

6. A graph with "n" vertices and n-1 edges that is not a tree, is

- a) Connected
- b) Disconnected
- c) Euler
- d) A circuit

Ans.

7. If a graph requires k different colours for its proper colouring, then the chromatic number of the graph is

- a) 1
- b) k
- c) k-1
- d) k/2

Ans.



8. A read bit can be read

- a) and written by CPU
- b) and written by peripheral
- c) by peripheral and written by CPU
- d) by CPU and written by the peripheral

Ans.

10. The term "aging" refers to

- a) booting up the priority of a process in multi-level of queue without feedback.
- b) gradually increasing the priority of jobs that wait in the system for a long time to remedy infinite blocking.
- c) keeping track of the following a page has been in memory for the purpose of LRU replacement
- d) letting job reside in memory for a certain amount of time so that the number of pages required can be estimated accurately.

Ans.

11. Consider a set of  $n$  tasks with known runtimes  $r_1, r_2, \dots, r_n$  to be run on a uniprocessor machine. Which of the following processor scheduling algorithms will result in the maximum throughput?

- a) Round Robin
- b) Shortest job first
- c) Highest response ratio next
- d) first cum first served

Ans.

14. The principal of locality of reference justifies the use of

- a) virtual memory
- b) interrupts
- c) main memory
- d) cache memory



Ans.

15. What is the value of  $I$  at the end of the pseudocode?

- a) 4
- b) 5
- c) 6
- d) 7

Ans.

16. The five items: A, B, C, D, and E are pushed in a stack, one after the other starting from A. The stack is popped four times and each element is inserted in a queue. Then two elements are deleted from the queue and pushed back on the stack. Now one item is popped from the stack. The popped item is

- (a) A
- (b) B

- (c) C
- (d) D

Ans.

17. Round Robin scheduling is essentially the pre-emptive version of

- a) FIFO
- b) Shortest Job First
- c) shortest remaining time
- d) Longest remaining time

Ans.

18. The number of digit 1 present in the binary representation of  $3 \times 512 + 7 \times 64 + 5 \times 8 + 3$  is

- (a) 8
- (b) 9
- (c) 10
- (d) 12



Ans.

19. Assume that each character code consists of 8 bits. The number of characters that can be transmitted per second through an synchronous serial line at 2400 baud rate, and with two stop bits is

- (a) 109
- (b) 216
- (c) 218
- (d) 219

Ans.

20. If the bandwidth of a signal is 5 kHz and the lowest frequency is 52 kHz,

what is the highest frequency?

- (a) 5 kHz
- (b) 10 kHz
- (C) 47 kHz
- (d) 57 kHz

Ans.

**21. An Ethernet hub**

- (a) functions as a repeater
- (b) connects to a digital PBX
- (c) connects to a token-ring network
- (d) functions as a gateway

Ans.

**22. Phase transition for each bit are used in**

- (a) Amplitude modulation
- (b) Carrier modulation
- (C) Manchester encoding
- (d) NRZ encoding

Ans.

**23. Which of the following is printed as a result of the call demo (1234)?**

- a) 1441
- b) 3443
- C) 12344321
- d) 43211234

Ans.

24. **Bit stuffing** refers to

- (a) inserting a '0' in user stream to differentiate it with a flag
- (b) inserting a '0' in flag stream to avoid ambiguity
- (C) appending a nibble to the flag sequence
- (d) appending a nibble to the use data stream

Ans.

25. **What is the name of the technique in which the operating system of a computer executes several programs concurrently by switching back and forth between them?**

- (a) Partitioning
- (b) Multi tasking
- (C) Windowing
- (d) Paging

Ans.



26. **If there are five routers and six networks in an intranet using link state routing, how many routing tables are there?**

- (a) 1
- (b) 5
- (c) 6
- (d) 11

Ans.

27. **Virtual memory is**

- a) Part of Main Memory only used for swapping
- b) A technique to allow a program, of size more than the size of the main memory, to run
- C) Part of secondary storage used in program execution
- d) None of these

Ans.

**28. The level of aggregation of information required for operational control is**

- (a) Detailed
- (b) Aggregate
- (C) Qualitative
- (d) None of the above

Ans.

**30. 0.75 in decimal system is equivalent to \_\_\_\_\_ in octal system**

- a) 0.60
- b) 0.52
- C) 0.54
- d) 0.50

Ans.



**31. In an SR latch made by cross coupling two NAND gates, if both S and R inputs are set to 0, then it will result in**

- a)  $Q=0, Q0=1$
- b)  $Q=1, Q0=0$
- c)  $Q=1, Q0=1$
- d) Indeterminate states

Ans.

**33. Company X shipped 5 computer chips, 1 of which was defective, and Company Y shipped 4 computer chips, 2 of which were defective. One computer chip is to be chosen uniformly at random from the 9 chips shipped by the companies. If the chosen chip is found to be defective, what is the probability that the chip came from Company Y?**

- a) 2/9
- b) 4/9
- c) 2/3
- d) 1/2

Ans.

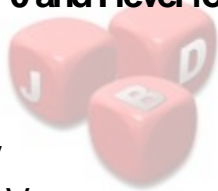
**34. Ring counter is analogous to**

- (a) Toggle Switch
- (b) Latch
- (C) Stepping Switch
- (d) S-R flip flop

Ans.

**35. The output 0 and 1 level for TTL Logic family is approximately** <sup>TM</sup>

- a) 0.1 and 5 V
- b) 0.6 and 3.5 V
- C) 0.9 and 1.75 V
- d) -1.75 and 0.9 V



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Ans.

**37. In comparison with static RAM memory, the dynamic RAM memory has**

- a) lower bit density and higher power consumption
- b) higher bit density and higher power consumption
- C) lower bit density and lower power consumption
- d) higher bit density and lower power consumption.

Ans.

**38 The Hexadecimal equivalent of 01111100110111100011 is**

- (a) CD73E
- (b) ABD3F
- (c) 7CDE3
- (d) FA4CD

Ans.

**39. Disk requests are received by a disk drive for cylinder 5, 25, 18, 3, 39, 8 and 35 in that order. A seek takes 5 msec per cylinder moved. How much seek time is needed to serve these requests for a Shortest Seek First (SSF) algorithm? Assume that the arm is at cylinder 0 when the last of these requests is made with none of the requests yet served**

- a) 125 msec
- b) 295 msec
- c) 575 msec
- d) 750 msec

Ans.



**40. Consider a system having 'm' resources of the same type. The resources are shared by 3 processes A,B,C which have peak time demands of 3,4,6 respectively. The minimum value of 'm' that ensures that deadlock will never occur is**

- (a) 11
- (b) 12
- (c) 13
- (d) 14

Ans.

**41. A task in a blocked state**

- a) is executable
- b) is running
- c) must still be placed in the run queues
- d) Is waiting for some temporarily unavailable resources.



Ans.

#### 42. Semaphores

- a) synchronize critical resources to prevent deadlock
- b) synchronize critical resources to prevent contention
- C) are used to do I/O
- d) are used for memory management.

Ans.

**43. On a system using non-preemptive scheduling, processes with expected run times of 5, 18, 9 and 12 are in the ready queue. In what order should they be run to minimize wait time?**

- (a) 5, 12, 9, 18
- (b) 5, 9, 12, 18
- (C )12, 18, 9, 5
- (d) 9, 12, 18, 5



Ans.

**44. The number of page frames that must be allocated to a running process in a virtual memory environment is determined by**

- a) the instruction set architecture
- b) page size
- c) number of processes in memory
- d) physical memory size

Ans.

**46 Consider a small 2-way set-associative cache memory, consisting of four blocks. For choosing the block to be replaced, use the least recently (LRU) scheme. The number of cache misses for the following sequence of block addresses is 8,12,0,12,8**

- a) 2
- b) 3
- c) 4
- d) 5

Ans.

**47. Which commands are used to control access over objects in relational database?**

- a) CASCADE & MMD
- b) GRANT & REVOKE
- c) QUE & QUIST
- d) None of these

Ans.

**48. Which of the following is aggregate function in SQL?**

- a) Avg
- b) Select
- c) Ordered by
- d) distinct

Ans.

**49. One approach to handling fuzzy logic data might be to design a computer using ternary (base..3) logic so that data could be stored as “true,” “false,” and “unknown.” if each ternary logic element is called a flit, how many *flits* are required to represent at least 256 different values?**

- a) 4
- b) 5
- c) 6
- d) 7

Ans.

**50. A view of a database that appears to an application program is known as**

- a) Schema
- b) Subschema
- c) Virtual table
- d) None of these

Ans.

**51 Armstrong's inference rule doesn't determine**

- a) Reflexivity
- b) Augmentation
- C) Transitivity
- d) Mutual dependency

Ans.



**52. Which operation is used to extract specified columns from a table?**

- a) Project
- b) Join
- C) Extract
- d) Substitute

Ans.

**53. In the Big- Endian system, the computer stores**

- a) MSB of data in the lowest memory address of data unit
- b) LSB of data in the lowest memory address of data unit
- C) MSB of data in the highest memory address of data unit
- d) LSB of data in the highest memory address of data unit

Ans.

**54. BCNF is not used for cases where a relation has**

- a) Two (or more) candidate keys
- b) Two candidate keys and composite
- c) The candidate key overlap
- d) Two mutually exclusive foreign keys

Ans.

**55. Selection sort algorithm design technique is an example of**

- a) Greedy method
- b) Divide-and-conquer
- c) Dynamic Programming
- d) Backtracking

Ans.

**56. Which of the following RAID level provides the highest Data Transfer Rate (Read / Write)**

- a) RAID 1
- b) RAID 3
- c) RAID 4
- d) RAID 5

Ans.

**57. Which of the following programming language(s) provides garbage collection automatically**

- a) Lisp
- b) C++
- c) Fortran
- d) C

Ans.

**60. Which of the following is correct with respect to Two phase commit protocol?**

- (a) Ensures serializability
- (b) Prevents Deadlock
- (C) Detects Deadlock
- (d) Recover from Deadlock

Ans.

**61 The Fibonacci sequence is the sequence of integers**

- a) 1, 3, 5, 7, 9, 11, 13
- b) 0, 1, 1, 2, 3, 5, 8, 13, 21, 54
- c) 0, 1, 3, 4, 7, 11, 18, 29, 47
- d) 0, 1, 3, 7, 15

Ans .

**62 Let X be the adjacency matrix of a graph G with no self loops. The entries along the principal diagonal of X are**

- (a) all zeros
- (b) all ones
- (C) both zeros and ones
- (d) different

Ans.

**63 Which of these is not a feature of WAP 2.0**

- (a) Push & Pull Model
- (b) Interface to a storage device

- (c) Multimedia messaging
- (d) Hashing

Ans.

#### 64 Feedback queues

- (a) are very simple to implement
- (b) dispatch tasks according to execution characteristics
- (C) are used to favour real time tasks
- (d) require manual intervention to implement properly

Ans.

#### 65 Which of the following is not a UML DIAGRAM?

- (a) Use Case
- (b) Class Diagram
- (c) Analysis Diagram
- (d) Swimlane Diagram



Ans.

#### 66 Silly Window Syndrome is related to

- (a) Error during transmission
- (b) File transfer protocol
- (c) Degrade in TCP performance
- (d) Interlace problem

Ans.

#### 67 To execute all loops at their boundaries and within their operational bounds is an example of

- (a) Black Box Testing
- (b) Alpha Testing
- (c) Recovery Testing
- (d) White Box Testing

Ans.

**68 SSL is not responsible for**

- (a) Mutual authentication of client & server
- (b) Secret communication
- (C) Data Integrity protection
- (d) Error detection & correction

Ans.

**69 A rule in a limited entry decision table is a**

- (a) row of the table consisting of condition entries
- (b) row of the table consisting of action entries
- (C) column of the table consisting of condition entries and the corresponding action entries
- (d) columns of the table consisting of conditions of the stub

Ans.

**70 The standard for certificates used on internet is**

- a) X.25
- b) X.301
- c) X.409
- d) X.509

Ans.

**71 Hashed message is signed by a sender using**

- a) his public key
- b) his private key
- C) receivers public key
- d) receivers private key

Ans.

**72 An email contains a textual birthday greeting, a picture of a cake, and a song. The order is not important. What is the content-type?**

- a) Multipart / mixed
- b) Multipart / parallel
- c) Multipart / digest
- d) Multipart / alternative

Ans.

**73 Range of IP Address from 224.0.0.0 to 239.255.256.255 are**

- a) Reserved for Loopback
- b) Reserved for broadcast
- C) Used for muticast packets
- d) Reserved for future addressing

Ans.

**74 IEEE 802.11 is standard for**

- a) Ethernet
- b) Bluetooth
- C) Broadband Wireless
- d) Wireless LANs

Ans.



**75 When a host on network A sends a message to a host on network B, which address does the router look at?**

- a) Port
- b) IP
- c) Physical
- d) Subnet mask

Ans.

**76 Which of the following is not an approach to Software Process Assessment?**

- a) SPICE (ISO/IEC 15504)
- b) Standard CMMI Assessment Method for process improvement
- c) ISO 9001 : 2000
- d) IEEE 2000:2001

Ans.



**77 A physical DFD specifies**

- a) what processes will be used
- b) who generates data and who processes it
- c) what each person in an organization does
- d) which data will be generated

Ans.

**78 In UML diagram of a class**

- a) state of object cannot be represented
- b) state is irrelevant
- c) state is represented as an attribute
- d) state is represented as a result of an operation

Ans.

**79 Which of the following models is used for software reliability?**

- a) Waterfall
- b) Musa
- c) COCOMO
- d) Rayleigh

Ans.

**80 Dijkstra's algorithm is used to**

- a) Create LSAs
- b) Flood an internet with information
- c) Calculate the routing tables
- d) Create a link state database

Ans.

