Deadlock prevention (B) Deadlock avoidance (C) Deadlock detection (D) Deadlock recovery	B
46	A system contains three programs and each requires three tape units for its operation. The minimum number of tape units which the system must have such that deadlocks never arise is _____ (A)5 (B)8 (C)7 (D)10	C
47	Usage of Preemption and Transaction Rollback prevents A.Deadlock situation B.Data manipulation C.Unauthorised usage D.Other	A
48	What is the fence register used for?	To memory protection
49	The degree of multi programming is (A) The number of process executed per unit time (B) The number of process in the ready queue (C) The number of process in the I/O queue (D) The number of process in memory	D
50	What is the maximum length of the filename in DOS?	8
51	What is bootstrapping called? A Cold boot B Cold hot boot C Cold hot strap D Hot boot	A
52	Which of the following do not belong to queues for processes? a) Job Queue b) PCB queue c) Device Queue d) Ready Queue	B
53	A process which is copied from main memory to secondary memory on the basis of requirement is	Demand paging

Qno	Question	Answer
54	For which of the following purposes, Banker’s algorithm is used?	Preventing deadlock
55	Identify the system calls that on termination does not return control to the calling point.	exec
56	A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128-page table entries and is 4-way set associative. The minimum size of the TLB tag is	15 bits
57	Dirty bit is used to indicate which of the following?	A page has been modified after being loaded into cache
58	A system uses FIFO policy for page replacement. It has 4-page frames with no pages loaded to begin with. The system first accesses 100 distinct pages in some order and then accesses the same 100 pages but now in the reverse order. How many page faults will occur?	196
59	If a process is executing in its critical section, then no other processes can be executing in their critical section. What is this condition called?	mutual exclusion
60	What is a long-term scheduler?	It selects processes which have to be brought into the ready queue
61	A systematic procedure for moving the CPU to new process is known as-	Context Switching
62	In a virtual memory system, size of virtual address is 32-bit, size of physical address is 30-bit, page size is 4 Kbyte and size of each page table entry is 32-bit. The main memory is byte addressable. Which one of the following is the maximum number of bits that can be used for storing protection and other information in each page table entry?	14
63	Which of the following is not a primary function of an OS?	Database management
64	The bankers algorithm grants resource requests if a) The requested resources are immediately available b) The requested resources do not exceed the maximum	D

Qno	Question	Answer
	claim of the process c) The requested resources do not exceed the total resources available in the system d) All of the Above	
65	The bankers algorithm is applicable to which type of resource allocation problem?	Non preemptive resource allocation
66	The Dining philosphers problem can lead to a deadlock if	All philosphers try to pick up both chopsticks simulataneously
67	In the Dining philosphers problem, the maximum number of philosophers who can eat simultaneously without deadlock is	N-1, where n is the number of philosphers
68	Which memory management technique allows for efficient utilization of memory by allocation memory in variable sized blocks	Segmentation
69	A deadlock in an OS occurs when	A Process is unable to access a required resource indefinitely
70	Consider a system with four processes: P1, P2, P3, and P4. The arrival times and burst times for each process are given in the table below: Process Arrival Time Burst Time P1 0 4 P2 2 6 P3 4 8 P4 6 2 Assuming the scheduling algorithm is First-Come, First-Served (FCFS), what is the average waiting time for these processes? **Answer: c) 9.75** **Explanation: The waiting time for each process can be calculated by summing up the burst times of all previous processes. The waiting times for P1, P2, P3, and P4 are 0, 2, 6, and 12, respectively. The average waiting time is (0 + 2 + 6 + 12) / 4 = 9.75.**	9.75
71	Consider a system with three resource types (A,B,C) and 4 processes (P1,P2,P3,P4) The maximum resource allocation needs for each process are as follows. Process Max Allocation (A, B, C) P1 3, 1, 2 P2 2, 2, 3 P3 1, 3, 1 P4 4, 2, 1 The current resource allocation and the maximum available resources in the system are as follows: Process Allocation (A, B, C) Available (A, B, C) P1 1, 1, 0 2, 1, 1 P2 1, 0, 2 P3 1, 2, 1 P4 0, 1, 1 Using the Banker's algorithm, is the system in a safe state?	No

Qno	Question	Answer
72	Consider a system with five processes: P1, P2, P3, P4, and P5. The burst times for each process are given in the table below: Process Burst Time P1 8 P2 4 P3 9 P4 5 P5 2 Assuming the scheduling algorithm is Round Robin with a time quantum of 3, what is the turnaround time for process P3?	13
73	Consider 3 CPU-intensive processes, which require 10,20 and 30 time units and arrive at times 0,2, and 6 respectively. How many context switches are needed if the operating system implements shortest remaining time first scheduling algorithm? Do not count the context switches at time zero and at the end	1
74	Which of the following are not shared by threads of the same process a) Stack b) Registers c) Address space d) Message queue	D
75	The problem of indefinite blockage of low priority jobs in general priority scheduling algorithm can be solved using a) Swapping b) Dirty bit c) Aging d) Compaction	C
76	Which of the following are the advantage of multiprogramming? a) High end efficient CPU utilization b) CPU Scheduling is not required c) memory management is good d) All of the above	A
77	A memory management system has 64 pages with 512 bytes page size. Physical memory consists of 32 page frames Number of bits required in logical and physcial address are respectively a) 14 and 15 b) 14 and 29 c) 15 and 14 d) 16 and 32	C
78	Consider the reference string 0 1 2 3 0 1 4 0 1 2 3 4	A

Qno	Question	Answer
	If FIFO page replacement algorithm is used then the number of page faults with 3 page frames and 4 page frames are __ and __ respectively a) 10,9 b) 9,9 c) 10,10 d) 9,10	
79	Consider a disk queue with I/O requests on the following cylinders in their arriving order 6,10,12,54,97,73,128,15,44,110,34,45 The disk head is assumed to be at cylinder 23 and moving in the direction of decreasing number of cylinders. Total number of cylinders in the disk is 150, The disk head movement using SCAN scheduling algorithm is a) 172 b) 173 c) 151 d) 161	B
80	At a particular time of computation, the value of a counting semaphore is 10. Then 12 P operations and x V operations were performed on this semaphore. If the final value of semaphore is 7, x will be a) 8 b) 9 c) 10 d) 11	B
81	In the __ algorithm, the disk head moves from one end to other, servicing requests along the way. When the head reaches the other end. It immediately returns to the beginning of the disk without servicing any requests on the return trip	SCAN
82	Paging suffers from __ Fragmentation a) External b) Internal c) Physical d) All of the above	B