COMPUTER NETWORKS Multiple Choice Questions and Answers :-

1. If a datagram router goes down then .....
(A) all packets will suffer
(B) only those packets which are queued in the router at that time will suffer
(C) only those packets which are not queued in the router at that time will suffer
(D) no packets will suffer
Answer: B

2. In datagram subnet new route is chosen .....
(A) for every packet sent
(B) for all the packet sent
(C) only for the first packet
(D) for the packet which is not transmitted

Answer: A

3. The PSTN is an example of a ..... network.
(A) packet switched (B) circuit switched
(C) message switched (D) None of these
Answer: B

4. Each packet is routed independently in .....
(A) virtual circuit subnet (B) short circuit subnet
(C) datagram subnet (D) ATM subnet
Answer: C

5. For a connection oriented service, we need a .....
(A) virtual circuit subnet (B) short circuit subnet
(C) datagram subnet (D) wireless subnet
Answer: C

6. Which type of switching uses the entire capacity of a dedicated link?
(A) circuit switching
(B) datagram packet switching
(C) virtual circuit packet switching
(D) message switching
Answer: D

7. In ..... circuit switching, delivery of data is delayed because data must be stored and retrieved from RAM.
(A) space division (B) time division
(C) virtual (D) None of these
Answer: B

8. In ....., each packet of a message need not follow the same path from sender to receiver.
(A) circuit switching
(B) message switching
(C) virtual approach to packet switching
(D) datagram approach to packet switching
Answer: D

9. In ....., each packet of a message follows the same path from sender to receiver.
(A) circuit switching
(B) message switching
(C) virtual approach to packet switching
(D) datagram approach to packet switching
Answer: A

10. A permanent virtual circuit involves .....
(A) Connection establishment (B) Data transfer
(C) Connection release (D) Connection check
Answer: B

1. The set of optimal routes from all sources to a given destination from a tree rooted to the destination is known as .....

(A) Binary tree (B) Sparse tree
(C) Sink tree (D) AVL tree
Answer: C

2. Adaptive routing algorithms get their information from .....
(A) only from local environment
(B) only from adjacent routers
(C) from locally, adjacent, external routers
(D) only from external routers
Answer: C

3. If the route from I to J is computed in advance, off line, and downloaded to the routers when the network is booted is called as .....
(A) Dynamic routing (B) Session routing
(C) Temporary routing (D) Static routing
Answer: D

4. In Hierarchical routing for N router subnet, the optimal number of levels is .....
(A) logN (B) log(N -1)
(C) lnN (D) ln(N-1)
Answer: C

5. The router algorithm takes the decision to changes the route when .....
(A) router changes
(B) topology changes
(C) user changes
(D) transmission time does not change
Answer: B

6. If route from router I to router J is computed on line based on the current statistics, then it is called as .....
(A) Dynamic routing (B) Session routing
(C) Temporary routing (D) None of these
Answer: A

7. If the subnet uses virtual circuits internally, routing decisions are made only when a new virtual circuit is being setup. This is called as.....
(A) Session routing (B) Circuit routing
(C) Datagram routing (D) Forwarding
Answer: A

8. ..... change their routing decisions to reflect changes in the topology.
(A) Nonadaptive algorithms
(B) Adaptive algorithms
(C) Static algorithms
(D) Recursive algorithms
Answer: B

9. If router J is on the optimal path from router I to router K, then the path from J to K along the same route is .....
(A) does not exist (B) optimal
(C) maximum (D) constant
Answer: B

10. If router J is on the optimal path from router I to router K, then the optimal path from J to K also falls along the same route is known as .....
(A) Routing principle (B) Optimality principle
(C) Sink tree principle (D) Network principle
Answer: B

1. ..... do not base their routing decisions on measurements or estimates of the current traffic and topology.
(A) Non adaptive algorithms
(B) Adaptive algorithms
(C) Static algorithms
(D) Recursive algorithms
Answer: A

2. The method of network routing where every possible path between transmitting and receiving DTE is used is called

.....
(A) Random Routing (B) Packet Flooding
(C) Directory Routing (D) Message Switching
Answer: B

3. In Hierarchical routing, the routers are divided into what is called as .....
(A) zones (B) Cells
(C) Regions (D) None of these
Answer: C

4. The regions in Hierarchical routing are grouped in to .....
(A) Clusters (B) Zones
(C) Blocks (D) Cells
Answer: A

5. The Clusters in Hierarchical routing are grouped in to .....
(A) Clusters (B) Zones
(C) Blocks (D) Cells
Answer: B

6. If a router sends every incoming packet out only on those lines that are going approximately in the right direction is known as .....
(A) Random flooding (B) Static flooding
(C) Selective flooding (D) Early flooding
Answer: C

7. In shortest path routing algorithm, the path length is measured based on .....
(A) time delay (B) number of hops
(C) size of the routers (D) routing table
Answer: B

8. Flooding always choose the .....
(A) Shortest path (B) First path

(C) Last path (D) Largest path
Answer: A

9. In military applications where large number of routers may be blown to bits at any instant, we use .....
(A) Shortest path first (B) First come first serve
(C) Forwarding (D) Flooding
Answer: D

10. In distributed applications, it is sometimes necessary to update all the databases concurrently, we use .....
(A) Shortest path first
(B) First come first serve
(C) Forwarding
(D) Flooding
Answer: D

1. In multicast routing with spanning tree method, a network with n groups, each with an average of m members, for each group we require .....
(A) n pruned spanning trees must be stored for a total of mn trees
(B) m pruned spanning trees must be stored for a total of m trees
(C) n pruned spanning trees must be stored for a total of n trees
(D) m pruned spanning trees must be stored for a total of mn trees
Answer: D

2. To do multicast routing, each router computes a .....
(A) Binary tree (B) AVL tree
(C) Spanning tree (D) None of these
Answer: C

3. A well -defined groups that are numerically large in size but small compared to the network as a whole are used in

.....
(A) Unicast routing (B) Multicast routing
(C) Broadcast routing (D) Telecast routing
Answer: B

4. The processes that keep track of hosts whose home is in the area, but who currently visiting another area is .....
(A) Home agent (B) Mobile agent
(C) Foreign agent (D) User agent
Answer: A

5. In ..... to send a multicast message a host sends it to the core, which then does the multicast along the spanning tree.
(A) Core based Trees (B) AVL trees
(C) Binary trees (D) Sparse trees
Answer: A

6. Sending a packet to all destinations simultaneously is called .....
(A) Multicasting (B) Unicasting
(C) Telecasting (D) Broadcasting
Answer: D

7. A normal Flooding technique is an example of .....
(A) Multicasting (B) Unicasting
(C) Telecasting (D) Broadcasting
Answer: D

8. In Broadcast routing, if the router does not know anything all about spanning tree, ... method is preferred.
(A) Reverse Path forwarding (B) Multidestination
(C) Flooding (D) spanning tree
Answer: A

9. The method of Broadcast routing in which each packet contains either a list of destinations or a bit map indicating the desired destinations is .....

(A) Reverse Path forwarding (B) Spanning tree
(C) Multidestination (D) Flooding
Answer: C

10. Sending a message to a well defined group that are numerically large in size but small compared to the network as a whole is called .....
(A) Unicasting (B) Multicasting
(C) Broadcasting (D) None of these
Answer: B

COMPUTER NETWORKS Interview Questions and Answers :-

1. In link state routing, after the construction of link state packets new routes are computed using .....
(A) Bellman Ford algorithm (B) DES algorithm
(C) Dijkstra's algorithm (D) Leaky bucket algorithm
Answer: C

2. Count-to-Infinity problem occurs in .....
(A) distance vector routing (B) short path first
(C) link state routing (D) hierarchical routing
Answer: A

3. In distance vector routing algorithm, each router maintains a separate routing table with the following entries.
(A) preferred input line , estimated time
(B) preferred input line, estimated distance
(C) preferred output line, estimated time
(D) preferred output line, router
Answer: C

4. Link state packets are built in .....
(A) short path first (B) distance vector routing
(C) link state routing (D) hierarchical routing
Answer: B

5. In which routing method do all the routers have a common database?
(A) Distance Vector (B) Link Vector
(C) Shortest path (D) Link State
Answer: D

6. In distance vector routing algorithm, the routing tables are updated .....
(A) by exchanging information with the neighbours
(B) automatically
(C) using the backup database
(D) by the server
Answer: A

7. Distance vector routing algorithm is implemented in Internet as .....
(A) OSPF (B) RIP
(C) ARP (D) APR
Answer: B

8. Which of the following routing algorithm takes into account the current network load.
(A) broadcast (B) shortest path
(C) flooding (D) distance vector routing
Answer: D

9. In distance vector routing the delay metric is .....
(A) number of hops (B) geographical distance
(C) number of neighbours (D) queue length
Answer: D

10. In AODV routing algorithm for MANETs, the route is discovered at time
(A) only when the network is established
(B) in middle of the transmission
(C) when there is a need for route by the host
(D) when there is no need for route by the host
Answer: C

1. Military vehicles on a battlefield with no existing infrastructure will deploy ..... network.
(A) MANET (B) Cell Network
(C) LAN (D) Wi-Fi
Answer: A

2. The network in which all the nodes are symmetric and there is no central control or hierarchy is .....
(A) MANET (B) Client -Server Technology
(C) Peer-to-Peer (D) None of these
Answer: C

3. What is the type of network in which the topology change from time to time?
(A) Wi-Fi (B) Cell Network
(C) LAN (D) MANET
Answer: D

4. The processes that keep track of all mobile hosts visiting the area is .....
(A) Home agent (B) Mobile agent
(C) Foreign agent (D) User agent
Answer: C

5. The hosts which are basically stationary hosts who move from one fixed site to another from time to time but use the network only when they are physically connected to it are called .....
(A) Migratory hosts (B) Stationary hosts
(C) Mobile hosts (D) Random hosts
Answer: A

6. The hosts who compute on the run and want to maintain their connections as they move around .....
(A) Migratory hosts (B) Stationary hosts
(C) Mobile hosts (D) Random hosts
Answer: C

7. What is the type of network in which the routers themselves are mobile?
(A) Wide Area Network (B) Mobile Ad hoc Network
(C) Mobile Network (D) Local Area Network
Answer: B

8. What is the routing algorithm used in MANETs?
(A) Shortest Path First
(B) Routing Information Protocol
(C) Distance Vector Protocol
(D) Ad hoc On -demand Distance Vector Protocol
Answer: D

9. Why probe packets are transmitted in the network?
(A) to know about the capacity of the channel
(B) to count the number of host in the network
(C) to know about efficiency of the routing algorithm
(D) to know about the congestion
Answer: D

10. If the source deduces the existence of congestion by making local observations, such as the time needed for acknowledgements to come back is called as .....
(A) Explicit feedback algorithm (B) Implicit feedback algorithm
(C) Explicit forward algorithm (D) Implicit forward algorithm
Answer: B

1. Packet discard policy is implemented in .....
(A) Physical layer (B) Data link layer
(C) MAC layer (D) Network layer
Answer: D

2. The solution to decrease the load on the network when congestion occurs is .....
(A) splitting the traffic over multiple routes
(B) increasing the transmission power
(C) usage of spare routers
(D) denying service to the users

Answer: D

3. While booting the system the IP address is .....
(A) 1.1.1.1 (B) 1.1.0.0
(C) 0.0.1.1 (D) 0.0.0.0
Answer: D

4. In open loop congestion control techniques, the decisions are based on the .....
(A) without regard to the current state of the network
(B) with regard to the current state of the network
(C) with regard to the choice of the host
(D) without regard to the choice of the host
Answer: A

5. In closed loop congestion control techniques, the decisions are based on the .....
(A) concept of a feedback loop
(B) concept of a forward loop
(C) concept of current state of network
(D) None of these
Answer: A

6. .....is used to validate the identity of the message sender to the recipient
(A) Encryption (B) Decryption
(C) Digital certificate (D) None of these
Answer: C

7. When too many packets are present in the subnet, and performance degrades then it leads to .....
(A) Ingestion (B) Congestion
(C) Digestion (D) Diffusion
Answer: B

8. What is it goal of congestion control?
(A) making sure that subnet is not able to carry the offered traffic

(B) making sure that subnet will allow more than the offered packets
(C) making sure that subnet is able to carry the offered traffic
(D) making sure that subnet will not allow any traffic
Answer: C

9. The service of open loop congestion control technique is .....
(A) monitor the system to detect when and where congestion occurs
(B) when to accept new traffic
(C) pass the information to places where action can be taken
(D) adjusting the system to correct the problem
Answer: B

10. In ..... case higher bandwidth can be achieved.
(A) connectionless networks (B) connection oriented networks
(C) virtual circuit networks (D) optical networks
Answer: A

1. Time out determination policy is used in .....
(A) network layer (B) data link layer
(C) transport layer (D) application layer
Answer: C

2. In transport layer, End to End delivery is the movement of data from .....
(A) one station to the next station
(B) one network to the other network
(C) source to destination
(D) one router to another router
Answer: C

3. The service of closed loop congestion control technique is .....
(A) when to accept new traffic
(B) when to discard the packets
(C) monitor the system to detect when and where congestion

occurs
(D) which packets to discard
Answer: C

4. The solution to increase the capacity when congestion occurs is .....
(A) denying service to the users
(B) degrading the service to the users
(C) splitting traffic over multiple routes
(D) rescheduled the demands of the users
Answer: C

5. When routers are being inundated by packets that they cannot handle, they just throw them away is known as .....
(A) Jitter control (B) Random early detection
(C) Choke packets (D) Load shedding
Answer: D

6. Upon receipt of a bad segment, UDP .....
(A) It does flow control (B) It does error control
(C) Retransmission (D) It does not do flow and error control
Answer: D

7. When the source host receives the choke packet, then the source .....
(A) reduces the capacity of the line
(B) reduces the line utilization factor
(C) reduces the traffic generation
(D) rate reduces the threshold value
Answer: C

8. If the buffer fills and a packet segment is dropped, then dropping all the rest of the segments from that packet, since they will be useless anyway is called .....
(A) Priority dropping (B) Tail dropping
(C) Age based dropping (D) None of these
Answer: B

9. Flow control policy is implemented in .....
(A) network layer (B) transport layer
(C) application layer (D) physical layer
Answer: B

10. For applications such as audio and video streaming, the variation in the packet arrival times is called .....
(A) Random early detection (B) Jitter
(C) Delay difference (D) Load shedding
Answer: B

1. Which of the following is required to communicate between two computers?
(A) communications software
(B) protocol
(C) communication hardware
(D) all of above including access to transmission medium
Answer: D

2. Terminals are required for .....
(A) real-time, batch processing & time-sharing
(B) real time, time-sharing & distributed message processing
(C) real time, distributed processing & manager inquiry
(D) real-time, time sharing & message switching
Answer: D

3. The first collision free protocol is .....
(A) Binary countdown (B) Basic bitmap
(C) Reservation protocol (D) SAP
Answer: B

4. Sending of a IP packet from host 1 to host 2 where both are of same LAN but the packet is transferred through different intermediate LANs is called .....
(A) Tunnelling (B) Routing
(C) Diverting (D) Forwarding
Answer: A

5. LANs can be connected by a device called .....
(A) Routers (B) Modems
(C) Ethernet card (D) Bridges
Answer: D

6. In ..... all frames are given to the computer, not to those addressed.
(A) Promiscuous mode (B) Miscues mode
(C) Normal mode (D) Special Mode
Answer: A

7. ..... Algorithm is used in transparent bridges.
(A) Forward Learning (B) Backward Learning
(C) Reverse Backward Learning (D) Reverse Forward Learning
Answer: B

8. In ..... each packet of a message need not follow the same path From sender to receiver.
(A) Circuit switching
(B) message switching
(C) a virtual approach to packet switching
(D) The datagram approach to packet switching
Answer: D

89. FDDI is an acronym for .....
(A) Fast data delivery interface (B) Fiber distributed data interface
(C) Fiber distributed digital interface (D) fast distributed data interface
Answer: B

90. ..... bridge operates in promiscuous mode.
(A) Transparent bridge (B) Selective flooding
(C) Source Routing (D) Remote Bridges
Answer: A

91. The address field of a frame in HDLC protocol contains the address of the ..... station.

(A) primary (B) secondary
(C) tertiary (D) a station
Answer: B

92. In ..... transmission, the channel capacity is shared by both communicating devices at all times.
(A) Simplex (B) half-duplex
(C) full-duplex (D) automatic
Answer: C

93. The DNS name space is divided into non overlapping .....
(A) regions (B) blocks
(C) divisions (D) zones
Answer: D

94. Source routing bridges in the same LANs must have ..... bridge Number.
(A) Same (B) Different
(C) Source (D) Destination
Answer: B

95. Repeater function in the ..... layer.
(A) Physical (B) Data link
(C) Network (D) None of these
Answer: A

96. A repeater takes a weakened or corrupted signal and ..... it.
(A) Amplifies (B) Regenerates
(C) Resample (D) Reroute
Answer: B

97. The PSTN is an example of ..... network.
(A) packet-switched (B) circuit-switched
(C) message-switched (D) TSI
Answer: B

98. In a time division switch, a ..... governs the destination of a packet stored in RAM.
(A) TDM bus (B) cross bar
(C) cross point (D) control unit
Answer: D

99. How many cross points are needed in a single stage switch with 40 inputs and 50 outputs.
(A) 40 (B) 50
(C) 90 (D) 2000
Answer: D

100. The ..... of A TSI controls the order of delivering of slot values that are stored in RAM.
(A) cross bar (B) cross point
(C) control unit (D) transceiver
Answer: D

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10 THOUGHTS ON "100 TOP COMPUTER NETWORKS MULTIPLE CHOICE QUESTIONS AND ANSWERS"

pangulurulakshman
AUGUST 29, 2016 AT 9:52 AM
very very nice questions

Posted on November 16, 2015 by engineer 1 Comment

Computer Organization and Architecture Multiple Choice Questions and Answers :-

1. In Reverse Polish notation, expression A*B+C*D is written as
(A) AB*CD*+ (B) A*BCD*+ (C) AB*CD+* (D) A*B*CD+
Ans: A

2. SIMD represents an organization that _____.
(A) refers to a computer system capable of processing several programs at the same
time.
(B) represents organization of single computer containing a control unit, processor
unit and a memory unit.
(C) includes many processing units under the supervision of a common control unit
(D) none of the above.
Ans: C

3. Floating point representation is used to store
(A) Boolean values (B) whole numbers (C) real integers (D) integers
Ans: C

4. Suppose that a bus has 16 data lines and requires 4 cycles of 250 nsecs each to
transfer data. The bandwidth of this bus would be 2 Megabytes/sec. If the cycle time
of the bus was reduced to 125 nsecs and the number of cycles required for transfer
stayed the same what would the bandwidth of the bus?
(A) 1 Megabyte/sec (B) 4 Megabytes/sec
(C) 8 Megabytes/sec (D) 2 Megabytes/sec

Ans: D

5. Assembly language

(A) uses alphabetic codes in place of binary numbers used in machine language

(B) is the easiest language to write programs

(C) need not be translated into machine language

(D) None of these

Ans: A

6. In computers, subtraction is generally carried out by

(A) 9's complement (B) 10's complement

(C) 1's complement (D) 2's complement

Ans: D

7. The amount of time required to read a block of data from a disk into memory is
composed of seek time, rotational latency, and transfer time. Rotational latency
refers to

(A) the time its takes for the platter to make a full rotation

(B) the time it takes for the read-write head to move into position over the
appropriate track

(C) the time it takes for the platter to rotate the correct sector under the head

(D) none of the above

Ans: A

8. What characteristic of RAM memory makes it not suitable for permanent storage?

(A) too slow (B) unreliable (C) it is volatile (D) too bulky

Ans: C

9. Computers use addressing mode techniques for _____.

(A) giving programming versatility to the user by providing facilities as pointers to
memory counters for loop control

(B) to reduce no. of bits in the field of instruction

(C) specifying rules for modifying or interpreting address field of the instruction

(D) All the above

Ans: D
10. The circuit used to store one bit of data is known as
(A) Register (B) Encoder (C) Decoder (D) Flip Flop
Ans: D
11. (2FAOC) 16 is equivalent to
(A) (195 084) 10 (B) (001011111010 0000 1100) 2
(C) Both (A) and (B) (D) None of these
Ans: B
12. The average time required to reach a storage location in memory and obtain its
contents is called the
(A) seek time (B) turnaround time (C) access time (D) transfer time
Ans: C
13. Which of the following is not a weighted code?
(A) Decimal Number system (B) Excess 3-cod
(C) Binary number System (D) None of these
Ans: B
14. The idea of cache memory is based
(A) on the property of locality of reference (B) on the heuristic 90-10 rule
(C) on the fact that references generally tend to cluster (D) all of the above
Ans: A
15. Which of the following is lowest in memory hierarchy?
(A) Cache memory
(B) Secondary memory
(C) Registers
(D) RAM
(E) None of these
Ans (B) Secondary memory
16. The addressing mode used in an instruction of the form ADD X Y, is
(A) Absolute (B) indirect (C) index (D) none of these
Ans: C
17. If memory access takes 20 ns with cache and 110 ns with out it, then the ratio (
cache uses a 10 ns memory) is

(A) 93% (B) 90% (C) 88% (D) 87%
Ans: B
18. In a memory-mapped I/O system, which of the following will not be there?
(A) LDA (B) IN (C) ADD (D) OUT
Ans: A
19. In a vectored interrupt.
(A) the branch address is assigned to a fixed location in memory.
(B) the interrupting source supplies the branch information to the processor through
an interrupt vector.
(C) the branch address is obtained from a register in the processor
(D) none of the above
Ans: B
20. Von Neumann architecture is
(A) SISD (B) SIMD (C) MIMD (D) MISD
Ans: A
21. The circuit used to store one bit of data is known as
(A) Encoder (B) OR gate (C) Flip Flop (D) Decoder
Ans: C
22. Cache memory acts between
(A) CPU and RAM (B) RAM and ROM (C) CPU and Hard Disk
(D) None of these
Ans: A
23. Write Through technique is used in which memory for updating the data
(A) Virtual memory (B) Main memory
(C) Auxiliary memory (D) Cache memory
Ans: D
24. Generally Dynamic RAM is used as main memory in a computer system as it
(A) Consumes less power (B) has higher speed
(C) has lower cell density (D) needs refreshing circuitary
Ans: B
25. In signed-magnitude binary division, if the dividend is (11100) 2 and divisor is

(10011) 2 then the result is
(A) (00100) 2 (B) (10100) 2 (C) (11001) 2 (D) (01100) 2
Ans: B
26. Virtual memory consists of
(A) Static RAM (B) Dynamic RAM
(C) Magnetic memory (D) None of these
Ans: A
27. In a program using subroutine call instruction, it is necessary
(A) initialise program counter (B) Clear the accumulator
(C) Reset the microprocessor (D) Clear the instruction register
Ans: D
28. A Stack-organised Computer uses instruction of
(A) Indirect addressing (B) Two-addressing (C) Zero addressing
(D) Index addressing
Ans: C
29. If the main memory is of 8K bytes and the cache memory is of 2K words. It uses
associative mapping. Then each word of cache memory shall be
(A) 11 bits (B) 21 bits (C) 16 bits (D) 20 bits
Ans: C
30 A-Flip Flop can be converted into T-Flip Flop by using additional logic circuit
(A) n TQD =• (B) T D = (C) D = T . Q n (D) n TQD =?
Ans: D
31. Logic X-OR operation of (4ACO) H & (B53F) H results
(A) AACB (B) 0000 (C) FFFF (D) ABCD
Ans: C
32. When CPU is executing a Program that is part of the Operating System, it is said to
be in (A) Interrupt mode (B) System mode (C) Half mode (D) Simplex mode
Ans: B
33. An n-bit microprocessor has
(A) n-bit program counter (B) n-bit address register
(C) n-bit ALU (D) n-bit instruction register
Ans: D
34. Cache memory works on the principle of

(A) Locality of data (B) Locality of memory
(C) Locality of reference (D) Locality of reference & memory
Ans: C

35. The main memory in a Personal Computer (PC) is made of
(A) cache memory. (B) static RAM
(C) Dynamic Ram (D) both (A) and (B) .
Ans: D

36. In computers, subtraction is carried out generally by
(A) 1's complement method (B) 2's complement method
(C) signed magnitude method (D) BCD subtraction method
Ans: B

37. PSW is saved in stack when there is a
(A) interrupt recognised (B) execution of RST instruction
(C) Execution of CALL instruction (D) All of these
Ans: A

38. The multiplicand register & multiplier register of a hardware circuit implementing
booth's algorithm have (11101) & (1100). The result shall be
(A) (812) 10 (B) (-12) 10 (C) (12) 10 (D) (-812) 10
Ans: A

39. The circuit converting binary data in to decimal is
(A) Encoder (B) Multiplexer (C) Decoder (D) Code converter
Ans: D

40. A three input NOR gate gives logic high output only when
(A) one input is high (B) one input is low
(C) two input are low (D) all input are high
Ans: D

41. n bits in operation code imply that there are _____ possible distinct
operators (A) 2n (B) 2n (C) n/2 (D) n2
Ans: B

42. _____ register keeps tracks of the instructions stored in program stored in
memory.
(A) AR (Address Register) (B) XR (Index Register)
(C) PC (Program Counter) (D) AC (Accumulator)
Ans: C

43. Memory unit accessed by content is called

(A) Read only memory (B) Programmable Memory
(C) Virtual Memory (D) Associative Memory
Ans: D
44. 'Aging registers' are
(A) Counters which indicate how long ago their associated pages have been
referenced.
(B) Registers which keep track of when the program was last accessed.
(C) Counters to keep track of last accessed instruction.
(D) Counters to keep track of the latest data structures referred.
Ans: A
45 The instruction 'ORG O' is a
(A) Machine Instruction. (B) Pseudo instruction.
(C) High level instruction. (D) Memory instruction.
Ans: B
46 Translation from symbolic program into Binary is done in
(A) Two passes. (B) Directly (C) Three passes. (D) Four passes.
Ans: A
47 A floating point number that has a O in the MSB of mantissa is said to have
(A) Overflow (B) Underflow (C) Important number (D) Undefined
Ans: B
48 The BSA instruction is
(A) Branch and store accumulator (B) Branch and save return address
(C) Branch and shift address (D) Branch and show accumulator
Ans: B
49 State whether True or False.
(i) Arithmetic operations with fixed point numbers take longer time for execution as
compared to with floating point numbers.
Ans: True.
(ii) An arithmetic shift left multiplies a signed binary number by 2.
Ans: False.

50 Logic gates with a set of input and outputs is arrangement of
(A) Combinational circuit (B) Logic circuit (C) Design circuits (D) Register
Ans: A
51. MIMD stands for
(A) Multiple instruction multiple data (B) Multiple instruction memory data
(C) Memory instruction multiple data (D) Multiple information memory data
Ans: A
52 A k-bit field can specify any one of
(A) 3k registers (B) 2k registers
(C) K2 registers (D) K3 registers
Ans: B
53 The time interval between adjacent bits is called the
(A) Word-time (B) Bit-time (C) Turn around time (D) Slice time
Ans: B
54 A group of bits that tell the computer to perform a specific operation is known as
(A) Instruction code (B) Micro-operation (C) Accumulator (D) Register
Ans: A
55 The load instruction is mostly used to designate a transfer from memory to a
processor register known as
(A) Accumulator (B) Instruction Register
(C) Program counter (D) Memory address Register
Ans: A
56 The communication between the components in a microcomputer takes place via
the address and
(A) I/O bus (B) Data bus (C) Address bus (D) Control lines
Ans: B
57 An instruction pipeline can be implemented by means of
(A) LIFO buffer (B) FIFO buffer (C) Stack (D) None of the above
Ans: B

58 Data input command is just the opposite of a
(A) Test command (B) Control command (C) Data output (D) Data channel
Ans: C
59 A microprogram sequencer
(A) generates the address of next micro instruction to be executed.
(B) generates the control signals to execute a microinstruction.
(C) sequentially averages all microinstructions in the control memory.
(D) enables the efficient handling of a micro program subroutine.
Ans: A
60 . A binary digit is called a
(A) Bit (B) Byte (C) Number (D) Character
Ans: A
61 A flip-flop is a binary cell capable of storing information of
(A) One bit (B) Byte (C) Zero bit (D) Eight bit
Ans: A
62 The operation executed on data stored in registers is called
(A) Macro-operation (B) Micro-operation
(C) Bit-operation (D) Byte-operation
Ans: B
63 MRI indicates
(A) Memory Reference Information. (B) Memory Reference Instruction.
(C) Memory Registers Instruction. (D) Memory Register information
Ans: B
64 Self-contained sequence of instructions that performs a given computational task is
called
(A) Function (B) Procedure (C) Subroutine (D) Routine
Ans: A
65 Microinstructions are stored in control memory groups, with each group specifying a
(A) Routine (B) Subroutine (C) Vector (D) Address
Ans: A

66 An interface that provides a method for transferring binary information between
internal storage and external devices is called
(A) I/O interface (B) Input interface (C) Output interface (D) I/O bus
Ans: A
67 Status bit is also called
(A) Binary bit (B) Flag bit (C) Signed bit (D) Unsigned bit
Ans: B
68 An address in main memory is called
(A) Physical address (B) Logical address (C) Memory address (D) Word address
Ans: A
69 If the value V(x) of the target operand is contained in the address field itself, the
addressing mode is
(A) immediate. (B) direct. (C) indirect. (D) implied.
Ans: B
70 can be represented in a signed magnitude format and in a 1's complement format as
(A) 111011 & 100100 (B) 100100 & 111011
(C) 011011 & 100100 (D) 100100 & 011011
Ans: A
71 The instructions which copy information from one location to another either in the
processor's internal register set or in the external main memory are called
(A) Data transfer instructions. (B) Program control instructions.
(C) Input-output instructions. (D) Logical instructions.
Ans: A
72 A device/circuit that goes through a predefined sequence of states upon the
application of input pulses is called
(A) register (B) flip-flop (C) transistor. (D) counter.
Ans: D
73. The performance of cache memory is frequently measured in terms of a quantity

called
(A) Miss ratio. (B) Hit ratio. (C) Latency ratio. (D) Read ratio.
Ans: C
74. The information available in a state table may be represented graphically in a
(A) simple diagram. (B) state diagram. (C) complex diagram. (D) data flow diagram.
Ans: B
75 Content of the program counter is added to the address part of the instruction in
order to obtain the effective address is called.
(A) relative address mode. (B) index addressing mode.
(C) register mode. (D) implied mode.
Ans: A
76 An interface that provides I/O transfer of data directly to and form the memory unit
and peripheral is termed as
(A) DDA. (B) Serial interface. (C) BR. (D) DMA.
Ans: D
77 The 2s compliment form (Use 6 bit word) of the number 1010 is
(A) 111100. (B) 110110. (C) 110111. (D) 1011.
Ans: B
78 A register capable of shifting its binary information either to the right or the left is
called a
(A) parallel register. (B) serial register. (C) shift register. (D) storage register.
Ans: C
79 What is the content of Stack Pointer (SP)?
(A) Address of the current instruction (B) Address of the next instruction
(C) Address of the top element of the stack (D) Size of the stack.
Ans: C
80 Which of the following interrupt is non maskable
(A) INTR. (B) RST 7.5. (C) RST 6.5. (D) TRAP.
Ans: D

81 Which of the following is a main memory
(A) Secondary memory. (B) Auxiliary memory.
(C) Cache memory. (D) Virtual memory.
Ans: C
82 Which of the following are not a machine instructions
(A) MOV. (B) ORG. (C) END. (D) (B) & (C) .
Ans: D
83 In Assembly language programming, minimum number of operands required for an
instruction is/are
(A) Zero. (B) One. (C) Two. (D) Both (B) & (C) .
Ans: A
84 The maximum addressing capacity of a micro processor which uses 16 bit database &
32 bit address base is
(A) 64 K. (B) 4 GB. (C) both (A) & (B) . (D) None of these.
Ans: B
85 The memory unit that communicates directly with the CPU is called the
(A) main memory (B) Secondary memory
(C) shared memory (D) auxiliary memory.
Ans: A
86 The average time required to reach a storage location in memory and obtain its
contents is called
(A) Latency time. (B) Access time.
(C) Turnaround time. (D) Response time.
Ans: B
State True or False
87 A byte is a group of 16 bits.
Ans: False
88 A nibble is a group of 16 bits.
Ans: False
89 When a word is to be written in an associative memory, address has got to be
given.
Ans: False
90 When two equal numbers are subtracted, the result would

be _____and
not_____.
Ans: +ZERO, -ZERO.
91 A _____development system and an _____are essential tools for writing
large assembly language programs.
Ans: Microprocessor, assembler
92 In an operation performed by the ALU, carry bit is set to 1 if the end carry C 8 is
_____. It is cleared to 0 (zero) if the carry is _____
_____.
Ans: One, zero
93 A successive A/D converter is
(A) a high-speed converter. (B) a low speed converter.
(C) a medium speed converter. (D) none of these.
Ans: C
94 When necessary, the results are transferred from the CPU to main memory by
(A) I/O devices. (B) CPU. (C) shift registers. (D) none of these.
Ans: C
96 A combinational logic circuit which sends data coming from a single source to two
or more separate destinations is
(A) Decoder. (B) Encoder. (C) Multiplexer. (D) Demultiplexer.
Ans: D
97 In which addressing mode the operand is given explicitly in the instruction
(A) Absolute. (B) Immediate . (C) Indirect. (D) Direct.
Ans: B
98 A stack organized computer has
(A) Three-address Instruction. (B) Two-address Instruction.
(C) One-address Instruction. (D) Zero-address Instruction.
Ans: D
99 A Program Counter contains a number 825 and address part of the instruction
contains the number 24. The effective address in the relative address mode, when
an instruction is read from the memory is

(A) 849. (B) 850. (C) 801. (D) 802.
Ans: B
102 A page fault
(A) Occurs when there is an error in a specific page.
(B) Occurs when a program accesses a page of main memory.
(C) Occurs when a program accesses a page not currently in main memory.
(D) Occurs when a program accesses a page belonging to another program.
Ans: C
103. The load instruction is mostly used to designate a transfer from memory to a
processor register known as_____.
A. Accumulator B. Instruction Register
C. Program counter D. Memory address Register
Ans: A
104. A group of bits that tell the computer to perform a specific operation is
known as_____.
A. Instruction code B. Micro-operation
C. Accumulator D. Register
Ans: A
105. The time interval between adjacent bits is called
the_____.
A. Word-time B. Bit-time
C. Turn around time D. Slice time
Ans: B
106. A k-bit field can specify any one of_____.
A. 3k registers B. 2k registers
C. K2 registers D. K3 registers
Ans: B
107. MIMD stands for _____.
A. Multiple instruction multiple data
B. Multiple instruction memory data
C. Memory instruction multiple data
D. Multiple information memory data
Ans: A
108. Logic gates with a set of input and outputs is arrangement

of_____.
A. Computational circuit
B. Logic circuit
C. Design circuits
D. Register
Ans: A
109. The average time required to reach a storage location in memory and obtain
its contents is called_____.
A. Latency time. B. Access time.
C. Turnaround time. D. Response time.
Ans: B
110. The BSA instruction is_____.
A. Branch and store accumulator B. Branch and save return address
C. Branch and shift address D. Branch and show accumulator
Ans: B
111. A floating point number that has a O in the MSB of mantissa is said to
have_____.
A. Overflow B. Underflow
C. Important number D. Undefined
Ans: B
112. Translation from symbolic program into Binary is done in_____.
A. Two passes. B. Directly
C. Three passes. D. Four passes.
Ans: A
113. The instruction 'ORG O' is a_____.
A. Machine Instruction. B. Pseudo instruction.
C. High level instruction. D. Memory instruction.
Ans: B
114. 'Aging registers' are _____.
A. Counters which indicate how long ago their associated pages have been
referenced.
B. Registers which keep track of when the program was last accessed.

C. Counters to keep track of last accessed instruction.
D. Counters to keep track of the latest data structures referred.
Ans: A
115. Memory unit accessed by content is called_____.
A. Read only memory B. Programmable Memory
C. Virtual Memory D. Associative Memory
Ans: D
116. _____ register keeps tracks of the instructions stored in program stored
in memory.
A. AR (Address Register) B. XR (Index Register)
C. PC (Program Counter) D. AC (Accumulator)
Ans: C
117. n bits in operation code imply that there are _____ possible distinct
operators.
A. 2n B. 2n
C. n/2 D. n2
Ans: B
118. A three input NOR gate gives logic high output only when_____.
A. one input is high B. one input is low
C. two input are low D. all input are high
Ans: D
119. The circuit converting binary data in to decimal is_____.
A. Encoder B. Multiplexer
C. Decoder D.Code converter
Ans: D
120. The multiplicand register & multiplier register of a hardware circuit
implementing booth's algorithm have (11101) & (1100). The result shall be _____.
A. (812)10 B. (-12)10
C. (12)10 D. (-812)10
Ans: A
121. PSW is saved in stack when there is a _____.
A. interrupt recognized B. execution of RST instruction
C. Execution of CALL instruction D. All of these

Ans: A

122. In computers, subtraction is carried out generally by_____.

A. 1's complement method B. 2's complement method

C. signed magnitude method D. BCD subtraction method

Ans: B

123. The main memory in a Personal Computer (PC) is made of_____.

A. cache memory. B. static RAM

C. Dynamic Ram D. bothA.and (B).

Ans: D

124. Cache memory works on the principle of_____.

A. Locality of data B. Locality of memory

C. Locality of reference D. Locality of reference & memory

Ans: C

125. An n-bit microprocessor has_____.

A. n-bit program counter B. n-bit address register

C. n-bit ALU D. n-bit instruction register

Ans: D

126. When CPU is executing a Program that is part of the Operating System, it is

said to be in _____.

A. Interrupt mode B. System mode

C. Half mode D. Simplex mode

Ans: B

127. Logic X-OR operation of (4ACO)H& (B53F)H results _____.

A. AACB B. 0000

C. FFFF D. ABCD

Ans: C

128. If the main memory is of 8K bytes and the cache memory is of 2K words. It

uses associative mapping. Then each word of cache memory shall be_____.

A. 11 bits B. 21 bits

C. 16 bits D. 20 bits

Ans: C

129. A Stack-organised Computer uses instruction of _____.

A. Indirect addressing B. Two-addressing

C. Zero addressing D. Index addressing
Ans: C
130. In a program using subroutine call instruction, it is necessary_____.
A. initialize program counter B. Clear the accumulator
C. Reset the microprocessor D. Clear the instruction register
Ans: D
131. Virtual memory consists of _____.
A. Static RAM B. Dynamic RAM
C. Magnetic memory D. None of these
Ans: A
132. In signed-magnitude binary division, if the dividend is (11100)2 and divisor is
(10011)2 then the result is _____.
A. (00100)2 B. (10100)2
C. (11001)2 D. (01100)2
Ans: B
133. Generally Dynamic RAM is used as main memory in a computer system as
it_____.
A. Consumes less power B. has higher speed
C. has lower cell density D. needs refreshing circuitry
Ans: B
134. Write Through technique is used in which memory for updating the data
_____.
A. Virtual memory B. Main memory
C. Auxiliary memory D. Cache memory
Ans: D
135. Cache memory acts between_____.
A. CPU and RAM B. RAM and ROM
C. CPU and Hard Disk D. None of these
Ans: A
136. The circuit used to store one bit of data is known as
_____.
A. Encoder B. OR gate
C. Flip Flop D. Decoder
Ans: C

137. Von Neumann architecture is _____.
A. SISD B. SIMD
C. MIMD D. MISD
Ans: A
138. In a vectored interrupt.
A. the branch address is assigned to a fixed location in memory.
B. the interrupting source supplies the branch information to the processor through
an interrupt vector.
C. the branch address is obtained from a register in the processor
D. none of the above
Ans: B
139. . In a memory-mapped I/O system, which of the following will not be there?
A. LDA B. IN
C. ADD D. OUT
Ans: A
140. If memory access takes 20 ns with cache and 110 ns without it, then the ratio
(cache uses a 10 ns memory) is _____.
A. 93% B. 90%
C. 88% D. 87%
Ans: B
141. The addressing mode used in an instruction of the form ADD X Y, is _____.
A. Absolute B. indirect
C. index D. none of these
Ans: C
142. _____ register keeps track of the instructions stored in program stored
in memory.
A. AR (Address Register) B. XR (Index Register)
C. PC (Program Counter) D. AC (Accumulator)
Ans: C
143. The idea of cache memory is based _____.
A. on the property of locality of reference

B. on the heuristic 90-10 rule
C. on the fact that references generally tend to cluster
D. all of the above
Ans: A
144. Which of the following is not a weighted code?
A. Decimal Number system B. Excess 3-cod
C. Binary number System D. None of these
Ans: B
145. The average time required to reach a storage location in memory and obtain
its contents is called the _____.
A. seek time B. turnaround time
C. access time D. transfer time
Ans: C
146. (2FAOC)16 is equivalent to _____.
A. (195 084)10 B. (001011111010 0000 1100)2
C. Both A.and (B) D. None of these
Ans: B
147. The circuit used to store one bit of data is known as_____.
A. Register B. Encoder
C. Decoder D. Flip Flop
Ans: D
148. . Computers use addressing mode techniques for _____.
A. giving programming versatility to the user by providing facilities as pointers to
memory counters for loop control
B. to reduce no. of bits in the field of instruction
C. specifying rules for modifying or interpreting address field of the instruction
D. All the above
Ans: D
149. What characteristic of RAM memory makes it not suitable for permanent
storage?
A. too slow B. unreliable
C. it is volatile D. too bulky

Ans: C

150. The amount of time required to read a block of data from a disk into memory
is composed of seek time, rotational latency, and transfer time. Rotational latency
refers to _____.

A. the time its takes for the platter to make a full rotation
B. the time it takes for the read-write head to move into position over the
appropriate track
C. the time it takes for the platter to rotate the correct sector under the head
D. none of the above

Ans: A

Computer Organization and Architecture Multiple Choice Questions and Answers :-

151. In computers, subtraction is generally carried out by _____.

A. 9's complement B. 10's complement
C. 1's complement D. 2's complement

Ans: D

152. Assembly language _____.

a. uses alphabetic codes in place of binary numbers used in machine language
b. is the easiest language to write programs
c. need not be translated into machine language
d. None of these

Ans: A

153. Suppose that a bus has 16 data lines and requires 4 cycles of 250 nsecs each
to transfer data. The bandwidth of this bus would be 2 Megabytes/sec. If the cycle
time of the bus was reduced to 125 nsecs and the number of cycles required for
transfer stayed the same what would the bandwidth of the bus?

A. 1 Megabyte/sec B. 4 Megabytes/sec

C. 8 Megabytes/sec D. 2 Megabytes/sec
Ans: D
154. Floating point representation is used to store _____.
A. Boolean values B. whole numbers
C. real integers D. integers
Ans: C
155. SIMD represents an organization that _____.
a. refers to a computer system capable of processing several programs at the same
time.
b. represents organization of single computer containing a control unit, processor
unit and a memory unit.
c. includes many processing units under the supervision of a common control unit
d. none of the above.
Ans: C
156. In Reverse Polish notation, expression A*B+C*D is written as
A. AB*CD*+ B. A*BCD*+
C. AB*CD+* D. A*B*CD+
Ans: A
157. Processors of all computers, whether micro, mini or mainframe must have
a. ALU b. Primary Storage
c. Control unit d. All of above
Ans b
158. What is the control unit's function in the CPU?
a. To transfer data to primary storage
b. to store program instruction
c. to perform logic operations
d. to decode program instruction
Ans e
159. What is meant by a dedicated computer?
a. which is used by one person only
b. which is assigned to one and only one task
c. which does one kind of software

d. which is meant for application software only
Ans f
160. The most common addressing techiniques employed by a CPU is
a. immediate b. direct
c. indirect d. register e. all of the above
Ans d
161. Pipeline implement
a. fetch instruction b. decode instruction
c. fetch operand d. calculate operand
e. execute instruction f. all of abve
Ans d
162. Which of the following code is used in present day computing was developed
by IBM corporation?
a. ASCII b. Hollerith Code
c. Baudot code d. EBCDIC code
Ans d
163. When a subroutine is called, the address of the instruction following the CALL
instructions stored in/on the
a. stack pointer b. accumulator
c. program counter d. stack
Ans d
164. A microprogram written as string of 0's and 1's is a
a. symbolic microinstruction b. binary microinstruction
c. symbolic microprogram d. binary microprogram
Ans d
165. Interrupts which are initiated by an instruction are
a. internal b. external c. hardware d. software
Ans b
166. Memory access in RISC architecture is limited to instructions
a. CALL and RET b. PUSH and POP
c. STA and LDA d. MOV and JMP
Ans c
167. A collection of lines that connects several devices is called
.....

A) bus B) peripheral connection wires
C) Both a and b D) internal wires
Ans A
168. A complete microcomputer system consist of .....
A) microprocessor B) memory
C) peripheral equipment D) all of the above
Ans D
169. PC Program Counter is also called .....
A) instruction pointer B) memory pointer
C) data counter D) file pointer
Ans A
170. In a single byte how many bits will be there?
A) 8 B) 16 C) 4 D) 32
Ans A
171. CPU does not perform the operation .....
A) data transfer B) logic operation
C) arithmetic operation D) all of the above
Ans A
172. The access time of memory is ..... the time required for performing
any single CPU operation.
A) Longer thanB) Shorter than
C) Negligible than D) Same as
Ans A
173. Memory address refers to the successive memory words and the machine is
called as .....
A) word addressable B) byte addressable
C) bit addressable D) Tera byte addressable
Ans A
174. A microprogram written as string of 0's and 1's is a .....
A) Symbolic microinstruction B) binary microinstruction
C) symbolic microinstruction D) binary microprogram
Ans D
175. A pipeline is like .....
A) an automobile assembly line B) house pipeline
C) both a and b D) a gas line

Ans A

176. Data hazards occur when .....

A) Greater performance loss

B) Pipeline changes the order of read/write access to operands

C) Some functional unit is not fully pipelined

D) Machine size is limited

Ans B

177. Where does a computer add and compare data?

A. Hard disk B. Floppy disk

C. CPU chip D:Memory chip

Ans C

178. Which of the following registers is used to keep track of address of the

memory location where the next instruction is located?

A. Memory Address Register

B. Memory Data Register

C. Instruction Register

D. Program Register

Ans D

179. A complete microcomputer system consists of

A) microprocessor

B) memory

C) peripheral equipment

D) all of above

Ans D

180. CPU does not perform the operation

A. data transfer

B. logic operation

C. arithmetic operation

D. all of above

Ans B

181. Pipelining strategy is called implement

A. instruction execution

B. instruction prefetch

C. instruction decoding

D. instruction manipulation

Ans C

182. A stack is

A. an 8-bit register in the microprocessor
B. a 16-bit register in the microprocessor
C. a set of memory locations in R/WM reserved for storing information temporarily
during the execution of computer
D. a 16-bit memory address stored in the program counter
Ans A
183. A stack pointer is
A. a 16-bit register in the microprocessor that indicate the beginning of the stack
memory.
B. a register that decodes and executes 16-bit arithmetic expression.
C. The first memory location where a subroutine address is stored.
D. a register in which flag bits are stored
Ans A
184. The branch logic that provides decision making capabilities in the control
unit is known as
A. controlled transfer
B. conditional transfer
C. unconditional transfer
D. none of above
Ans C
185. Interrupts which are initiated by an instruction are
A. internal
B. external
C. hardware
D. software
Ans D
186. A time sharing system imply
A. more than one processor in the system
B. more than one program in memory
C. more than one memory in the system
D. None of above
Ans B
187.Virtual memory is –

(1) an extremely large main memory
(2) an extremely large secondary memory
(3) an illusion of an extremely large memory
(4) a type of memory used in super computers
(5) None of these
Answers:
3
188.Fragmentation is –
(1) dividing the secondary memory into equal sized f ragments
(2) dividing the main memory into equal size f ragments
(3) f ragments of memory words used in a page
(4) f ragments of memory words unused in a page
(5) None of these
Answers:: 2
189.Which memory unit has lowest access time?
(1) Cache (2) Registers
(3) Magnetic Disk (4) Main Memory
(5) Pen drive
Answer :2
190.Cache memory-
(1) has greater capacity than RAM
(2) is f aster to access than CPU Registers
(3) is permanent storage
(4) f aster to access than RAM
(5) None of these
Answer 4
191.When more than one processes are running concurrently on a system-
(1) batched system
(2) real-time system
(3) multi programming system
(4) multiprocessing system
(5) None of these
Answers:
3
192.Which of the following memories must be refreshed many times per second?
a. Static RAM b. Dynamic RAM c. EPROM

d. ROM e. None of these
ans Static RAM
193.RAM stands for
a. Random origin money b. Random only memory
c. Read only memory d. Random access memory
e. None of these
ans Random access memory
194.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.
195.A memory buffer used to accommodate a speed differential is called
a) stack pointer
b) cache
c) accumulator
d) disk buffer
Answer:b.
196.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.
197.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.
198.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
199.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
200.Program always deals with
a) logical address
b) absolute address
c) physical address
d) relative address
Answer:a

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sai
SEPTEMBER 11, 2016 AT 9:26 AM
165 ans d

Q.1 to Q.25 carry one mark each.

Q.1 A binary operation $\oplus$ on a set of integers is defined as $x \oplus y = x^2 + y^2$. Which one of the following statements is **TRUE** about $\oplus$?

(A) Commutative but not associative
(B) Both commutative and associative
(C) Associative but not commutative
(D) Neither commutative nor associative

Q.2 Suppose p is the number of cars per minute passing through a certain road junction between 5 PM and 6 PM, and p has a Poisson distribution with mean 3. What is the probability of observing fewer than 3 cars during any given minute in this interval?

(A) $8/(2e^3)$ (B) $9/(2e^3)$ (C) $17/(2e^3)$ (D) $26/(2e^3)$

Q.3 Which one of the following does **NOT** equal $\begin{vmatrix} 1 & x & x^2 \\ 1 & y & y^2 \\ 1 & z & z^2 \end{vmatrix}$?

(A) $\begin{vmatrix} 1 & x(x+1) & x+1 \\ 1 & y(y+1) & y+1 \\ 1 & z(z+1) & z+1 \end{vmatrix}$

(B) $\begin{vmatrix} 1 & x+1 & x^2+1 \\ 1 & y+1 & y^2+1 \\ 1 & z+1 & z^2+1 \end{vmatrix}$

(C) $\begin{vmatrix} 0 & x-y & x^2-y^2 \\ 0 & y-z & y^2-z^2 \\ 1 & z & z^2 \end{vmatrix}$

(D) $\begin{vmatrix} 2 & x+y & x^2+y^2 \\ 2 & y+z & y^2+z^2 \\ 1 & z & z^2 \end{vmatrix}$

Q.4 The smallest integer that can be represented by an 8-bit number in 2's complement form is

(A) -256 (B) -128 (C) -127 (D) 0

Q.5 In the following truth table, V = 1 if and only if the input is valid.

Inputs				Outputs		
D_0	D_1	D_2	D_3	X_0	X_1	V
0	0	0	0	x	x	0
1	0	0	0	0	0	1
x	1	0	0	0	1	1
x	x	1	0	1	0	1
x	x	x	1	1	1	1

What function does the truth table represent?

(A) Priority encoder
(B) Decoder
(C) Multiplexer
(D) Demultiplexer

Q.6 Which one of the following is the tightest upper bound that represents the number of swaps required to sort n numbers using selection sort?

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(A) {ϵ} (B) Φ (C) *a** (D) {ϵ, *a*}

Q.9 What is the maximum number of reduce moves that can be taken by a bottom-up parser for a grammar with no epsilon- and unit-production (i.e., of type A → ϵ and A → a) to parse a string with *n* tokens?

(A) *n*/2 (B) *n*-1 (C) 2*n*-1 (D) 2^n

Q.10 A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest priority). The scheduler re-evaluates the process priorities every *T* time units and decides the next process to schedule. Which one of the following is **TRUE** if the processes have no I/O operations and all arrive at time zero?

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Q.11 Match the problem domains in **GROUP I** with the solution technologies in **GROUP II**.

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(Q) Heterogeneous communicating systems	(2) BPMN
(R) Information representation	(3) Publish-find-bind
(S) Process description	(4) XML

(A) P-1, Q-2, R-3, S-4 (B) P-3, Q-4, R-2, S-1
(C) P-3, Q-1, R-4, S-2 (D) P-4, Q-3, R-2, S-1

Q.12 The transport layer protocols used for real time multimedia, file transfer, DNS and email, respectively are

(A) TCP, UDP, UDP and TCP
(B) UDP, TCP, TCP and UDP
(C) UDP, TCP, UDP and TCP
(D) TCP, UDP, TCP and UDP

Q.13 Using public key cryptography, X adds a digital signature σ to message M, encrypts <M, σ>, and sends it to Y, where it is decrypted. Which one of the following sequences of keys is used for the operations?

(A) Encryption: X's private key followed by Y's private key; Decryption: X's public key followed by Y's public key
(B) Encryption: X's private key followed by Y's public key; Decryption: X's public key followed by Y's private key
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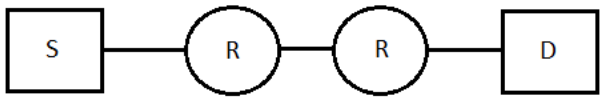
Q.14 Assume that source S and destination D are connected through two intermediate routers labeled R. Determine how many times each packet has to visit the network layer and the data link layer during a transmission from S to D.



(A) Network layer – 4 times and Data link layer – 4 times
(B) Network layer – 4 times and Data link layer – 3 times
(C) Network layer – 4 times and Data link layer – 6 times
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(A) it is on a set of fields that form a candidate key.
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(B) *X*: *P*(*b*)*P*(*a*)*P*(*c*) *Y*: *P*(*b*)*P*(*c*)*P*(*d*) *Z*: *P*(*a*)*P*(*c*)*P*(*d*)
(C) *X*: *P*(*b*)*P*(*a*)*P*(*c*) *Y*: *P*(*c*)*P*(*b*)*P*(*d*) *Z*: *P*(*a*)*P*(*c*)*P*(*d*)
(D) *X*: *P*(*a*)*P*(*b*)*P*(*c*) *Y*: *P*(*c*)*P*(*b*)*P*(*d*) *Z*: *P*(*c*)*P*(*d*)*P*(*a*)

Q.17 Which of the following statements is/are **FALSE**?

1. For every non-deterministic Turing machine, there exists an equivalent deterministic Turing machine.
2. Turing recognizable languages are closed under union and complementation.
3. Turing decidable languages are closed under intersection and complementation.
4. Turing recognizable languages are closed under union and intersection.

(A) 1 and 4 only (B) 1 and 3 only (C) 2 only (D) 3 only

Q.18 Which of the following statements are **TRUE**?

1. The problem of determining whether there exists a cycle in an undirected graph is in P.
2. The problem of determining whether there exists a cycle in an undirected graph is in NP.
3. If a problem A is NP-Complete, there exists a non-deterministic polynomial time algorithm to solve A.

(A) 1, 2 and 3 (B) 1 and 2 only (C) 2 and 3 only (D) 1 and 3 only

Q.19 What is the time complexity of Bellman-Ford single-source shortest path algorithm on a complete graph of n vertices?

(A) $\Theta(n^2)$ (B) $\Theta(n^2 \log n)$ (C) $\Theta(n^3)$ (D) $\Theta(n^3 \log n)$

Q.20 In a k-way set associative cache, the cache is divided into v sets, each of which consists of k lines. The lines of a set are placed in sequence one after another. The lines in set s are sequenced before the lines in set (s+1). The main memory blocks are numbered 0 onwards. The main memory block numbered j must be mapped to any one of the cache lines from

(A) (j mod v) * k to (j mod v) * k + (k-1) (B) (j mod v) to (j mod v) + (k-1)
(C) (j mod k) to (j mod k) + (v-1) (D) (j mod k) * v to (j mod k) * v + (v-1)

Q.21 Which one of the following expressions does **NOT** represent exclusive NOR of x and y?

(A) $xy + x'y'$ (B) $x \oplus y'$ (C) $x' \oplus y$ (D) $x' \oplus y'$

Q.22 Which one of the following functions is continuous at $x = 3$?

(A) $f(x) = \begin{cases} 2, & \text{if } x = 3 \\ x-1, & \text{if } x > 3 \\ \dfrac{x+3}{3}, & \text{if } x < 3 \end{cases}$ (B) $f(x) = \begin{cases} 4, & \text{if } x = 3 \\ 8-x & \text{if } x \neq 3 \end{cases}$

(C) $f(x) = \begin{cases} x+3, & \text{if } x \leq 3 \\ x-4 & \text{if } x > 3 \end{cases}$ (D) $f(x) = \dfrac{1}{x^3 - 27}$, if $x \neq 3$

Q.23 Function f is known at the following points:

x	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
$f(x)$	0	0.09	0.36	0.81	1.44	2.25	3.24	4.41	5.76	7.29	9.00

The value of $\int_0^3 f(x)\,dx$ computed using the trapezoidal rule is

(A) 8.983 (B) 9.003 (C) 9.017 (D) 9.045

Q.24 Consider an undirected random graph of eight vertices. The probability that there is an edge between a pair of vertices is 1/2. What is the expected number of unordered cycles of length three?

(A) 1/8 (B) 1 (C) 7 (D) 8

Q.25 Which of the following statements is/are **TRUE** for undirected graphs?

P: Number of odd degree vertices is even.
Q: Sum of degrees of all vertices is even.

(A) P only (B) Q only (C) Both P and Q (D) Neither P nor Q

Q. 1 – Q. 25 carry one mark each.

Q.1 Consider the following logical inferences.

I_1: If it rains then the cricket match will not be played.
The cricket match was played.
Inference: There was no rain.
I_2: If it rains then the cricket match will not be played.
It did not rain.
Inference: The cricket match was played.

Which of the following is **TRUE**?

(A) Both I_1 and I_2 are correct inferences
(B) I_1 is correct but I_2 is not a correct inference
(C) I_1 is not correct but I_2 is a correct inference
(D) Both I_1 and I_2 are not correct inferences

Q.2 Which of the following is **TRUE**?

(A) Every relation in 3NF is also in BCNF
(B) A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R
(C) Every relation in BCNF is also in 3NF
(D) No relation can be in both BCNF and 3NF

Q.3 What will be the output of the following C program segment?

```
char inChar = 'A' ;
switch ( inChar ) {
case 'A' : printf ("Choice A\ n") ;
case 'B' :
case 'C' : printf ("Choice B") ;
case 'D' :
case 'E' :
default  : printf ( " No Choice" ) ; }
```

(A) `No Choice`
(B) `Choice A`
(C) `Choice A`
`Choice B No Choice`
(D) Program gives no output as it is erroneous

Q.4 Assuming P ≠ NP, which of the following is **TRUE**?

(A) NP-complete = NP
(B) NP-complete ∩ P = ∅
(C) NP-hard = NP
(D) P = NP-complete

Q.5 The worst case running time to search for an element in a balanced binary search tree with $n2^n$ elements is

(A) $\Theta(n \log n)$ (B) $\Theta(n2^n)$ (C) $\Theta(n)$ (D) $\Theta(\log n)$

Q.6 The truth table

X	Y	f (X, Y)
0	0	0
0	1	0
1	0	1
1	1	1

represents the Boolean function

(A) X (B) X + Y (C) $X \oplus Y$ (D) Y

Q.7 The decimal value 0.5 in IEEE single precision floating point representation has

(A) fraction bits of 000…000 and exponent value of 0
(B) fraction bits of 000…000 and exponent value of −1
(C) fraction bits of 100…000 and exponent value of 0
(D) no exact representation

Q.8 A process executes the code

```
fork();
fork();
fork();
```

The total number of **child** processes created is

(A) 3 (B) 4 (C) 7 (D) 8

Q.9 Consider the function $f(x) = \sin(x)$ in the interval $x \in [\pi/4, 7\pi/4]$. The number and location(s) of the local minima of this function are

(A) One, at $\pi/2$
(B) One, at $3\pi/2$
(C) Two, at $\pi/2$ and $3\pi/2$
(D) Two, at $\pi/4$ and $3\pi/2$

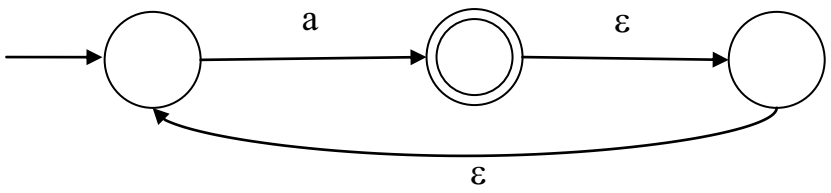
Q.10 The protocol data unit (PDU) for the application layer in the Internet stack is

(A) Segment (B) Datagram (C) Message (D) Frame

Q.11 Let A be the 2×2 matrix with elements $a_{11} = a_{12} = a_{21} = +1$ and $a_{22} = -1$. Then the eigenvalues of the matrix A^{19} are

(A) 1024 and −1024 (B) $1024\sqrt{2}$ and $-1024\sqrt{2}$
(C) $4\sqrt{2}$ and $-4\sqrt{2}$ (D) $512\sqrt{2}$ and $-512\sqrt{2}$

Q.12 What is the complement of the language accepted by the NFA shown below?
Assume $\Sigma = \{a\}$ and ε is the empty string.



(A) $\varnothing$ (B) $\{\varepsilon\}$ (C) a^* (D) $\{a, \varepsilon\}$

Q.13 What is the correct translation of the following statement into mathematical logic?

"Some real numbers are rational"

(A) $\exists x$ (real(x) $\vee$ rational(x))
(B) $\forall x$ (real(x) $\rightarrow$ rational(x))
(C) $\exists x$ (real(x) $\wedge$ rational(x))
(D) $\exists x$ (rational(x) $\rightarrow$ real(x))

Q.14 Given the basic ER and relational models, which of the following is **INCORRECT**?

(A) An attribute of an entity can have more than one value
(B) An attribute of an entity can be composite
(C) In a row of a relational table, an attribute can have more than one value
(D) In a row of a relational table, an attribute can have exactly one value or a NULL value

Q.15 Which of the following statements are **TRUE** about an SQL query?

P : An SQL query can contain a HAVING clause even if it does not have a GROUP BY clause
Q : An SQL query can contain a HAVING clause only if it has a GROUP BY clause
R : All attributes used in the GROUP BY clause must appear in the SELECT clause
S : Not all attributes used in the GROUP BY clause need to appear in the SELECT clause

(A) P and R (B) P and S (C) Q and R (D) Q and S

Q.16 The recurrence relation capturing the optimal execution time of the *Towers of Hanoi* problem with n discs is

(A) $T(n) = 2T(n-2) + 2$ (B) $T(n) = 2T(n-1) + n$
(C) $T(n) = 2T(n/2) + 1$ (D) $T(n) = 2T(n-1) + 1$

Q.17 Let G be a simple undirected planar graph on 10 vertices with 15 edges. If G is a connected graph, then the number of **bounded** faces in any embedding of G on the plane is equal to

(A) 3 (B) 4 (C) 5 (D) 6

Q.18 Let $W(n)$ and $A(n)$ denote respectively, the worst case and average case running time of an algorithm executed on an input of size n. Which of the following is **ALWAYS TRUE**?

(A) $A(n) = \Omega(W(n))$ (B) $A(n) = \Theta(W(n))$
(C) $A(n) = O(W(n))$ (D) $A(n) = o(W(n))$

Q.19 The amount of ROM needed to implement a 4 bit multiplier is

(A) 64 bits (B) 128 bits (C) 1 Kbits (D) 2 Kbits

Q.20 Register renaming is done in pipelined processors

(A) as an alternative to register allocation at compile time
(B) for efficient access to function parameters and local variables
(C) to handle certain kinds of hazards
(D) as part of address translation

Q.21 Consider a random variable X that takes values +1 and −1 with probability 0.5 each. The values of the cumulative distribution function $F(x)$ at $x = -1$ and +1 are

(A) 0 and 0.5 (B) 0 and 1 (C) 0.5 and 1 (D) 0.25 and 0.75

Q.22 Which of the following transport layer protocols is used to support electronic mail?

(A) SMTP (B) IP (C) TCP (D) UDP

Q.23 In the IPv4 addressing format, the number of networks allowed under Class C addresses is

(A) 2^{14} (B) 2^{7} (C) 2^{21} (D) 2^{24}

Q.24 Which of the following problems are decidable?

1) Does a given program ever produce an output?
2) If L is a context-free language, then, is $\overline{L}$ also context-free?
3) If L is a regular language, then, is $\overline{L}$ also regular?
4) If L is a recursive language, then, is $\overline{L}$ also recursive?

(A) 1, 2, 3, 4 (B) 1, 2 (C) 2, 3, 4 (D) 3, 4

Q.25 Given the language $L = \{ab, aa, baa\}$, which of the following strings are in L^*?

1) *abaabaaabaa*
2) *aaaabaaaa*
3) *baaaaabaaaab*
4) *baaaaabaa*

(A) 1, 2 and 3 (B) 2, 3 and 4
(C) 1, 2 and 4 (D) 1, 3 and 4

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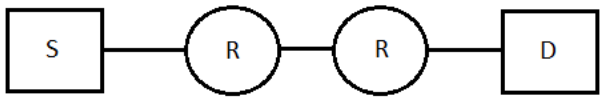

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Q.16 Three concurrent processes *X*, *Y*, and *Z* execute three different code segments that access and update certain shared variables. Process *X* executes the *P* operation (i.e., *wait*) on semaphores *a*, *b* and *c*; process *Y* executes the *P* operation on semaphores *b*, *c* and *d*; process *Z* executes the *P* operation on semaphores *c*, *d*, and *a* before entering the respective code segments. After completing the execution of its code segment, each process invokes the *V* operation (i.e., *signal*) on its three semaphores. All semaphores are binary semaphores initialized to one. Which one of the following represents a deadlock-free order of invoking the *P* operations by the processes?

(A) *X*: *P*(*a*)*P*(*b*)*P*(*c*) *Y*: *P*(*b*)*P*(*c*)*P*(*d*) *Z*: *P*(*c*)*P*(*d*)*P*(*a*)
(B) *X*: *P*(*b*)*P*(*a*)*P*(*c*) *Y*: *P*(*b*)*P*(*c*)*P*(*d*) *Z*: *P*(*a*)*P*(*c*)*P*(*d*)
(C) *X*: *P*(*b*)*P*(*a*)*P*(*c*) *Y*: *P*(*c*)*P*(*b*)*P*(*d*) *Z*: *P*(*a*)*P*(*c*)*P*(*d*)
(D) *X*: *P*(*a*)*P*(*b*)*P*(*c*) *Y*: *P*(*c*)*P*(*b*)*P*(*d*) *Z*: *P*(*c*)*P*(*d*)*P*(*a*)

Q.17 Which of the following statements is/are **FALSE**?

1. For every non-deterministic Turing machine, there exists an equivalent deterministic Turing machine.
2. Turing recognizable languages are closed under union and complementation.
3. Turing decidable languages are closed under intersection and complementation.
4. Turing recognizable languages are closed under union and intersection.

(A) 1 and 4 only (B) 1 and 3 only (C) 2 only (D) 3 only

Q.18 Which of the following statements are **TRUE**?

1. The problem of determining whether there exists a cycle in an undirected graph is in P.
2. The problem of determining whether there exists a cycle in an undirected graph is in NP.
3. If a problem A is NP-Complete, there exists a non-deterministic polynomial time algorithm to solve A.

(A) 1, 2 and 3 (B) 1 and 2 only (C) 2 and 3 only (D) 1 and 3 only

Q.19 What is the time complexity of Bellman-Ford single-source shortest path algorithm on a complete graph of n vertices?

(A) $\Theta(n^2)$ (B) $\Theta(n^2 \log n)$ (C) $\Theta(n^3)$ (D) $\Theta(n^3 \log n)$

Q.20 In a k-way set associative cache, the cache is divided into v sets, each of which consists of k lines. The lines of a set are placed in sequence one after another. The lines in set s are sequenced before the lines in set (s+1). The main memory blocks are numbered 0 onwards. The main memory block numbered j must be mapped to any one of the cache lines from

(A) (j mod v) * k to (j mod v) * k + (k-1) (B) (j mod v) to (j mod v) + (k-1)
(C) (j mod k) to (j mod k) + (v-1) (D) (j mod k) * v to (j mod k) * v + (v-1)

Q.21 Which one of the following expressions does **NOT** represent exclusive NOR of x and y?

(A) $xy + x'y'$ (B) $x \oplus y'$ (C) $x' \oplus y$ (D) $x' \oplus y'$

Q.22 Which one of the following functions is continuous at $x = 3$?

(A) $f(x) = \begin{cases} 2, & \text{if } x = 3 \\ x-1, & \text{if } x > 3 \\ \dfrac{x+3}{3}, & \text{if } x < 3 \end{cases}$ (B) $f(x) = \begin{cases} 4, & \text{if } x = 3 \\ 8-x & \text{if } x \neq 3 \end{cases}$

(C) $f(x) = \begin{cases} x+3, & \text{if } x \leq 3 \\ x-4 & \text{if } x > 3 \end{cases}$ (D) $f(x) = \dfrac{1}{x^3 - 27}$, if $x \neq 3$

Q.23 Function f is known at the following points:

x	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
$f(x)$	0	0.09	0.36	0.81	1.44	2.25	3.24	4.41	5.76	7.29	9.00

The value of $\int_0^3 f(x)\,dx$ computed using the trapezoidal rule is

(A) 8.983 (B) 9.003 (C) 9.017 (D) 9.045

Q.24 Consider an undirected random graph of eight vertices. The probability that there is an edge between a pair of vertices is 1/2. What is the expected number of unordered cycles of length three?

(A) 1/8 (B) 1 (C) 7 (D) 8

Q.25 Which of the following statements is/are **TRUE** for undirected graphs?

P: Number of odd degree vertices is even.
Q: Sum of degrees of all vertices is even.

(A) P only (B) Q only (C) Both P and Q (D) Neither P nor Q

DATABASE MANAGEMENT SYSTEM Questions and Answers :-

1. A Database Management System (DBMS) is

A. Collection of interrelated data

B. Collection of programs to access data

C. Collection of data describing one particular enterprise

D. All of the above

2. Which of the following is not a level of data abstraction?

A. Physical Level

B. Critical Level

C. Logical Level

D. View Level

3. Disadvantages of File systems to store data is:

A. Data redundancy and inconsistency

B. Difficulty in accessing data

C. Data isolation

D. All of the above

4. In an Entity-Relationship Diagram Rectangles represents

A. Entity sets

B. Attributes

C. Database

D. Tables

5. Which of the following is not a Storage Manager Component?

A. Transaction Manager

B. Logical Manager

C. Buffer Manager

D. File Manager

6. Data Manipulation Language enables users to
A. Retrieval of information stored in database
B. Insertion of new information into the database
C. Deletion of information from the database
D. All of the above

7. Which of the following is not an Schema?
A. Database Schema
B. Physical Schema
C. Critical Schema
D. Logical Schema

8. Which of the following is Database Language?
A. Data Definition Language
B. Data Manipulation Language
C. Query Language
D. All of the above

9. Which of the following in not a function of DBA?
A. Network Maintenance
B. Routine Maintenance
C. Schema Definition
D. Authorization for data access

10. Which of the following is a Data Model?
A. Entity-Relationship model
B. Relational data model
C. Object-Based data model
D. All of the above

1. Which of the following represents a relationship among a set of values.
A. A Row
B. A Table
C. A Field
D. A Column

2. Column header is refer as
A. Table
B. Relation
C. Attributes
D. Domain

3. A Relation is a
A. Subset of a Cartesian product of a list of attributes
B. Subset of a Cartesian product of a list of domains
C. Subset of a Cartesian product of a list of tuple
D. Subset of a Cartesian product of a list of relations

4. In mathematical term Table is referred as
A. Relation
B. Attribute
C. Tuple
D. Domain

5. In mathematical term Row is referred as
A. Relation
B. Attribute
C. Tuple
D. Domain

6. _____ allow us to identify uniquely a tuple in the relation.
A. Superkey
B. Domain
C. Attribute
D. Schema

7. Minimal Superkeys are called
A. Schema keys
B. Candidate keys
C. Domain keys
D. Attribute keys

8. Which of the following is not Modification of the Database

A. Deletion
B. Insertion
C. Sorting
D. Updating

9. Which of the following is Relation-algebra Operation
A. Select
B. Union
C. Rename
D. All of the above

10. Which of the following in not Outer join?
A. Left outer join
B. Right outer join
C. Full outer join
D. All of the above
Answers
1 – A / 2 – C / 3 – B / 4 – A / 5 – C / 6 – A / 7 – B / 8 – C / 9 – D / 10 – D

1. Who proposed the relational model?
A. Bill Gates
B. E.F. Codd
C. Herman Hollerith
D. Charles Babbage

2. Set of premitted values of each attribute is called
A. Domain
B. Tuple
C. Relation
D. Schema

3. Which of the following in true regarding Null Value?
A. Null = 0
B. Null 0
D. Null 0

4. Logical design of database is called

A. Database Instance
B. Database Snapshot
C. Database Schema
D. All of the above

5. Snapshot of the dta in the database at a given instant of time is called
A. Database Schema
B. Database Instance
C. Database Snapshot
D. All of the above

6. Which of the following is not Unary operation?
A. Select
B. Project
C. Rename
D. Union

7. Which of the following is not binary operation?
A. Union
B. Project
C. Set Difference
D. Cartesian Product

8. Which of the following is correct regarding Aggregate functions?
A. it takes a list of values and return a single values as result
B. it takes a list of values and return a list of values as result
C. it takes a single value and returns a list of values as result
D. it takes a single value and returns a single value as result

9. The Primary key must be
A. Non Null
B. Unique
C. Option A or B
D. Option A and B

10. A command to remove a relation from an SQL database

A. Delete table <table name>
B. Drop table <table name>
C. Erase table <table name>
D. Alter table <table name>
Answers :-
1 – B / 2 – A / 3 – D / 4 – C / 5 – B / 6 – D / 7 – B / 8 – A / 9 – D / 10 – B

1. which of the following is not an Aggregate function?
A. Min
B. Max
C. Select
D. Avg

2. The attribute that can be divided into other attributes is called
A. Simple Attribute
B. Composite Attribute
C. Multi-valued Attribute
D. Derived Attribute

3. In an Entity-Relationship Diagram “Ellipses” represents
A. Attributes
B. Weak entity set
C. Relationship sets
D. Multi-valued attributes

4. In an Entity-Relationship Diagram “Diamonds” represents
A. Attributes
B. Multi-valued attributes
C. Weak entity set
D. Relationship sets

5. What is ACID properties of Transactions?
A. Atomicity, Consistency, Isolation, Database
B. Atomicity, Consistency, Isolation, Durability
C. Atomicity, Consistency, Inconsistent, Durability
D. Automatically, Concurrency, Isolation, Durability

6. If every non-key attribute is functionally dependent on the primary key, the relation will be in
A. First Normal Form
B. Second Normal Form
C. Third Normal Form
D. Fourth Formal Form

7. Database locking concept is used to solve the problem of
A. Lost Update
B. Uncommitted Dependency
C. Inconsistent Data
D. All of the above

8. UML is stands for
A. Universal Modeling Language
B. Unified Modeling Language
C. United Modeling Language
D. Uni Modeling Language

9. Data Manipulation Language (DML) is not to
A. Create information table in the Database
B. Insertion of new information into the Database
C. Deletion of information in the Database
D. Modification of information in the Database

10. Which of the following in true regarding Referential Integrity?
A. Every primary-key value must match a primary-key value in an associated table
B. Every primary-key value must match a foreign-key value in an associated table
C. Every foreign-key value must match a primary-key value in an associated table
D. Every foreign-key value must match a foreign-key value in an associated table
Answers :-
1 – C / 2 – B / 3 – A / 4 – D / 5 – B / 6 – C / 7 – D / 8 – B / 9 – A / 10 – C

1. Which of the following option is use to retrieval of data?
a. Stack
b. Data Structure
c. Linked list
d. Query

2. ODBC stands for _____
a. Offline database connection
b. Oriented database connection
c. Open database connection
d. None of above

3. Which algebra is widely used in DBMS?
a. Relational algebra
b. Arithmetic algebra
c. Both
d. None

4. Which of the following is an unary operation?
a. Selection operation
b. Generalized selection
c. Primitive operation
d. Projection operation

5. Which SQL Query is use to remove a table and all its data from the database?
a. Create Table
b. Alter Table
c. Drop Table
d. None of these

6. In precedence of set operators the expression is evaluated from:
a. Left to Left
b. Left to Right
c. Right to Right
d. Right to Left

7. In DBMS FD stands for _____
a. Facilitate data
b. Functional data
c. Facilitate dependency
d. Functional dependency

8. How many types of keys in Database Design?
a. Candidate key
b. Primary key
c. Foreign key
d. All of these

9. Which of the following is based on Multi Valued Dependency?
a. First
b. Second
c. Third
d. Fourth

10. Which of the following is the structure of the Database?
a. Table
b. Schema
c. Relation
d. None of these

Answers :-
1 – d / 2 – c / 3 – a / 4 – b / 5 – c / 6 – b / 7 – d / 8 – d / 9 – d / 10 – b

1. The minimal set of super key is called
A. Primary key
B. Secondary key
C. Candidate key
D. Foreign key

2. A relation that has no partial dependencies is in which normal form
A. First

B. Second
C. Third
D. BCNF

3. A functional dependency between two or more non-key attributes is called
A. Transitive dependency
B. Partial transitive dependency
C. Functional dependency
D. Partial functional dependency

4. A logical description of some portion of database that is required by a user to perform task is called as
A. System View
B. User View
C. Logical View
D. Data View

5. _____ is a classical approach to database design?
A. Left – Right approach
B. Right – Left approach
C. Top – Down approach
D. Bottom – Up approach

6. _____ refers to the correctness and completeness of the data in a database?
A. Data security
B. Data integrity
C. Data constraint
D. Data independence

7. A table that displays data redundancies yields _____ anomalies
A. Insertion
B. Deletion
C. Update
D. All of the above

8. A lock that allows concurrent transactions to access different rows of the same table is known as a
A. Field-level lock
B. Row-level lock
C. Table-level lock
D. Database-level lock

9. A type of query that is placed within a WHERE or HAVING clause of another query is called
A. Super query
B. Sub query
C. Master query
D. Multi-query

10. A transaction completes its execution is said to be
A. Saved
B. Loaded
C. Rolled
D. Committed

Answers :-
1 – C / 2 – B / 3 – A / 4 – B / 5 – C / 6 – B / 7 – D / 8 – A / 9 – B / 10 – D
61.
When converting one (1) to many (N) binary relationship into tables, the recommended solution is usually
(a)
One big table with all attributes from both entities included
(b)
Foreign key added on the Child (many side) referencing the parent
(c)
Foreign key added on the Parent (one side) referencing the child
(d)
Foreign key added on both sides (both tables)
(e)
Primary Key is added on one side.

62.
Which of the following is not correct?
(a)
Each entity must include some descriptive information
(b)
If an object only requires an identifier, it should be classified as an attribute
(c)
Each multivalued attribute should be classified as an entity even if it does not have any descriptive information
(d)
The procedure of identifying entities and attaching attributes always leads to a unique solution
(e)
Every entity is a collection of attributes.
63.
The property of transaction which ensures that either all operations of the transaction are reflected properly in the database or none, is called
(a)
Atomicity
(b)
Durability
(c)
Isolation
(d)
Consistency
(e)
Deadlock.
64.
Which of the following is correct?
(a)
Function dependencies are not associated with relations; they are based on the semantics of information that we are dealing with
(b)
If a relation has no redundant information its attributes must not have any function dependencies

(c)
Functional dependencies may be determined if we are given several instances of a relation
(d)
The FDs that hold for attributes of a relation need not be satisfied at all times
(e)
BCNF is a fourth normal form.
65.
An entity type whose existence depends on another entity type is called a _____ entity.
(a)
Strong
(b)
Weak
(c)
Codependent
(d)
Variant
(e)
Independent.
66.
A property or characteristic of an entity type that is of interest to the organization is called an
(a)
Attribute
(b)
Coexisting entity
(c)
Relationship
(d)
Cross-function
(e)
Weak entity.
67.
A relationship between the instances of a single entity type is called a _____ relationship.
(a)

Ternary
(b)
Primary
(c)
Binary
(d)
Auxiliary
(e)
Unary.
68.
A _____ attribute is an attribute that can be further subdivided to yield additional attributes.
(a)
Composite
(b)
Simple
(c)
Single-valued
(d)
Multi-valued
(e)
Derived.
69.
In a super type/subtype hierarchy, each subtype has
(a)
Only one super type
(b)
Many super types
(c)
At most two super types
(d)
At least one subtype
(e)
Not at all.
70.
The hierarchical database model uses the hierarchic sequence that always starts at
(a)

The right side of the tree
(b)
The left side of the tree
(c)
The top of the tree
(d)
The bottom of the tree
(e)
Middle of the above.

Answers

61.
Answer : (b)
Reason: When converting one (1) to many (N) binary relationship into tables, the recommended solution is Foreign key added on the Child (many side) referencing the parent
62.
Answer : (d)
Reason: The procedure of identifying entities and attaching attributes always leads to a unique solution
63.
Answer : (a)
Reason: Atomicity is the property of transaction which ensures that either all operations of the transaction are reflected properly in the database or none
64.
Answer : (a)
Reason: Function dependencies are not associated with relations; they are based on the semantics of information that we are dealing with.
65.
Answer : (b)
Reason: Entity type whose existence depends on another entity type is called a weak entity
66.
Answer : (a)
Reason: A property or characteristic of an entity type that is of

interest to the organization is called attribute

67.

Answer : (e)

Reason: A relationship between the instances of a single entity type is called a Unary relationship.

68.

Answer : (a)

Reason: Composite attribute is an attribute that can be further subdivided to yield additional attributes.

69.

Answer : (a)

Reason: In a super type/subtype hierarchy, each subtype has only one super type

70.

Answer : (b)

Reason: The hierarchical database model uses the hierarchic sequence that always starts at the left side of the tree

71.

Which of the following is a component of the relational data model included to specify business rules to maintain the integrity of data when they are manipulated?

(a)

Business rule constraint

(b)

Data integrity

(c)

Business integrity

(d)

Data structure

(e)

Entity Integrity.

72.

A null value is created or represented by

(a)

A zero

(b)

A space

(c)
Entering a value
(d)
Pressing the ESC key
(e)
Pressing the Enter key without making a prior entry of any kind.

73.
A functional dependency between two or more non-key attributes is called
(a)
Partial functional dependency
(b)
Partial non-key dependency
(c)
Transitive dependency
(d)
Partial transitive dependency
(e)
Key dependency.

74.
Which of the following is a classical approach to database design?
(a)
Top-down approach
(b)
Left-side approach
(c)
Right-side approach
(d)
Backwards approach
(e)
Middleware.

75.
In the context of a database table, the statement “A determines B” indicates that
(a)
Knowing the value of attribute A you can not look up the value

of attribute B
(b)
You do not need to know the value of attribute A in order to look up the value of attribute B
(c)
Knowing the value of attribute B you can look up the value of attribute A
(d)
Knowing the value of attribute A you can look up the value of attribute B
(e)
None of the above.
76.
Which of the following Relational Algebra operations require that both tables (or virtual tables) involved have the exact same attributes/data types?
(a)
Join, Projection, Restriction
(b)
Multiplication and Division
(c)
Union, Intersection, Minus
(d)
Minus, Multiplication, Intersection
(e)
Projection, Selection, Rename.
77.
Which type of file is easiest to update?
(a)
Sequential
(b)
Hashed
(c)
Indexed
(d)
Clustered
(e)
Random.

78.
A method that speeds query processing by running a query at the same time against several partitions of a table using multi processors is called
(a)
Multiple partition query
(b)
Perpendicular query processing
(c)
Parallel query processing
(d)
Query optimization
(e)
Query Execution.
79.
The protocol that ensures conflict serializability is
(a)
Time stamp ordering protocol
(b)
Two phase locking protocol
(c)
Concurrency protocol
(d)
Tree protocol
(e)
Layered Protocol.
80.
Indexes are created in most RDBMS's to
(a)
Provide a quicker way to store data
(b)
Decrease the amount of disk space utilized
(c)
Provide rapid, random and sequential access to base-table data
(d)
Increase the cost of implementation
(e)
Decrease the cost of implementation.

Answers

71.
Answer : (b)
Reason: Data integrity is a component of the relational data model included to specify business rules to maintain the integrity of data when they are manipulated
72.
Answer : (e)
Reason: A null value is created or represented by Pressing the Enter key without making a prior entry of any kind
73.
Answer : (c)
Reason: A functional dependency between two or more non-key attributes is called transitive dependency
74.
Answer : (a)
Reason: top-down approach is a classical approach to database design
75.
Answer : (d)
Reason: Knowing the value of attribute A you can look up the value of attribute B.
76.
Answer : (c)
Reason: n relational algebra Union, Intersection, Minus operations require that both tables (or virtual tables) involved have the exact same attributes/data types.
77.
Answer : (b)
Reason: Hash file is easiest to update
78.
Answer : (c)
Reason: A method that speeds query processing by running a query at the same time against several partitions of a table using multi processors is called parallel query processing.
79.
Answer : (a)

Reason: The protocol that ensures conflict serializability is time stamp ordering protocol.

80.

Answer : (c)

Reason: Indexes are created in most RDBMS's to Provide rapid, random and sequential access to base-table data

DATABASE MANAGEMENT SYSTEM SET 9

Database Management System

Questions 81 To 90

81.

What does the following SQL statement do?

Select * From Customer Where Cust_Type = "Best";

(a)

Selects all the fields from the Customer table for each row with a customer labeled "best"

(b)

Selects the "*" field from the Customer table for each row with a customer labeled "best"

(c)

Selects fields with a "*" in them from the Customer table

(d)

Selects all the fields from the Customer table for each row with a customer labeled "*"

(e)

Counts all records and displays the value.

82.

In an SQL statement, which of the following parts states the conditions for row selection?

(a)

Select

(b)

From

(c)

Order By

(d)

Group By

(e)

Where.

83.

Which of the following questions is answered by the SQL statement?

Select Count (Product_Description) from Product_T;

(a)

How many products are in the Product Table?

(b)

How many different product descriptions are in the Product Table?

(c)

How many characters are in the field name "Product_Description"?

(d)

How many different columns named "Product Description" is there in table Product_T?

(e)

How many total records in a table?

84.

All of the following are advantages of SQL-invoked routines EXCEPT

(a)

Flexibility

(b)

Efficiency

(c)

Sharability

(d)

Security

(e)

Easy of use.

85.

A type of query that is placed within a WHERE or HAVING clause of another query is called

(a)

Master query

(b)

Sub query

(c)
Super query
(d)
Multi-query
(e)
Co-related query.
86.
Which of the following is a procedure for acquiring the necessary locks for a transaction where all necessary locks are acquired before any are released?
(a)
Record controller
(b)
Exclusive lock
(c)
Authorization rule
(d)
Two phase lock
(e)
Three Phase lock.
87.
Out of the following activities, which is the one that normally performed by DBMS, without the interference of the DBA?
(a)
Integrity
(b)
Retention
(c)
Security
(d)
Granting the Privileges
(e)
Recovery.
88.
Horizontal Fragmentation is
(a)
Divide the data up by logical groups of records
(b)

Divide the data up by logical groups of attributes
(c)
Divide the data up by logical groups of entities
(d)
Divide the data up by logical groups of files
(e)
Divide the data up by logical frames.
89.
An index record appears for every search key value in the file is
(a)
Secondary index
(b)
Dense index
(c)
Sparse index
(d)
Multi level index
(e)
B+ tree.
90.
Which of the following type of index is automatically created when we do not specify?
(a)
Bitmap
(b)
Balanced Tree Index
(c)
Binary Tree Index
(d)
Hashed
(e)
Sparse Index.

Answers
81.
Answer : (a)
Reason: Select
82.

Answer : (e)
Reason: In an SQL statement where clause states the conditions for row selection
83.
Answer : (b)
Reason: How many different product descriptions are in the Product Table?
84.
Answer : (d)
Reason: Security
85.
Answer : (b)
Reason: Sub-query that is placed within a WHERE or HAVING clause of another query
86.
Answer : (d)
Reason: Two-phase lock is a procedure for acquiring the necessary locks for a transaction where all necessary locks are acquired before any are released
87.
Answer : (e)
Reason: Recovery is the one that normally is performed by DBMS, without the interference of the DBA
88.
Answer : (a)
Reason: Divide the data up by logical groups of records.
89.
Answer : (b)
Reason: Dense Index record appears for every search key valued in the file.
90.
Answer : (b)
Reason: Balanced Tree Index is automatically created when we do not specify.

91.
A database management software (DBMS) includes
(a)

Automated tools (CASE) used to design databases and application programs
(b)
A software application that is used to define, create, maintain and provide controlled access to user databases
(c)
Application programs that are used to provide information to users
(d)
Database that contains occurrences of logically organised data or information
(e)
Repository of meta data, which is a central storehouse for all data definitions, data relationships,
screen and report formats and other system components.
92.
Making a change to the conceptual schema of a database but not affecting the existing external schemas is an example of
(a)
Physical data independence
(b)
Concurrency Control
(c)
Logical data independence
(d)
Functional dependency
(e)
Integrity Control.
93.
If K is a foreign key in a relation R1, then
(a)
Every tuple of R1 has a distinct value for K
(b)
K cannot have a null value for tuples in R1
(c)
K is a key for some other relation
(d)
K is a Primary key for R1

(e)
K is a Composite key for R1.

94.
Which of the following concept is applicable with respect to 2NF?
(a)
Full functional dependency
(b)
Partial dependency
(c)
Transitive dependency
(d)
Non-transitive dependency
(e)
Data independence.

95. State the unit of storage that can store one or more records in a hash file organization
(a)
Buckets
(b)
Disk pages
(c)
Blocks
(d)
Nodes
(e)
Baskets.

96.
Embedded SQL means
(a)
Using the EMBED key word in a SQL statement
(b)
Writing a SQL statement to retrieve data from more than one relation
(c)
Writing SQL statements within codes written in a general

programming language
(d)
Specifying a condition and action to be taken in case the given condition is satisfied in a trigger
(e)
Using SQL language constructs like revoke and grant respectively for revoking and granting privileges to users.
97.
“In 1978 committee proposed a generalized framework for database systems and it provides a three_level architecture. The of the architecture defines user views of the database. The defines the physical view of the database. The defines the logical schema of the database.”
Which of the following set is suitable to fill the blanks in the above paragraph?
(a)
i. ANSI/ARPANET
ii. Conceptual Level
iii. External Level
iv. Internal Level
(b)
i. ANSI/SPARC
ii. Conceptual Level
iii. External Level
iv. Internal Level
(c)
i. .ANSI/ARPANET
ii. External Level
iii. Internal Level
iv. Conceptual Level
(d)
i. ANSI/SPARC
ii. External Level
iii. Internal Level
iv. Conceptual Level
(e)
i. W3C
ii. Internal Level

iii. External Level
iv. Conceptual Level.
98.
Consider the following ER diagram depicting the relationship of an employee and supervisor:

What is the possible relation if the above ERD is mapped into a relational model?
(a)
Employee (EmpID, BirthDate, Salary, Name(FirstName, MiddleName, LastName))
(b)
Employee (EmpID, BirthDate, Salary, Name(FirstName, MiddleName, LastName)}
(c)
Supervision (EmpID, BirthDate, Salary, Name(FirstName, MiddleName, LastName), EmpID)
(d)
Supervisor (SupervisorID, BirthDate, Salary, Name(FirstName, MiddleName, LastName),EmpID), {EmpID})
(e)
Employee (EmpID, BirthDate, Salary, Name(FirstName, MiddleName, LastName), SupervisorID).
99.
Select the correct statement from the following on proper naming of schema constructs:
(a)
Entity type name applies to all the entities belonging to that entity type and therefore a plural name is selected for entity type
(b)
In the narrative description of the database requirements, verbs tend to indicate the names of
relationship types
(c)
The nouns arising from a database requirement description can be considered as names of attributes
(d)

Additional nouns which are appearing in the narrative description of the database requirements
represent the weak entity type names
(e)
Adjectives written in the database requirement description help to identify the partial relationships among entities.
100.
Consider the following table obtained using Student and Instructor relations.
Fname :
Ajith
Sujith
Kasun

Lname :
Gamage
Hewage
Peiris
Which relational algebra operation could have been applied on the pair of relations Student and Instructor to obtain the above data?
(a)
Student n Instructor
(b)
Instructor ÷ Student
(c)
Student – Instructor
(d)
Student ? Instructor
(e)
Instructor – Student.

Answers

91.
Answer : (b)
Reason : A software application that is used to define, create, maintain and provide controlled access to user databases.

92.
Answer : (c)
Reason : Logical data independence refers to making a change to the conceptual schema of a database but not affecting the existing external schemas.
93.
Answer : (c)
Reason : If k is a foreign key in a relation R1, then K is a key for some other relation.
94.
Answer : (a)
Reason : Full functional dependency is applicable with respect to 2NF.
95.
Answer : (a)
Reason : Buckets are used to store one or more records in a hash file organization.
96.
Answer : (c)
Reason : Embedded SQL refers to writing SQL statements within codes written in a general programming language.
97.
Answer : (d)
Reason : i).ANSI/SPARC ii) External Level iii)Internal Level iv) Conceptual Level
98.
Answer : (e)
Reason : Employee(EmpID, BirthDate, Salary, Name(FirstName, MiddleName, LastName),SupervisorID) is the possible relation if the given ERD is mapped into a relational data model.
99.
Answer : (b)
Reason : In the narrative description of the database requirements, verbs tend to indicate the names of relationship types.
100.
Answer : (e)

Set - 3

1. Which data structure allows deleting data elements from front and inserting at rear?
a. Stacks
b. Queues
c. Deques
d. Binary search tree

2. Identify the data structure which allows deletions at both ends of the list but insertion at only one end.
a. Input-restricted deque
b. Output-restricted deque
c. Priority queues
d. None of above

3. Which of the following data structure is non-linear type?
a. Strings
b. Lists
c. Stacks
d. None of above

4. Which of the following data structure is linear type?
a. Strings
b. Lists
c. Queues
d. All of above

5. To represent hierarchical relationship between elements, which data structure is suitable?
a. Deque
b. Priority
c. Tree
d. All of above

6. A binary tree whose every node has either zero or two children is called
a. Complete binary tree
b. Binary search tree
c. Extended binary tree
d. None of above

7. The depth of a complete binary tree is given by
a. $D_n = n \log_2 n$
b. $D_n = n \log_2 n+1$
c. $D_n = \log_2 n$
d. $D_n = \log_2 n+1$

8. When representing any algebraic expression E which uses only binary operations in a 2-tree,
a. the variable in E will appear as external nodes and operations in internal nodes
b. the operations in E will appear as external nodes and variables in internal nodes
c. the variables and operations in E will appear only in internal nodes
d. the variables and operations in E will appear only in external nodes

---

9. A binary tree can easily be converted into q 2-tree
a. by replacing each empty sub tree by a new internal node
b. by inserting an internal nodes for non-empty node
c. by inserting an external nodes for non-empty node
d. by replacing each empty sub tree by a new external node

---

10. When converting binary tree into extended binary tree, all the original nodes in binary tree are
a. internal nodes on extended tree
b. external nodes on extended tree
c. vanished on extended tree
d. None of above

---

11. The post order traversal of a binary tree is DEBFCA. Find out the pre order traversal
a. ABFCDE
b. ADBFEC
c. ABDECF
d. ABDCEF

---

12. Which of the following sorting algorithm is of divide-and-conquer type?
a. Bubble sort
b. Insertion sort
c. Quick sort
d. All of above

---

13. An algorithm that calls itself directly or indirectly is known as
a. Sub algorithm
b. Recursion
c. Polish notation
d. Traversal algorithm

---

14. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called
a. Leaf
b. branch
c. path
d. thread

---

15. The in order traversal of tree will yield a sorted listing of elements of tree in

a. Binary trees
b. Binary search trees
c. Heaps
d. None of above

---

16. In a Heap tree
a. Values in a node is greater than every value in left sub tree and smaller than right sub tree
b. Values in a node is greater than every value in children of it
c. Both of above conditions applies
d. None of above conditions applies

---

17. In a graph if e=[u, v], Then u and v are called
a. endpoints of e
b. adjacent nodes
c. neighbors
d. all of above

---

18. A connected graph T without any cycles is called
a. a tree graph
b. free tree
c. a tree
d. All of above

---

19. In a graph if e=(u, v) means
a. u is adjacent to v but v is not adjacent to u
b. e begins at u and ends at v
c. u is processor and v is successor
d. both b and c

---

20. If every node u in G is adjacent to every other node v in G, A graph is said to be
a. isolated
b. complete
c. finite
d. strongly connected

Answers:

---

1. Which data structure allows deleting data elements from front and inserting at rear?
b. Queues

---

2. Identify the data structure which allows deletions at both ends of the list but insertion at only one end.
a. Input-restricted deque

---

3. Which of the following data structure is non-linear type?
d. None of above

---

4. Which of the following data structure is linear type?
d. All of above

---

5. To represent hierarchical relationship between elements, which data structure is suitable?
c. Tree

---

6. A binary tree whose every node has either zero or two children is called
c. Extended binary tree

---

7. The depth of a complete binary tree is given by
d. $D_n = \log_2 n + 1$

---

8. When representing any algebraic expression E which uses only binary operations in a 2-tree,
a. the variable in E will appear as external nodes and operations in internal nodes

---

9. A binary tree can easily be converted into q 2-tree
d. by replacing each empty sub tree by a new external node

---

10. When converting binary tree into extended binary tree, all the original nodes in binary tree are
a. internal nodes on extended tree

---

11. The post order traversal of a binary tree is DEBFCA. Find out the pre order traversal
c. ABDECF

---

12. Which of the following sorting algorithm is of divide-and-conquer type?
c. Quick sort

---

13. An algorithm that calls itself directly or indirectly is known as
b. Recursion

---

14. In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called
d. thread

15. The in order traversal of tree will yield a sorted listing of elements of tree in
b. Binary search trees

16. In a Heap tree
b. Values in a node is greater than every value in children of it

17. In a graph if e=[u, v], Then u and v are called
d. all of above

18. A connected graph T without any cycles is called
d. All of above

19. In a graph if e=(u, v) means
d. both b and c

20. If every node u in G is adjacent to every other node v in G, A graph is said to be
b. complete

Set - 2

---

1. The memory address of the first element of an array is called

a. floor address
b. foundation address
c. first address
d. base address

---

2. The memory address of fifth element of an array can be calculated by the formula

a. LOC(Array[5]=Base(Array)+w(5-lower bound), where w is the number of words per memory cell for the array
b. LOC(Array[5])=Base(Array[5])+(5-lower bound), where w is the number of words per memory cell for the array
c. LOC(Array[5])=Base(Array[4])+(5-Upper bound), where w is the number of words per memory cell for the array
d. None of above

---

3. Which of the following data structures are indexed structures?

a. linear arrays
b. linked lists
c. both of above
d. none of above

---

4. Which of the following is not the required condition for binary search algorithm?

a. The list must be sorted
b. there should be the direct access to the middle element in any sublist
c. There must be mechanism to delete and/or insert elements in list
d. none of above

---

5. Which of the following is not a limitation of binary search algorithm?

a. must use a sorted array
b. requirement of sorted array is expensive when a lot of insertion and deletions are needed
c. there must be a mechanism to access middle element directly
d. binary search algorithm is not efficient when the data elements are more than 1000.

---

6. Two dimensional arrays are also called

a. tables arrays
b. matrix arrays
c. both of above
d. none of above

---

7. A variable P is called pointer if

a. P contains the address of an element in DATA.
b. P points to the address of first element in DATA
c. P can store only memory addresses
d. P contain the DATA and the address of DATA

---

8. Which of the following data structure can't store the non-homogeneous data elements?

a. Arrays
b. Records
c. Pointers
d. None

---

9. Which of the following data structure store the homogeneous data elements?

a. Arrays
b. Records
c. Pointers
d. None

---

10. Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called

a. elementary items
b. atoms
c. scalars
d. all of above

---

11. The difference between linear array and a record is

a. An array is suitable for homogeneous data but hte data items in a record may have different data type
b. In a record, there may not be a natural ordering in opposed to linear array.
c. A record form a hierarchical structure but a lienear array does not
d. All of above

---

12. Which of the following statement is false?

a. Arrays are dense lists and static data structure
b. data elements in linked list need not be stored in adjecent space in memory
c. pointers store the next data element of a list
d. linked lists are collection of the nodes that contain information part and next pointer

---

13. Binary search algorithm can not be applied to

a. sorted linked list
b. sorted binary trees
c. sorted linear array
d. pointer array

---

14. When new data are to be inserted into a data structure, but there is no available space; this situation is usually called

a. underflow
b. overflow
c. housefull
d. saturated

---

15. The situation when in a linked list START=NULL is

a. underflow
b. overflow
c. housefull
d. saturated

---

16. Which of the following is two way list?

a. grounded header list
b. circular header list
c. linked list with header and trailer nodes
d. none of above

---

17. Which of the following name does not relate to stacks?

a. FIFO lists
b. LIFO list
c. Piles
d. Push-down lists

---

18. The term "push" and "pop" is related to the

a. array
b. lists
c. stacks
d. all of above

---

19. A data structure where elements can be added or removed at either end but not in the middle

a. Linked lists
b. Stacks
c. Queues
d. Deque

---

20. When inorder traversing a tree resulted E A C K F H D B G; the preorder traversal would return

a. FAEKCDBHG
b. FAEKCDHGB
c. EAFKHDCBG
d. FEAKDCHBG

Answers

---

1. The memory address of the first element of an array is called
d. base address

---

2. The memory address of fifth element of an array can be calculated by the formula
a. LOC(Array[5]=Base(Array)+w(5-lower bound), where w is the number of words per memory cell for the array

---

3. Which of the following data structures are indexed structures?
a. linear arrays

---

4. Which of the following is not the required condition for binary search algorithm?
c. There must be mechanism to delete and/or insert elements in list

---

5. Which of the following is not a limitation of binary search algorithm?
d. binary search algorithm is not efficient when the data elements are more than 1000.

---

6. Two dimensional arrays are also called
c. both of above

---

7. A variable P is called pointer if
a. P contains the address of an element in DATA.

---

8. Which of the following data structure can't store the non-homogeneous data elements?

a. Arrays

---

9. Which of the following data structure store the non-homogeneous data elements?
b. Records

---

10. Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called
d. all of above

---

11. The difference between linear array and a record is
d. All of above

---

12. Which of the following statement is false?
c. pointers store the next data element of a list

---

13. Binary search algorithm can not be applied to
a. sorted linked list

---

14. When new data are to be inserted into a data structure, but there is no available space; this situation is usually called
b. overflow

---

15. The situation when in a linked list START=NULL is
a. underflow

---

16. Which of the following is two way list?
d. none of above

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17. Which of the following name does not relate to stacks?
a. FIFO lists

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18. The term "push" and "pop" is related to the
c. stacks

---

19. A data structure where elements can be added or removed at either end but not in the middle

d. Deque

---

20. When inorder traversing a tree resulted E A C K F H D B G; the preorder traversal would return
b. FAEKCDHGB

Set - 1

1. Two main measures for the efficiency of an algorithm are
a. Processor and memory
b. Complexity and capacity
c. Time and space
d. Data and space

2. The time factor when determining the efficiency of algorithm is measured by
a. Counting microseconds
b. Counting the number of key operations
c. Counting the number of statements
d. Counting the kilobytes of algorithm

3. The space factor when determining the efficiency of algorithm is measured by
a. Counting the maximum memory needed by the algorithm
b. Counting the minimum memory needed by the algorithm
c. Counting the average memory needed by the algorithm
d. Counting the maximum disk space needed by the algorithm

4. Which of the following case does not exist in complexity theory
a. Best case
b. Worst case
c. Average case
d. Null case

5. The Worst case occur in linear search algorithm when
a. Item is somewhere in the middle of the array
b. Item is not in the array at all
c. Item is the last element in the array
d. Item is the last element in the array or is not there at all

6. The Average case occur in linear search algorithm
a. When Item is somewhere in the middle of the array
b. When Item is not in the array at all

c. When Item is the last element in the array
d. When Item is the last element in the array or is not there at all

---

7. The complexity of the average case of an algorithm is
a. Much more complicated to analyze than that of worst case
b. Much more simpler to analyze than that of worst case
c. Sometimes more complicated and some other times simpler than that of worst case
d. None or above

---

8. The complexity of linear search algorithm is
a. O(n)
b. O(log n)
c. O(n2)
d. O(n log n)

---

9. The complexity of Binary search algorithm is
a. O(n)
b. O(log)
c. O(n2)
d. O(n log n)

---

10. The complexity of Bubble sort algorithm is
a. O(n)
b. O(log n)
c. O(n2)
d. O(n log n)

---

11. The complexity of merge sort algorithm is
a. O(n)
b. O(log n)
c. O(n2)
d. O(n log n)

---

12. The indirect change of the values of a variable in one module by another module is called

a. internal change
b. inter-module change
c. side effect
d. side-module update

---

13. Which of the following data structure is not linear data structure?
a. Arrays
b. Linked lists
c. Both of above
d. None of above

---

14. Which of the following data structure is linear data structure?
a. Trees
b. Graphs
c. Arrays
d. None of above

---

15. The operation of processing each element in the list is known as
a. Sorting
b. Merging
c. Inserting
d. Traversal

---

16. Finding the location of the element with a given value is:
a. Traversal
b. Search
c. Sort
d. None of above

---

17. Arrays are best data structures
a. for relatively permanent collections of data
b. for the size of the structure and the data in the structure are constantly changing
c. for both of above situation
d. for none of above situation

18. Linked lists are best suited
a. for relatively permanent collections of data
b. for the size of the structure and the data in the structure are constantly changing
c. for both of above situation
d. for none of above situation

19. Each array declaration need not give, implicitly or explicitly, the information about
a. the name of array
b. the data type of array
c. the first data from the set to be stored
d. the index set of the array

20. The elements of an array are stored successively in memory cells because
a. by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated
b. the architecture of computer memory does not allow arrays to store other than serially
c. both of above
d. none of above

Answers

1. Two main measures for the efficiency of an algorithm are
c. Time and space

2. The time factor when determining the efficiency of algorithm is measured by
b. Counting the number of key operations

3. The space factor when determining the efficiency of algorithm is measured by
a. Counting the maximum memory needed by the algorithm

4. Which of the following case does not exist in complexity theory
d. Null case

5. The Worst case occur in linear search algorithm when
d. Item is the last element in the array or is not there at all

6. The Average case occur in linear search algorithm
a. When Item is somewhere in the middle of the array

7. The complexity of the average case of an algorithm is
a. Much more complicated to analyze than that of worst case

8. The complexity of linear search algorithm is
a. O(n)

9. The complexity of Binary search algorithm is
b. O(log n)

10. The complexity of Bubble sort algorithm is
c. $O(n^2)$

11. The complexity of merge sort algorithm is
d. O(n log n)

12. The indirect change of the values of a variable in one module by another module is called
c. side effect

13. Which of the following data structure is not linear data structure?
d. None of above

14. Which of the following data structure is linear data structure?
c. Arrays

15. The operation of processing each element in the list is known as
d. Traversal

16. Finding the location of the element with a given value is:
b. Search

17. Arrays are best data structures
a. for relatively permanent collections of data

18. Linked lists are best suited
b. for the size of the structure and the data in the structure are constantly changing

19. Each array declaration need not give, implicitly or explicitly, the information about
c. the first data from the set to be stored

20. The elements of an array are stored successively in memory cells because
a. by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated

6.1 Structured English is used to describe

a. how programs are to be written
b. processes in a DFD in a reasonably precise manner
c. how DFDs are used in data processing
d. data flows in DFD

6.2 Structured English is a

a. structured programming language
b. description of processes in simple English
c. method of describing computational procedures reasonably precisely in English
d. natural language based algorithmic language

6.3 The objective of using structured English is to

a. describe computational procedures reasonably precisely which can be understood by any user
b. expand a DFD so that a user can understand it
c. develop algorithms corresponding to processes in a DFD
d. ease writing programs for DFDs

6.4 Structured English description of processes

(i) should be understandable to a user of a computer based system
(ii) should be understandable to a programmer
(iii) can be descriptive in nature
(iv) should be translatable by a compiler

a. i and iii
b. ii and iv
c. i, ii and iv
d. i and ii

6.5 A decision table is

a. a truth table
b. a table which facilitates taking decisions
c. a table listing conditions and actions to be taken based on the testing of conditions

d. a table in a Decision Support System

6.6 A decision table

a. has a structured English equivalent representation

b. cannot be represented using structured English

c. does not have an equivalent algorithmic representation

d. cannot be used to represent processes in a DFD

6.7 A decision table is preferable when the number of

a. conditions to be checked in a procedure is small

b. conditions to be checked in a procedure is large

c. actions to be carried out are large

d. actions to be carried out are small

6.8 Select from the following list which are appropriate to use in structured English description of a process

(i)process inventory records

(ii)find the sum of outstanding billed amounts

(iii)check if outstanding amount >= Rs. 5000

(iv)check if stock is low

a. i and ii

b. i and iii

c. iii and iv

d. ii and iii

6.9 Structured English statements must be

a. short and clear

b. specified quantitatively

c. specified qualitatively

d. detailed and descriptive

6.10 Select statements from the following list which may be used in structured English

(i)if marks are too low fail student

(ii)if marks >=60 enter first class

(iii)if average height select candidate

(iv)if weight < 40 kg. reject candidate

a. i and ii
b. ii and iii
c. iii and iv
d. ii and iv

6.11 Select correct decision structures from the following

(i)**if** total marks>=75
then enter distinction in student record
end if

(ii) **if** total marks >=50
then enter pass in student record
else enter fail in student record
end if

(iii) **if** total marks >=60
then enter first class in student record
else if total marks>= 50
then enter second class in student record
else
enter fail in student record
end if
end if

(iv) **if** attendance <30%
then
do not admit in examination
else

a. ii and iii
b. i and ii
c. iii and iv
d. i and iv

6.12 The following structured English procedure is incorrect because

if balance in account <=0
then
{issue exception note to dept.
mark "stop future issues" in
departments record}
else
if balance in account <minimum balance
then
{ issue item to dept.
issue warning to dept.}
end if
end if

a. **end if** in second if is not needed
b. nesting of **if**s is not correct
c. no action is specified when balance in account >=minimum balance
d. the value of minimum balance is not specified

6.13 The following structural English is incorrect because

case (income slab)
Income slab =1 : tax= 10%
Income slab =2 or 3 : tax= 20%
Income slab =5 : tax= 30%
end case

a. no action is specified for income slab of 4
b. income slab has to be rupees
c. income slab =2 or 3 is wrong
d. number of cases is too small

6.14 The following structured English procedure is incorrect because

case (code)
Code=2 : **if** purchase amount >=5000
then discount=5%
Code=1 :discount=2%
Code=3 :**if** purchase amount >=4000
then discount =2%
else if code=4
then discount =5%
end if
None of the above codes : discount=0
end case

a. code=2 should appear after code=1
b. if statement cannot be used within a case
c. code=4 should not be used in the action for code=3
d. The statement is correct

6.15 The following while structure is wrong because

balance =500
while balance <=1000 do
Write (amount due – balance)
Read next record
end while

a. read must appear before write
b. this loop will never terminate
c. no read allowed in a loop
d. the contents of next record is not known

6.16 Structured English description of data processing is a

a. non-procedural specification
b. procedural specification

c. purely descriptive specification

d. very imprecise specification

6.17 Decision table description of data processing is

a. non-procedural specification

b. procedural specification

c. purely descriptive specification

d. very imprecise specification

6.18 In the following word statement the conditions are:"if a student gets 50 marks or more in mathematics and 40 marks or more in English he passes the examination, otherwise he fails"

a. student passes the examination

b. student fails the examination

c. student gets 50 marks or more in mathematics

d. student mathematics marks >= 50 and student English marks

6.19 In the following word statement the actions are"if a student gets 50 marks or more in mathematics and 40 marks or more in English he passes the examination, otherwise he fails"

(i)student passes the examination

(ii)student fails the examination

(iii)student gets 50 marks or more in mathematics

(iv)student mathematics marks >= 50 and student English marks >= 40

a. i and ii

b. i and iii

c. ii and iii

d. iii and iv

6.20 In a limited entry decision table the condition stub

a. lists X or – corresponding to actions to be executed

b. lists the conditions to be tested

c. has Y or N or – entries

d. lists the actions to be taken

6.21 In a limited entry decision table the condition entries

a. list X or – corresponding to actions to be executed
b. list the conditions to be tested
c. have Y or N or – entries
d. list the actions to be taken

6.22 In a limited entry decision table the action stub

a. lists X or – corresponding to actions to be executed
b. lists the conditions to be tested
c. has Y or N or – entries
d. lists the actions to be taken

6.23 In a limited entry decision table the action entries

a. list X or – corresponding to actions to be executed
b. list the conditions to be tested
c. have Y or N or – entries
d. list the actions to be taken

6.24 In a limited entry decision table the condition entries may be

a. Y or N only
b. Y, N or –
c. A binary digit
d. Any integer

6.25 In a limited entry decision table a—entry against a condition signifies that

a. the outcome of testing the condition is irrelevant
b. it is an important condition
c. the condition should be tested
d. the condition is a Boolean condition

6.26 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 tables consisting of conditions of the stub

6.27 The conditions in the condition stub of a limited entry decision table

a. must be in sequential order
b. must be in the order in which they are to be tested
c. may be in any order
d. must be in the order in which they are to be executed

6.28 The actions in the action stub of a limited entry decision table

a. must be in sequential order
b. must be in the order in which they are to be tested
c. may be in any order
d. must be in the order in which they are to be executed

6.29 A X against an action in an action row signifies that the

a. action is not to be taken
b. action is to be taken
c. action is important
d. action is not important

6.30 A—against an action in an action row signifies that the

a. action is not to be taken
b. action is to be taken
c. action is important
d. action is not important

6.31 An extended entry decision table has

a. only Y, N or – entries
b. entries which extend the condition
c. questions asked extended into the condition entry part of the table
d. only numerical entries

6.32 An extended entry decision table

a. has no limited entry equivalent
b. cannot be replaced by a table with only Y, or – entries
c. may have Yes, No answers to conditions
d. can always be converted to an equivalent limited entry decision tabl

6.33 An extended entry decision table is

a. very difficult to understand
b. quite concise compared to a limited entry decision table developed for the same task
c. large compared to a limited entry table developed for the same task
d. is not very often used

6.34 A mixed entry decision table

a. may have some conditions with Y, N, or – entries
b. may not have any Y, N, or – entry
c. may have only non-numerical entries
d. may mix numerical and non-numerical entries

Given a decision table "test" shown below

	R1	R2	R3
C1	Y	N	Y
C2	N	–	Y
A1	X	—	
A2	–	X	–
A3	X	–	X

Decision table–"test"

Answer the following questions:

6.35 Rule R1 is interpreted as follows:

a. If C1 is TRUE and C2 is FALSE then perform action A2
b. If C1 is TRUE and C2 is FALSE then perform action A1 and then action A2
c. If C1 is TRUE and C2 is FALSE then perform action A3 and then action A1
d. If C1 is TRUE and C2 is FALSE then perform action A1 and then action A3

6.36 Rule R3 is interpreted as follows:

a. If C1 is TRUE and C2 is TRUE then perform action A1 and A
b. If C1 is TRUE or C2 is TRUE then perform action A3
c. If C1 is TRUE and C2 is TRUE then perform action A1 or A2
d. If C1 is TRUE and C2 is TRUE then perform action A3

6.37 Structured English equivalent of the decision table "test" are given below

(i) **if** C1 TRUE
then if C2 TRUE
then do A3
else do A1 and A3
end if
else do A2
end if

(ii) **if** C1 FALSE
then do A2
else if C2 TRUE
then do A3
else do A1 and A3
end if
end if

(iii) **if** C2 TRUE
then if C1 TRUE
then do A3
else do A2
end if
else do A1 and A3
end if

(iv) **if** C2 FALSE
then if C1 TRUE
then do A1 and A3

else do A2
end if
else do A3
end if

Which of the following are correct?

a. i and iii
b. i and ii
c. iii and iv
d. ii and iv

6.38 Structured English equivalents of decision table "test" are given below. Pick the right one

(i)**if** C1 TRUE **and** C2 FALSE then R=1 **end if**
if C1 FALSE then R=2 **end if**
if C1 TRUE **and** C2 TRUE then R=3 **end if**
case (R)
R=1; perform actions A1 **and** A3
R=2; perform action A2
R=3; perform action A3
end case

(ii)**if** C1 TRUE **and** C2 FALSE then perform actions A1, A3 **end if**
if C1 FALSE then perform action A2 **end if**
if C1 TRUE **and** C2 TRUE then perform action A3 **end if**

(iii)**case** (C1 TRUE **and** C2 FALSE) Rule R1
case (C1 FALSE) Rule R2
case (C1 TRUE **and** C2 TRUE) Rule R3
end case

(iv)**if** C1 TRUE **and** C2 TRUE then do Rule R3 **end if**

if C1 TRUE **and** C2 FALSE then do Rule R1 **end if**

if C1 TRUE **then** do Rule R2 **end if**

a. i and ii
b. i and iii
c. ii and iii
d. iii and iv

a. The Elementary Rule Decision Table equivalent of decision table "test" is

C1	Y	N	Y	
C2	N	N	Y	
A1	X	–	–	
A2	–	X	–	
A3	X	–		X

b.

C1	Y	N	Y	
C2	N	Y	Y	
A1	X	–	–	
A2	–	X	–	
A3	X	–	X	

c.

C1	Y	N	N	Y
C2	N	N	Y	Y
A1	X	–	–	–
A2	–	X	X	–
A3		X	–	X

d.

C1		Y	N	N	Y
C2	N	N	Y	Y	
A1	X	–	–	–	
A2	–	X	–	–	
A3	X	–	X	X	

6.39 The decision table "test" is

a. ambiguous
b. contradictory
c. incomplete
d. complete

Answer the following referring to the decision table "test2"

	R1	R2
C1 : x <= 50	N	–
C2 : x >= 70	–	N
A1	X	–
A2	–	X

Decision Table: "test2"

6.40 Decision table "test2" is

a. really incomplete
b. complete
c. apparently incomplete
d. apparently complete

6.41 Decision table "test2"

a. has a real ambiguity
b. has an apparent ambiguity
c. is logically correct

d. is incomplete

C1	N	–
C2	–	N
A1	Y	–
A2	Y	

DECISION TABLE "testing"–

6.42 Decision table "testing" can be made complete

(i)by putting an ELSE rule

(ii)is as it is complete and does not need any more rules

(iii)by specifying actions when C1 = Y and C2 = Y

(iv)by specifying actions when C1 = N and C2 = N

a. (i), (ii)

b. (i), (iii)

c. (ii), (iii)

d. (ii), (iv)

6.43 The K-map equivalent of decision table "test2" is

C 1 C1

a.

C2 \	Y	N
Y		A1
N	A2	A1

b.

C2 \	Y	N
Y	A1	A2
N	A2	A1

c.

C2 \ C1	Y	N
Y		A1
N	A2	A1,A2

d.

C2 \ C1	Y	N
Y		A1
N	A2	A2

6.44 The decision table equivalent of the following structured English statement is

```
if      C2  TRUE
then if     C1      TRUE
then do     A3
else do     A2
end if
else do     A1 and A3
end if
```

a.

	C1	Y	Y	N
	C2	Y	N	–
	A1	–	–	X
	A2	–	X	–
	A3	X	–	X

b.

	C2	Y	Y	N

	C1	Y	N	N
	A1	–	–	X
	A2	–	X	–
	A3	X	–	X

c.

	C1	Y	N	–
	C2	Y	Y	N
	A1	–	–	X
	A2	–	X	–
	A3	X	–	X

d.

C1	Y	N	Y	
	C2	Y	Y	N
	A1	–	–	X
	A2	–	X	–
	A3	X	–	X

6.45 The decision table equivalent of the following structured English statement is

if balance in account <=0
then{issue exception note to dept. and mark “stop future issues”}
else if balance in account <min. balance
then {issue item to dept.
issue warning to dept.}

else {issue item to dept.}

end if

end if

C1=balance in account <=0;

C2=balance in account < min. balance

A1=issue exception note and mark “no future issues”

A2=issue item to dept

A3=issue warning to dept.

a.

C1	Y	N	N
C2	–	Y	N
A1	X	–	–
A2	–	X	X
A3	–	X	–

b.

C1	Y	N	N	Y
C2	N	Y	N	Y
A1	X	–	–	–
A2	–	X	X	X
A3	–	X	–	–

c.

C1	N	N	N
C2	–	Y	N
A1	X	–	–
A2	–	X	X
A3	–	X	–

d.

C1	Y	N	Y
C2	N	Y	N
A1	X	–	–
A2	–	X	X
A3	–	X	–

6.46 The decision table given in answer (a) of question 9.4.3 is

a. incomplete
b. apparently ambiguous
c. has contradictory specifications
d. logically complete

6.47 The rule C1=Y, C2=Y in the decision table given in answer (a) of question 6.3.7 is

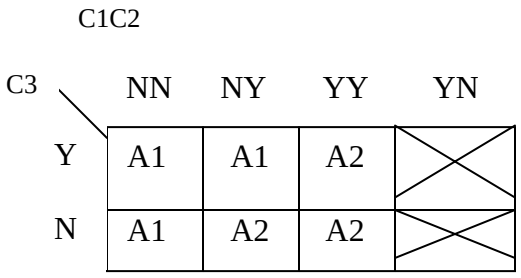
e. logically impossible
f. logically possible
g. has no action specified
h. has multiple actions specified

6.48 If min. balance > 0 then the rule C1=Y, C2= – in the decision table given in answer (a) of question 6.3.7 may be replaced by the rule

i. C1=Y, C2=N
j. C1=Y, C2=Y
k. C1= –, C2=Y
l. C1= –, C2=N

6.49 The actions of a decision table are mapped on a K-map shown be

The boxes marked X denote impossible rules



The rule for action A1 may be represented by the following minimal Boolean expression

a. $\overline{C1}.\overline{C2} + C1.C2.C3$

b. $\overline{C1}.\overline{C2}.\overline{C3} + C1.C3$

c. $C\overline{1}.\overline{C3} + C2$

d. $C1.C3 + C2.C1$

6.50 The following decision table may be replaced by its best equivalent shown below:

C1	N	N	N	N	Y	Y	Y	Y
C2	N	N	Y	Y	Y	Y	N	N
C3	Y	N	N	Y	Y	N	N	Y
A1	X	–	–	X	–	–	X	X
A2	–	X	X	–	X	X	X	X

a.

C1	N	N	Y	Y
C2	–	–	Y	N
C3	Y	N	–	–
A1	X	–	–	X
A2	–	X	X	X

b.

C1	–	Y	N	Y
C2	–	–	–	N
C3	N	–	Y	–
A1	–	–	X	X

A2	X	X	–	X	

c.

C1	N	–	Y	N	Y
C2	–	Y	Y	–	N
C3	N	N	–	Y	–
A1	–	–	–	X	X
A2	X	X	X	–	X

d.

C1	Y	N	N	Y
C2	–	–	–	N
C3	–	N	Y	–
A1	–	–	X	X
A2	X	X	–	X

6.51 The following decision table may be replaced by its best equivalent shown below:

C1	N	N	N	N	Y	Y	Y	Y
C2	N	N	Y	Y	Y	Y	N	N
C3	Y	N	N	Y	Y	N	N	Y
A1	X	–	–	X	–	–	X	X
A2	–	X	X	–	X	X	X	X

a.

C1	N	N	Y	Y
C2	–	–	Y	N
C3	Y	N	–	–
A1	X	–	–	X
A2	–	X	X	X

b.

C1	–	Y	N	Y
C2	–	–	–	N
C3	N	–	Y	–
A1	–	–	X	X
A2	X	X	–	X

c.

C1	N	–	Y	N	Y
C2	–	Y	Y	–	N
C3	N	N	–	Y	–
A1	–	–	–	X	X
A2	X	X	X	–	X

d.

C1	Y	N	N	Y
C2	–	–	–	N
C3	–	N	Y	–
A1	–	–	X	X
A2	X	X	–	X

6.52

C1	N	N	N	N	Y	Y	Y	Y
C2	N	N	Y	Y	Y	Y	N	N
C3	Y	N	N	Y	Y	N	N	Y
A1	X	–	–	X	–	–	X	X

A2	–	X	X	–	X	X	X	X

a.

C1	N	N	Y	Y
C2	–	–	Y	N
C3	Y	N	–	–
A1	X	–	–	X
A2	–	X	X	X

b.

C1	–	Y	N	Y
C2	–	–	–	N
C3	N	–	Y	–
A1	–	–	X	X
A2	X	X	–	X

c.

C1	N	–	Y	N	Y
C2	–	Y	Y	–	N
C3	N	N	–	Y	–
A1	–	–	–	X	X
A2	X	X	X	–	X

d.

C1	Y	N	N	Y
C2	–	–	–	N
C3	–	N	Y	–

A1	–	–	X	X
A2	X	X	–	X

6.53 Given the decision table "test 3"answer the following questions:

	R1	R2	R3	R4	R5	R6	R7	R8
x>=20	Y	Y	Y	Y	N	N	N	N
x<=30	Y	Y	N	N	Y	Y	N	N
y>=x	Y	N	Y	N	Y	N	Y	N
A1	X	X	X	X	–	–	–	–
A2	–	–	–	–	X	X	–	–
A3	–	–	–	–	–	–	X	X

a. Rules R7, R8 are logically impossible

b. Rules R5, R6 are logically impossible

c. Rules R3, R4 are logically impossible

d. Rules R1, R2 are logically impossible

6.54 Pick the correct equivalent of "test 3"

a.

C1	Y	N
A1	X	–
A2	–	X

b.

C1	Y	N	N
C2	–	Y	N
A1	X	–	–
A2	–	X	–
A3	–	–	X

c.

C1	Y	Y	N	N
C3	N	Y	N	Y
C2	–	–	–	–
A1	X	X	–	–
A2	–	–	X	X

d.

C1	Y	N	N
C2	–	Y	N
A1	X	–	–
A2	–	X	–

A3 – – X

6.55 The decision table "test 3" is

a. Incomplete
b. Ambiguous
c. Incorrect
d. .has redundancies

6.56 The decision table equivalent of the following Boolean expression is

$$A1 = \bar{C3}.C1.C2 + C2.\bar{C3}.C1$$

$$A2 = C1.C3 + C3.\bar{C2}.\bar{C1} + \bar{C1}.\overline{C2}.\bar{C3}$$

a.

	C1	Y	Y	Y	N	N
	C2	Y	N	–	N	N
	C3	N	Y	Y	Y	N
	A1	X	X	–	–	–
	A2	–	–	X	X	X

b.

	C1	Y	Y	Y	N	N
	C2	Y	N	N	N	N
	C3	Y	Y	–	Y	N
	A1	X	X	–	–	–
	A2	–	–	X	X	X

c.

C2	Y	Y	Y	N	N
C1	Y	N	–	N	N
C3	N	Y	Y	Y	N
A1	X	X	–	–	–
A2	–	–	X	X	X

d.

C1	Y	Y	Y	N	N
C2	Y	N	–	N	N
C3	N	Y	Y	Y	N
A1	X	X	–	–	–
A2	X	X	X	X	X

6.57 A decision table "test 4" is given below

C1	Y	Y	N	–	–	N	Y	N
C2	Y	–	N	Y	–	N	N	–
C3	Y	Y	Y	–	Y	N	N	N
C4	–	Y	–	Y	N	–	–	N
A1	X	X	X	–	–	–	–	–
A2	–	–	–	X	X	–	–	–
A3	–	–	–	–	–	X	X	–
?	–	–	–	–	–	–	–	I

where I indicates impossible rule

The contradictory rules are

a. YYYY, NYYY, NNYY

b. YYYN, NYYN, NNYN

c. YYYY, YYYN, NNYN

d. There are no contradictory rules

6.58 In "test 4" the contradictory actions are:

a. A1, A3

b. A1, A2

c. A2, A3

d. A2, I

6.59 In "test 4" missing rule is:

e. NYNN

f. NYYN

g. YYNN

h. YNYN

6.60 If in "test 4" the rules where the contradictory actions or unspecified actions are present, the action is replaced by A2 only, the reduced decision table using impossible rules also for reduction is:

a.

C1	–	–	–	–	–	N	
C2	N	–	Y	Y	–	N	
C3	Y	Y	–	Y	N	N	
C4	Y	N	Y	–	N	–	
A1	X	–	–	–	–	–	
A2	–	X	X	X	–	–	
A3	–	–	–	–	X	X	

b.

C1	N	Y	–	–	–	N	N

C2	N	N	Y	Y	–	–	N
C3	Y	Y	N	Y	Y	N	N
C4	Y	Y	Y	–	N	N	–
A1	X	X	–	–	–	–	–
A2	–	–	X	X	X	–	–
A3	–	–	–	–	–	X	X

c .

C1	–	–	–	–	N
C2	N	–	Y	–	N
C3	Y	Y	–	N	N
C4	Y	N	Y	N	–
A1	X	–	–	–	–
A2	–	X	X	–	–
A3	–	–	–	X	X

d .

C2	N	Y	–	N
C3	Y	–	Y	N
C4	Y	–	N	–
A1	X	–	–	–
A2	–	X	X	–
A3	–	–	–	X

6.61 Decision Trees are preferred when

a. Too many conditions need to be tested

b. Sequencing of testing conditions is important

c. When there are many loops to be performed

d. When too many actions are to be taken

6.62 Decision Tables are preferred when

a. Too many conditions need to be tested
b. Sequencing of testing conditions is important
c. When there are many loops to be performed
d. When too many actions are to be taken

6.63 Structured English is preferred when

a. any conditions need to be tested
b. Sequencing of testing conditions is important
c. When there are many loops to be performed
d. When too many actions are to be taken

6.64 The objective of using decision trees is to

a. Expand a DFD so that a user can understand it
b. To specify sequence of conditions to be tested and actions to be taken
c. Describe a computational procedure that can be easily understood by a person
d. Use it as a tool in decision support system

6.65 Decision trees are superior to decision tables when

a. The number of conditions to be tested is very large
b. When sequence of testing conditions is not particularly important
c. When sequence of testing conditions is not particularly important
d. When a large number of actions are to be specified

6.66 Logical correctness of a specifications can be systematically checked by

a. Using decision trees
b. Using structured English
c. Using DFD's
d. Using decision tables

6.67 The decision tree equivalent of the following structured English is

```
if  C2 then
        if C1
            then  A3
```

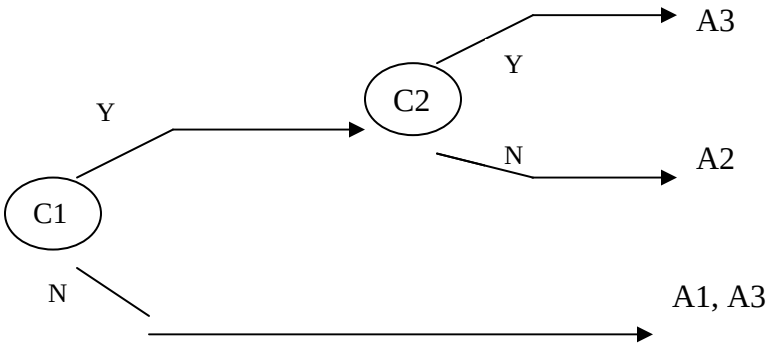
else A2

endif

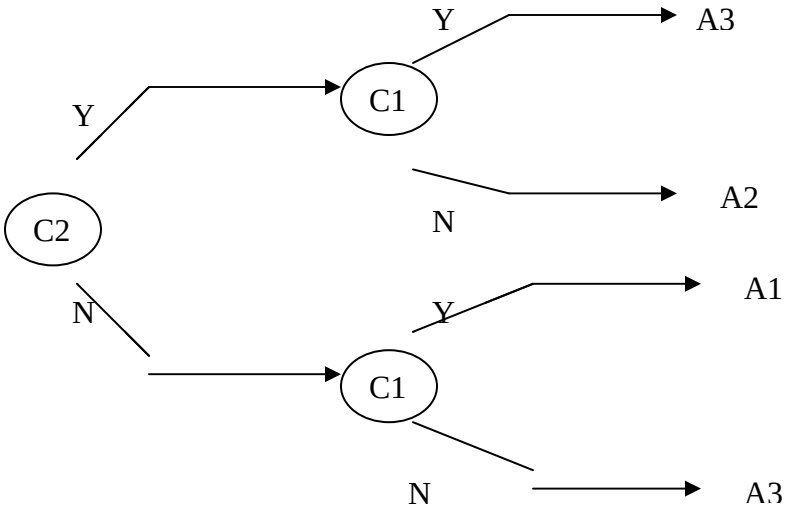
else A1,A3

endif

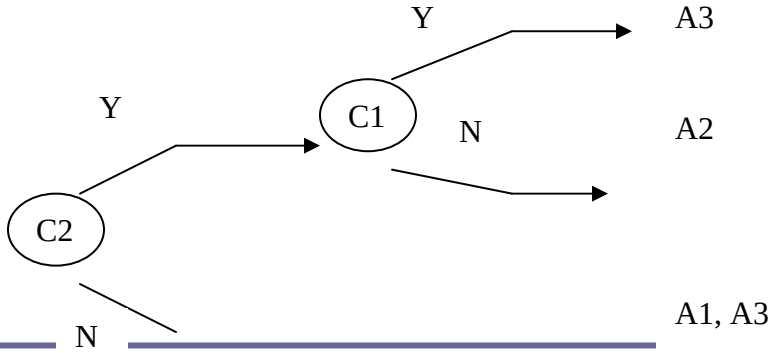
a.



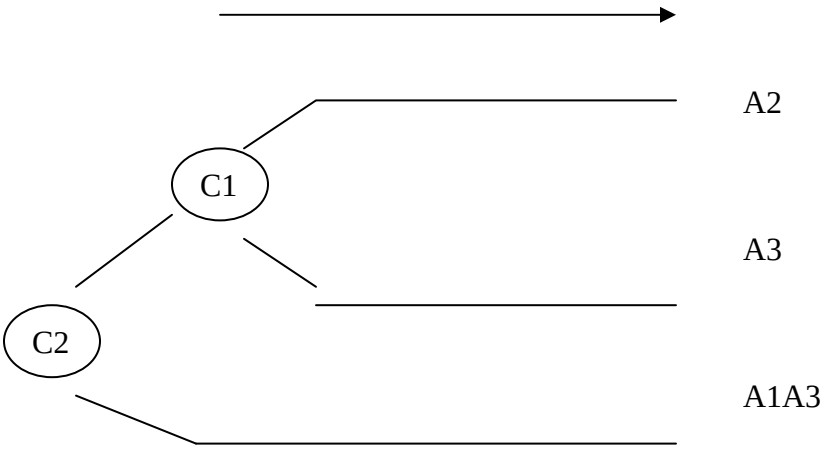
b.



c.



d.



6.68 Decision tables are better then Decision trees when

a. Conditions are to be isolated from actions in a word statement

b. Condition sequences are to be found from a word statement

c. Logical correctness of a word statement is to be established

d. Large number of actions is to be performed

6.69 The decision table equivalent of the Decision tree of choice (a) of 6.5.7 is

a.

C2	Y	N	N	Y
C1	N	Y	N	Y
A1	X	-	X	-
A2	-	X	X	-
A3	X	-	-	X

b.

C1	Y	Y	N
C2	Y	N	-
A1	-	-	X
A2	-	X	-
A3	X	-	X

c.

C1	Y	Y	N
C2	Y	N	Y
A1	-	-	X
A2	-	X	-
A3	X	-	X

d.

C1	Y	Y	N	
C2	Y	N	Y	
A1	-	-	X	
A2	-	X	-	Error
A3	X	-	X	

Key to Objective Questions

6.1 b 6.2 c 6.3 a 6.4 d 6.5 c 6.6 a

6.7 b 6.8 d 6.9 b 6.10 d 6.11 a 6.12 c

6.13 a 6.14 c 6.15 b 6.16 b 6.17 a 6.18 d

6.19 a 6.20 b 6.21 c 6.22 d 6.23 a 6.24 b

6.25 a 6.26 c 6.27 c 6.28 d 6.29 b 6.30 a

6.31 c 6.32 d 6.33 b 6.34 a 6.35 d 6.36 d

6.37 b 6.38 a 6.39 c 6.40 d 6.41 c 6.42 a

6.43 b 6.44 c 6.45 c 6.46 a 6.47 d 6.48 b

6.49 b 6.50 c 6.51 a 6.52 b 6.53 a 6.54 a

6.55 d 6.56 a 6.57 c 6.58 b 6.59 c 6.60 d

6.61 b 6.62 a 6.63 c 6.64 b 6.65 c 6.66 d

6.67 c 6.68 c 6.69 b

OPERATING SYSTEMS Multiple Choice Questions and Answers :-

1. If there are multiple recycle bin for a hard disk

a. you can set different size for each recycle bin
b. you can choose which recycle bin to use to store your deleted files
c. You can make any one of them default recycle bin
d. None of above

2. Identify false statement

a. You can find deleted files in recycle bin
b. You can restore any files in recycle bin if you ever need
c. You can increase free space of disk by sending files in recycle bin
d. You can right click and choose Empty Recycle Bin to clean it at once

3. If the displayed system time and date is wrong, you can reset it using

a. Write
b. Calendar
c. Write file
d. Control panel

4. You should save your computer from?

a. Viruses
b. Time bombs
c. Worms
d. All of the above

5. World Wide Web is being standard by

a. Worldwide corporation
b. W3C
c. World Wide Consortium
d. World Wide Web Standard

6. A co-processor

a. Is relatively easy to support in software
b. Causes all processor to function equally
c. Works with any application
d. Is quite common in modern computer

7. A Microsoft Windows is ..... a(n)

a. Operating system
b. Graphic program
c. Word Processing
d. Database program

8. Which of the following is program group?

a. Accessories
b. Paint
c. Word
d. All of above

9. Which is not application software?

a. Windows NT
b. Page Maker
c. WinWord XP
d. Photoshop

10. The ..... program compresses large files into a smaller file

a. WinZip

b. WinShrink
c. WinStyle
d. None of above

11. Which of the following is an example of a real time operating system?

a. Lynx
b. MS DOS
c. Windows XP
d. Process Control

12. Which of the following operating system does not implement the multitasking truly?

a. Windows 98
b. Windows NT
c. Windows XP
d. MS DOS

13. Which of the following windows version support 64 bit processor?

a. Windows 98
b. Windows 2000
c. Windows XP
d. Windows 95

14. Which of the following Operating System does not implement multitasking truly?

a. Windows 98
b. Windows NT
c. Windows XP
d. MS DOS

15. What program runs first after computer is booted and loading GUI?

a. Desktop Manager
b. File Manager
c. Windows Explorer
d. Authentication

16. Which of the following operating system do you choose to implement a client server network?

a. MS DOS
b. Windows
c. Windows 98
d. Windows 2000

17. Which of the following Operating systems is better for implementing a Client-Server network

a. MS DOS
b. Windows 95
c. Windows 98
d. Windows 2000

18. My Computer was introduced from

a. Windows 3.1
b. Windows 3.11
c. Windows 95
d. Windows 98

19. Which of the following Windows do not have Start button

a. Windows Vista
b. Windows 7
c. Windows 8
d. None of above

20. Which is the latest version of MS Windows?

a. Windows 2007

b. Windows 8.1
c. Windows 2008
d. Windows 7

21. Which operating system doesn't support networking between computers?

a. Windows 3.1
b. Windows 95
c. Windows 2000
d. Windows NT

22. Which Operating System doesn't support networking between computers?

a. Windows 3.1
b. Windows 95
c. Windows 2000
d. Windows NT

23. Which of the following does not support more than one program at a time?

a. DOS
b. Linux
c. Windows
d. Unix

24. Which of the following is not an operating system?

a. DOS
b. Linux
c. Windows
d. Oracle

25. Linux is a(n) ... operating system

a. Open source

b. Microsoft
c. Windows
d. Mac

26. Which operating system can you give smallest file name?

a. Ps/2
b. Dos
c. Windows
d. Windows NT

27. Which one is not operating system?

a. P11
b. OS/2
c. Windows
d. Unix

28. Which of the following is not a multitasking operating system?

a. Windows
b. Linux
c. Win NT
d. DOS

29. You should choose Sleep option when

a. The computer is tired after working for the whole day
b. You are leaving for a very short time and want to resume you work shortly
c. When computer gets hanged frequently. Let it sleep for some time
d. You finish working and going to bed

30. The .... displays the name of every computer user on the computer

a. Wish list screen
b. Command screen
c. Welcome screen
d. None of the above

31. The category of software most appropriate for controlling the design and layout of complex document like newsletters and brochure is:

a. Word processing
b. Computer aided design
c. Web page authoring
d. Desktop publishing

32. Which one is not a system tool?

a. Backup
b. Disk defragment
c. Virus scanning
d. All of the above

33. The memory which allocates space for DOS and application is called

a. Expanded memory
b. Cache memory
c. Virtual memory
d. Conventional memory

34. The operating system creates ... from the physical computer

a. Virtual space
b. Virtual computer
c. Virtual device
d. None

35. The operating system creates _____ from the physical computer

a. Virtual space
b. Virtual computers
c. Virtual device
d. None

36. Which menu bar selection would you access to open file?

a. Option
b. Help
c. View
d. None of above

37. Which mode loads minimal set of drivers when starting Windows?

a. Safe Mode
b. Normal Mode
c. VGA Mode
d. Network Support Mode

38. Which of the following are loaded in safe mode?

a. Keyboard driver
b. Mouse driver
c. VGA drive
d. All of above

39. A .... is a named location on a disk where files are stored

a. Folder
b. Pod
c. Version
d. None of the above

40. Which command is used to see the version of operating system?

a. Vol

b. Version
c. Ver
d. None of the above

41. Which type of command requires additional files to perform specific operations?

a. Internal commands
b. External commands
c. Valuable commands
d. Primary commands

42. Which of the following is system software?

a. Operating system
b. Compiler
c. Utilities
d. All of the above

43. A user-interface that is easy to use is considered to be

a. User-happy
b. User-simple
c. User-friendly
d. None of the above

44. A ….is a flash memory storage device that plugins into a USB port

a. USB snap drive
b. USB flash drive
c. USB memory maker drive
d. None of above

45. The ….is the drive containing the files to be copied

a. Source drive
b. Destination drive

c. USB drive
d. None of the above

46. The number of character contained in primary name (DOS)?

a. Up to 8 characters
b. 3 characters
c. Up to 10 characters
d. None of the above

47. Which one of the following is not a multitasking operating system?

a. DOS
b. Windows
c. Unix
d. Linux

48. The most recent version of MAC OS is based on the … operating system

a. Windows
b. Linux
c. Unix
d. CMOS

49. The … operating system was initially created in the early 1970s at AT and T's Bell Labs

a. Linux
b. DOS
c. Unix
d. GNU

50. Which command is used to undelete a bunch of files with extension .doc that you have just deleted?

a. Undelete
b. Undelete/all
c. Undelete *.doc
d. All of above

OPERATING SYSTEMS Interview Questions and Answers ::

51. Which command is used to display the contents of the text file of DOS?

a. Copy con
b. Copy
c. Type
d. Dir

52. In Windows, start button is used to

a. Run applications
b. Device setting
c. Turn off the system
d. All of above

53. Which of the following is an essential file of a MS-DOS boot disk?

a. COMMAND.COM
b. START.COM
c. TREE.COM
d. VER.COM

54. Which one is true for unconditional disk formatting?

a. Destroys every byte of data on a disk by overwriting it with with blank spaces
b. Do not check/scan surface after format
c. Transfer system files after format
d. All of above

55. Once text has been cut to the clipboard, you can .....that text into another document

a. Paste
b. Copy
c. Transfer
d. None of the above

56. What is the function of radio button?

a. To select multiple option
b. To select single option
c. To select all option
d. All of above

57. The Banker's algorithm is used

a. to rectify deadlock
b. to detect deadlock
c. to prevent deadlock
d. to slove deadlock

58. The primary purpose of an operating system is:

a. To make the most efficient use of the computer hardware
b. To allow people to use the computer,
c. To keep systems programmers employed
d. To make computers easier to use

59. The primary purpose of an operating system is a ...

a. To make the most efficient use of computer hardware
b. To allow people to use the computer
c. To keep system programmer employed
d. To make computer easier to use

60. You can use print manage window

a. To check status of files in the print queue
b. To cancel the print job
c. To interrupt printing
d. All of the above

61. Which of the following operating system reads and reacts in actual time?

a. Quick Response System
b. Real Time System
c. Time Sharing System
d. Batch Processing System

62. All of the following are TRUE regarding virtual memory EXCEPT

a. Any amount of RAM can be allocated to virtual memory
b. The setting for the amount of hard disk drive space to allocate virtual memory can be manually change
c. This temporary storage is called the swap file or page file
d. Virtual memory is the physical space o the hard drive

63. The essential difference between an operating system like Linux and one like Windows is that

a. Windows can run with an Intel processor, whereas Linux cannot
b. Linux is a proprietary whereas Windows is not
c. There are multiple versions of Linux, but only one version of Windows
d. Any programmer can modify Linux code which is not permitted with Windows

64. What is dispatch latency?

a. The time taken by the dispatcher to stop one process and start another
b. The time taken by the processor to write a file into disk

c. The whole time taken by all processor
d. None of Above

65. A page fault occurs when

a. the Deadlock happens
b. the Segmentation starts
c. the page is found in the memory
d. the page is not found in the memory

66. Whenever you move a directory from one location to another

a. All files inside the directory are moved
b. All the subdirectory inside that directory are moved
c. The directory is moved the source file is not moved
d. Both a and b

67. The Basic Input Output System (BIOS) resides in

a. RAM
b. ROM
c. The CPU
d. Memory Cache

68. Which of the following does not occur during the power-on-self-test (POST)?

a. The scandisk utility begins to run
b. The video card and video memory are tested
c. The BIOS identification process occurs
d. Memory chip are checked to ensure that they are working properly

69. The maximum size of a write file is limited to only

a. Name of the file
b. Extension of the file

c. The amount of memory in your computer
d. All of above

70. Which of the following is drop down list?

a. List
b. Combo box
c. Text area
d. None

71. Recently deleted files are stored in

a. Recycle bin
b. Desktop
c. Taskbar
d. My computer

72. Which components appear in the initial Windows start up display?

a. Dialog boxes
b. Start menu
c. Taskbar
d. All of above

73. A small part of taskbar that has icons of background running applications is

a. Start button
b. Quick launch
c. Task bar
d. System tray

74. An operating system version designed for use with a media center PC is Microsoft Windows XP

a. Home edition
b. Media center edition

c. Tablet PC edition
d. None of above

75. An operating system version designed for use with a tablet PC is Microsoft Windows XP

a. Home edition
b. Media center edition
c. Tablet PC edition
d. None of the above

76. The date and time displays on

a. Taskbar
b. Status bar
c. System tray
d. Launch pad

77. .... runs on a computer hardware and serves as a platform for other system to run on

a. Operating system
b. Application system
c. System software
d. All of above

78. Which runs on computer hardware and serve as platform for other software to run on?

a. Operating System
b. Application Software
c. System Software
d. All

79. ... is the program run on a computer when the computer boots up

a. System software

b. Operating system
c. System operations
d. None

80. Which is the first program run on a computer when the computer boots up?

a. System software
b. Operating system
c. System operations
d. None

81. The ….contains commands associated with the My Computer window

a. Standard menu
b. Start menu
c. System menu
d. None of the above

82. …. is the layer of a computer system between the hardware and the user program

a. Operating environment
b. Operating system
c. System environment
d. None of these

83. Which is the layer of a computer system between the hardware and the user program

a. Operating environment
b. Operating system
c. System environment
d. None

84. When you start up the computer the boot up storage at which the BIOS versions manufacturer and data are displayed

on the monitor is called

a. Bootstrap
b. Power on self test (POST)
c. System configuration
d. Kernel loading

85. The operating system is the most common type of ….
Software

a. Communication
b. Application
c. System
d. Word processing software

86. Which of the following is/are external commands?

a. Edit
b. Label
c. Sys
d. All of above

87. Which is not an external command?

a. Edit
b. XCOPY
c. Sys
d. None of the above

88. Which of the following is not essential to shut down your computer?

a. Save all opened files
b. Close all running applications
c. Switch off monitor
d. Cut off the power supply

89. What is Dr. Watson?

a. IT Expert
b. Diagnosis tool
c. Surgeon
d. None

90. The command allows you to create logical drive

a. Sort
b. Path
c. Subst
d. Batch

91. The command used to create logical drive for specific location of disk

a. Fdisk
b. Format
c. Subst
d. All of the above

92. You can move a window to a different position on your screen by dragging it by its

a. Move handle
b. Tail
c. Status bar
d. Title bar

93. A bar that inform you the available options in your computer, opened applications, background running applications and can be used to switch between applications quickly is

a. Menu bar
b. Tool bar
c. Status bar
d. Task bar

94. Which components appear in the initial windows start up display?

a. Dialog box
b. Task bar
c. Start menu
d. All of the above

95. Taskbar is used for

a. Navigation program
b. Switching between program
c. Start a program
d. All of above

96. To install the new font

a. Start -> setting -> control panel -> font
b. Start -> setting -> control panel -> font -> install new font
c. Start -> control panel -> font -> install new font
d. Start -> setting -> font

97. When a peripheral device needs immediate attention from the operating system, it generates a(n)

a. Interrupt
b. Spool
c. Stack
d. Page file

98. Underlined text, such as text and folder names is referred to as

a. Hyperlink
b. Menu
c. Source drive
d. None of these

99. Which of the following is suitable after you install new drivers?

a. Shut Down
b. Restart
c. Sleep
d. Hibernate

100. Windows displays various options to shutdown. Which is suitable at the end of day?

a. Shut Down
b. Restart
c. Sleep
d. Hibernate
Q.No-Correct Answer

1 – a

2 – c

3 – d

4 – d

5 – b

6 – a

7 – a

8 – a

9 – a

10 – a

11 – d

12 – d

13 – a

14 – d

15 – d

16 – d

17 – d

18 – c

19 – c

20 – b

21 – a

22 – a

23 – a

24 – d

25 – a

26 – b

27 – a

28 – d

29 – b

30 – c

31 – a

32 – c

33 – d

34 – b

35 – b

36 – d

37 – a

38 – d

39 – a

40 – c

41 – b

42 – d

43 – c

44 – b

45 – a

46 – a

47 – a

48 – c

49 – c

50 – c

51 – c

52 – d

53 – a

54 – a

55 – a

56 – b

57 – c

58 – a

59 – a

60 – d

61 – b

62 – a

63 – d

64 – a

65 – d

66 – d

67 – b

68 – a

69 – c

70 – b

71 – a

72 – c

73 – d

74 – b

75 – c

76 – c

77 – a

78 – a

79 – b

80 – b

81 – c

82 – b

83 – b

84 – b

85 – c

86 – d

87 – d

88 – c

89 – b

90 – c

91 – c

92 – a

93 – d

94 – b

95 – d

96 – b

97 – a

98 – a

99 – b

100 – a

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100 TOP SOFTWARE ENGINEERING Multiple Choice Questions and

SOFTWARE ENGINEERING Multiple Choice Questions and Answers :-

1.Identify, from among the following, the correct statement.
(a) One of the main challenges Software Engineering facing today is the requirement of most software systems to work with a multitude of homogenous systems
(b) 'Legacy systems' are custom developed software systems for the legal domain
(c) Software does not wear-out in the traditional sense of the term, but software does tend to deteriorate as it evolves
(d) Since software is essentially 'intangible' it is relatively easy to manage software projects
(e) With the advent of component based software assembly, we find that only less than 20% of today's software is still custom built.

2.Software Engineering:
(a) Is a set of rules about developing software products
(b) Has been around as a discipline since the early 50's
(c) Started as a response to the so-called 'Software Crisis' of the late 90's
(d) Is an engineering discipline concerned with all the aspects of software production
(e) Is now a mature discipline on par with other established engineering fields.
3.
Read the following paragraph and identify the correct statement.
"Imagine that you were recently hired as a software engineer to a company that specializes in aircraft navigation control software. While orientating yourselves to the company's work practices, you observe that they in fact do not conduct a few tests that they should in order to comply with the relevant

safety standard. When you inquire about this from the project manager, he dismisses it saying that those tests are really unnecessary (and takes an unreasonably long time to conduct, as well as being superfluous) and that they have managed with the other tests for so long, without any problems."
(a) You should immediately resign from the company and file a complaint with the relevant standard institution
(b) You should do nothing and let the matter slide
(c) Although you are new to the company, and you hardly know anything about the internal processes and politics, you should insist on the company changing its work practices immediately; failing which you threaten to report the matter
(d) Since you are new to the company, and you are unfamiliar with the internal processes and politics, you should first find-out more about the issue and its background
(e) None of the above statements are correct.

4.
With regard to Evolutionary development, identify the correct statement.
(a) Evolutionary development usually comes in two flavors; exploratory development, and throw-away prototyping
(b) Very large projects are natural candidates for an evolutionary development based approach
(c) Exploratory development is used in situations where most of the requirements are well understood in advance
(d) One of the strong points of evolutionary development is that it facilitates easy project management, through the high volume of documentation it generates
(e) Often the construction of a throw-away prototype is not followed by a reimplementation of the system using a more structured approach.

5.
What is the fundamental reason that software cannot be considered to be engineered?
(a) It is designed by humans and therefore flawed
(b) Software engineering (as opposed to other forms of engineering, such as Civil) is an art – not a science
(c) The discipline is relatively new, say in comparison to bridge

building that is an activity that has millennia of practice
(d) None of these are true. Software Engineering is a truly rigorous discipline
(e) The complexity of systems and their interaction continues faster than we can understand it.

6.

The software life cycle can be said to consist of a series of phases. The classical model is referred to as the waterfall model. Which phase may be defined as "The concept is explored and refined, and the client's requirements are elicited?"
(a) Requirements (b) Specification (c) Design
(d) Implementation (e) Integration.

7.

The individual or organisation who wants a product to be developed is known as the:
(a) Developer (b) User (c) Contractor (d) Initiator (e) Client.

8.

Which of the following items should not be included in the software project management plan?
(a) The techniques and case tools to be used
(b) Detailed schedules, budgets and resource allocations
(c) The life cycle model to be used
(d) The organisational structure of the development organisation, project responsibilities, managerial objectives and priorities
(e) None of the above.

9.

The final form of testing COTS software is _____ testing.
(a) Unit (b) Integration (c) Alpha (d) Module (e) Beta.

10.

In the maintenance phase the product must be tested against previous test cases. This is known as _____ testing.
(a) Unit (b) Integration (c) Regression (d) Module (e) Beta.

Answers

1.
Answer : ©
Reason: Remaining all are contradictory.
2.
Answer : (d)
Reason: Software crisis of the late 60's .
3.
Answer : (d)
Reason: D is the appropriate choice.
4.
Answer : (a)
Reason: Evolutionary development usually comes in two flavors; exploratory development, and throw-away prototyping is the correct statement with respect to Evolutionary development.
5.
Answer : (e)
Reason: The fundamental reason that software can not be considered to be engineered is the complexity of systems and their interaction continues faster than we can understand it.
6.
Answer : (a)
Reason: In the requirements phase the concept is explored and refined and the clients requirements are elicited.
7.
Answer : (e)
Reason: The individual or organisation who wants a product to be developed is known as the client.
8.
Answer : (e)
Reason: The software project management plan should include: the life cycle model to be used, the organisational structure of the development organisation, project responsibilities, managerial objectives and priorities, the life cycle model to be used, detailed schedules, budgets and resource allocations.
9.
Answer : (e)

Reason: Beta testing occurs when a commercial form of the software is released to selected clients.

10.

Answer : ©

Reason: Regression testing occurs when the product is tested against previous test cases. This most frequently occurs in the maintenance phase.

11.

Which property of the rapid prototype is not important?

(a) The speed with which it can be developed

(b) The speed with which it can be modified

(c) Its ability to determine the client's real needs

(d) The insights that the design team can gain from it, even if they are of the 'how not to do it' variety

(e) Its internal structure.

12.

An example of the risk involved in software development is

(a) Key personnel may resign before the product is complete

(b) The manufacturer of critical components (e.g. the hardware associated with a real-time system) may go bankrupt

(c) Technology changes may render the product obsolete

(d) Competitors may market a fully functional lower-cost equivalent package

(e) All of these are risks involved in software development.

13.

A simple way of looking at the spiral software life-cycle model is as a waterfall model with each phase proceeded by

(a) Build-and-fix

(b) Freezing

(c) Synchronization

(d) Testing

(e) Risk analysis.

14.

The degree of interaction between two modules is known as
(a) Cohesion
(b) Strength
(c) Inheritance
(d) Coupling
(e) Instantiation.

15.

The relationship between a derived class (or subclass) and base class is referred to as
(a) Association
(b) Inheritance
(c) Polymorphism
(d) Instantiation
(e) Aggregation.

16.

Myers (1978) identifies seven levels of cohesion. Which level of cohesion may be defined as followed; “the output from one element in the component serves as input for some other element”?
(a) Communicational cohesion
(b) Functional cohesion
(c) Communicational cohesion
(d) Temporal cohesion
(e) None of these.

17.
A design is said to be a good design if the components are
(a) Strongly coupled
(b) Weakly cohesive
(c) Strongly coupled and Weakly cohesive
(d) Strongly coupled and strongly cohesive
(e) Strongly cohesive and weakly coupled.

18.
If a control switch is passed as an argument this is an example of _____ coupling.
(a) Content
(b) Common
(c) Control
(d) Stamp
(e) Data.

19.
Which of the following is a type of abstraction?
(a) Data
(b) Procedural
(c) Iteration
(d) All of the above
(e) None of the above.

20.
In the classical chief programmer team approach, the team member responsible for maintaining the detailed design and coding is
(a) The chief programmer
(b) The programming secretary
(c) A specialized function that exists outside 'the team'
(d) The individual coder (i.e. programmer)
(e) The back-up programmer.

Answers

11.
Answer : (c)
Reason: The sole use of the rapid prototype is to determine what the client's real needs are as rapidly as possible. The rapid prototype is then effectively discarded so its internal structure is not relevant.
12.
Answer : (e)
Reason: There are many risks involved in software

development.

13.

Answer : (e)

Reason: A simple way of looking at the spiral software life-cycle model is as a waterfall model with each phase proceeded by risk analysis.

14.

Answer : (d)

Reason: The degree of interaction between two modules is known as coupling.

15.

Answer : (b)

Reason: A derived class inherits all the attributes of a base class.

16.

Answer : (a)

Reason: In communicational cohesion the output from one element in the component serves as input for some other element.

17.

Answer : (e)

Reason: You should aim to maximize the interaction within a module and minimize the interaction between modules.

18.

Answer : (c)

Reason: Two modules are control coupled if one passes an element of control to another.

19.

Answer : (d)

Reason: The three types of abstraction (data, procedural and iteration) are all instances of the more general concept of information hiding.

20.

Answer : (d)

Reason: In the classical chief programmer team approach, the team member responsible for maintaining the detailed design and coding is the individual coder (i.e. programmer).

21.
Internal costs include
(a) Developers salaries
(b) Managers and support personnel salaries
(c) The cost of overheads such as utilities, rent and senior managers
(d) Materials (such as manuals) and services such as travel
(e) All of the above.

22.
Problems with using Lines of Code to measure the size of a product include(s)
(a) The creation of source code is only part of the development effort
(b) The Lines of Code (LOC) will differ between languages and cannot be measured for some languages
(c) Should comments, data definitions etc (i.e. non-executable LOC) be included as well?
(d) The final size (kLOC) can only be determined once the product is delivered
(e) All of the above.

23.
Software Science bases its estimation of the size of a product on
(a) Files (Fi), Flows (Fl) and Processes (Pr)
(b) Lines of Code (kLOC)
(c) Function Points (FP)
(d) operands and operators
(e) Feature Points (FeP).

24.
In Intermediate COCOMO the mode that represents complex products is referred to as
(a) Embedded
(b) Semidetached
(c) Organic
(d) Multiplicative
(e) Monolithic.

25.
Work that continues throughout the project and does not relate to any specific phase of software development is termed a(n)
(a) Milestone
(b) Project function
(c) Activity
(d) Task
(e) Baseline.

26.
The advantage of following the IEEE Standard for drawing up a Software Project Management Plan (SPMP) – see IEEE Standard 1059.1 1987 – is
(a) It is drawn up by representatives from major software development organisations
(b) It is designed for all types of software products
(c) It is a framework that can be used irrespective of process model or specific techniques
(d) It can be tailored for each organisation for a particular application area, development team or technique.
(e) All of the above.

27.
The best way to test the Software Project Management Plan (SPMP) is by
(a) Prototyping
(b) Inspection
(c) Simulation
(d) Compilation
(e) Debugging.

28.
Algorithmic cost estimation in different organisations may be different for the same application development, because
(a) Different organisations consider complexity factors differently
(b) Different organisations may use different programming languages

(c) Developers' skills may vary
(d) Techniques for the measurement of productivity may vary
(e) All of the above may be true.

29.
The aim of software engineering is to produce software that is
(a) Fault-free
(b) Delivered on time
(c) Delivered within budget
(d) Satisfies users' needs
(e) All of these are the aims of software engineering.

30.
Object-oriented concepts are not new. The first OO language was considered to be
(a) ALGOL-68
(b) FORTRAN 77
(c) C
(d) MODULA
(e) SIMULA 67.

Answers

21.
Answer : (a)
Reason: Internal costs comprise all the costs to the developers.
22.
Answer : (e)
Reason: There are many problems with using Lines of Code to measure the size of a product.
23.
Answer : (d)
Reason: Software Science bases its estimation of the size of a product on the number of operands and operators.
24.
Answer : (a)
Reason: In Intermediate COCOMO there are three modes: organic, semidetached and imbedded.

25.
Answer : (b)
Reason: Work that continues throughout the project and does not relate to any specific phase of software development is termed a project function.
26.
Answer : (e)
Reason: There are many advantages of using a standard.
27.
Answer : (b)
Reason: The best way to test the Software Project Management Plan (SPMP) is by a plan inspection by the SQA team. In order to further reduce risk the duration and cost estimates should further be independently computed by people other than the original project team.
28.
Answer : (e)
Reason: Cost estimation incorporates a number of factors.
29.
Answer : (e)
Reason: The aim of software engineering is to produce software that is fault-free, delivered on time, delivered within budget, and satisfies users' needs.
30.
Answer : (e)
Reason: The first OO language was considered to be SIMULA 67.

31.
Software engineering is the systematic approach to the
(a)
Development of software
(b)
Operation of software
(c)
Maintenance of software
(d)
Retirement of software

(e)
All of the above.

32.
Brooks' view of the essence of software included
(a)
People, Quality, Process and Productivity
(b)
Performance, Robustness, Maintainability and Reusability
(c)
Complexity, Conformity, Changeability and Invisibility
(d)
Efficiency, Reliability, Usability and Robustness
(e)
Accuracy, Testability, Visibility and Changeability.

33.
What is the essence of software engineering?
(a)
Requirements Definition, Design Representation, Knowledge Capture and Quality Factors
(b)
Maintaining Configurations, Organizing Teams, Channeling Creativity and Planning Resource Use
(c)
Time/Space Tradeoffs, Optimizing Process, Minimizing Communication and Problem Decomposition
(d)
Managing Complexity, Managing Personnel Resources, Managing Time and Money and Producing Useful Products
(e)
Maintaining Communication, Managing unuseful products and Not optimizing process.

34.
Which of the following is a life-cycle concern?
(a)
Testing

(b)
Portability
(c)
Programming
(d)
Planning
(e)
All of the above.

35.
Which best captures the nature of the quality paradigm?
(a)
The Nature of Quality, A Process Perspective, Defect Elimination
(b)
Process, Product, People, Problem
(c)
Measurement, Quality Control, Validation
(d)
Feasibility, Requirements, Economics, Customer's Needs
(e)
Analysis, Testing, Design.

36.
Prototyping is appropriate for
(a)
Data-oriented applications
(b)
Applications with emphasis on the user interface
(c)
Applications which are highly interactive
(d)
Development teams who lack domain experience
(e)
All of the above.

37.
What are the major activities of the spiral model of software

engineering?
(a)
Planning, Risk Analysis, Engineering, Customer Evaluation
(b)
Defining, Prototyping, Testing, Delivery
(c)
Requirements
(d)
Quick Design, Build Prototype, Evaluate Prototype, Refine Prototype
(e)
Testing.

38.
In choosing a development life-cycle model, one would consider the
(a)
Development Group Expertise, Problem Characteristics, User Expectations
(b)
Languages, Development Schedule, Competition
(c)
System Context, User Population, Platforms
(d)
Organizational Structure, User Tasks, Performance Criteria
(e)
System Analysis, User interface, Testing.

39.
What are the factors to be considered when planning a software development effort?
(a)
Performance, Problem, Product, Planning
(b)
People, Problem, Product, Process
(c)
People, Problem, Productivity, Performance
(d)

People, Problem, Product, Portability
(e)
Productivity, Programming, Performance, Pay-Off.

40.
Which of the following could be a deliverable for a software system?
(a)
Source Code
(b)
Reference Manual
(c)
Requirements Document
(d)
User's Guide
(e)
All of the above.

Answers

31.
Answer : (e)
Reason: Software engineering is the systematic approach to the development of software , operation of software , maintenance of software and retirement of software .
32.
Answer : (c)
Reason: Brooks' view of the essence of software included Complexity, conformity, changeability &invisibility.
33.
Answer : (d)
Reason: The essence of software engineering is managing complexity, personnel resources, time and money and producing useful products.
34.
Answer : (d)
Reason: Planning is life-cycle concern.
35.

Answer : (a)
Reason: Process perspective and defect elimination best captures the quality paradigm.
36.
Answer : (e)
Reason: Prototyping seems appropriate for Data-oriented applications, Applications with emphasis on the user interface, Applications which are highly interactive and Development teams who lack domain experience
37.
Answer : (a)
Reason: Planning , risk analysis ,engineering and customer evaluation are the important four major activities of the spiral model.
38.
Answer : (a)
Reason: Choice A is the apt among all the answers for choosing a development life cycle model.
39.
Answer : (b)
Reason: People, Problem, Product& Process factors are considered when planning a software development effort.
40.
Answer : (e)
Reason: Soruce code, reference manual ,requirements document and user's guide are the deliverables for a software system.

SOFTWARE ENGINEERING Interview Questions and Answers ::

41.
Which of the following is not viewed as a primary mover in improving the software process?
(a)
Increased Effectiveness
(b)
Better Product Quality

(c)
Improved Staff Satisfaction
(d)
Reduced Costs
(e)
Tighter managerial control.

42.
Symptoms of the software crisis would include
(a)
Software delivered behind schedule
(b)
Software exceeding cost estimate
(c)
Unreliable
(d)
Difficult to maintain
(e)
All of the above.

43.
Which of the following projects would be a good one for adopting the prototyping paradigm for software development?
(a)
Accounting System
(b)
Spreadsheet
(c)
Automobile Cruise Control
(d)
Telephone Switching System
(e)
Algebra Tutor.
44.
Views of quality software would not include
(a)
Optimizing price and performance
(b)

Minimizing the execution errors
(c)
Conformance to specification
(d)
Establishing valid requirements
(e)
Maximizing errors.
45.
Software configuration activities would not include
(a)
Identify change
(b)
Control change
(c)
Ensure improper implementation of change
(d)
Report change to interested parties
(e)
All of the above.
46.
In planning a software project one would
(a)
Find ways to produce results using limited resources
(b)
Pad the schedule to accommodate errors
(c)
Overestimate the budget
(d)
Structure the team to prevent administrative interference
(e)
All of the above.
47.
A systematic approach to software development, as epitomized by the various life-cycle models, is useful in
(a)
Helping us understand the nature of the software product
(b)
Convincing the customer that we know what we are doing

(c)
Filling texts on software engineering
(d)
Managing the various activities necessary to get the job done
(e)
Testing the entire project
48.
A process view in software engineering would consider which of the following
(a)
Product performance
(b)
Staffing
(c)
Functionality
(d)
Reliability
(e)
Usability.
49.
Software measurement is useful to
(a)
Indicate quality of the product
(b)
Track progress
(c)
Assess productivity
(d)
Form a baseline for estimation and prediction
(e)
All of the above.
50.
Which of the following is not a 'concern' during the management of a software project?
(a)
Money
(b)
Time

(c)
Product quality
(d)
Project/product information
(e)
Product quantity.

Answers

41.
Answer : (e)
Reason: Tightermanageiral control is not viewed as a primary mover in improving the software process
42.
Answer : (e)
Reason: When software delivered behind schedule, software exceeding cost estimate ,unreliable and difficult to maintain then it is said that software crisis.
43.
Answer : (e)
Reason: Algebra Tutor would be a good candidate for adoting the prototyping paradigm.
44.
Answer : (b)
Reason: minimizing the execution errors would not included in views of quality software.
45.
Answer : (c)
Reason: Software configuration activities would include proper implementation of change.
46.
Answer : (a)
Reason: In planning a software project I would find ways to produce results using limited resources
47.
Answer : (d)
Reason: A systematic approach to software development, as epitomized by the various life-cycle models, is useful in

managing the various activities necessary to get the job done.

48.

Answer : (b)

Reason: Staffing is the apt choice among the given

49.

Answer : (e)

Reason: Software measurement is useful to , indicate quality of the product , track progress , assess productivity and form a baseline for estimation and prediction.

50.

Answer : (e)

Reason: Product quantity would not include during the management of a software project.

51.

What would be investigated during Requirements analysis?

(a)

System performance , Test Scheduling, Organizational Structure

(b)

Languages , Platforms, Competition

(c)

System Context , User Populations, User Tasks

(d)

Verification, Formal Methods, Accuracy

(e)

Validation, Informal methods, Inaccuracy.

52.

Which of the following is not a description of planning?

(a)

Planning is used to find credible ways to produce results with limited resources and limited schedule flexibility

(b)

Planning is finding new personnel resources to support labor intensive development

(c)

Planning is identifying and accommodating the unforeseen

(d)

Planning is blending the efforts of many people to produce a product that satisfies the customer's need

(e)

Planning is negotiating compromises in completion dates and resource allocation.

53.

The information we need to capture during requirements analysis not include

(a)

Hiring Authority

(b)

Communication Paths

(c)

Synchronization

(d)

Temporal Dependencies

(e)

Data Aggregation.

54.

What do you call when two modules are coupled, when they communicate via a composite data item?

(a)

Content coupling

(b)

Common coupling

(c)

Control coupling

(d)

Data coupling

(e)

Stamp coupling.

55.

Which among the following measures how strongly the elements within a module are related?

(a)

Coupling

(b)

Cohesion

(c)
Aggregation
(d)
Inheritance
(e)
Abstraction.
56.
What do you call, when the elements of a module, all operate on the same data?
(a)
Functional cohesion
(b)
Temporal cohesion
(c)
Procedural cohesion
(d)
Communicational cohesion
(e)
Coincidental cohesion.
57.
Which tests are designed to confront the program with abnormal situations?
(a)
Recovery testing
(b)
Security testing
(c)
Stress testing
(d)
Performance testing
(e)
Usage testing.
58.
To which software category does Knowledge based system belongs?
(a)
System software
(b)

Real time software
(c)
Embedded software
(d)
Personnel software
(e)
Artificial Intelligent software.
59.
Which is not involved in software development process?
(a)
People
(b)
Problem
(c)
Practice
(d)
Process
(e)
Product.
60.
Which of the following are direct measures?
I. Size.
II. Effort.
III. Schedule.
IV. Quality.
(a)
Both (I) and (II) above
(b)
Both (I) and (III) above
(c)
Both (I) and (IV) above
(d)
Both (II) and (III) above
(e)
All (I), (II), (III) and (IV) above.

Answers

51.
Answer : (c)
Reason: C is the right choice.
52.
Answer : (b)
Reason: Planning is finding new personnel resources to support labor intensive development is not descriptive of planning
53.
Answer : (a)
Reason: The information we need to capture during requirements analysis would probably not include hiring Authority .
54.
Answer : (e)
Reason: Stamp coupling is that when two modules are coupled if they communicate via composite data item.
55.
Answer : (b)
Reason: Cohesion measures how strongly the elements within a module are related.
56.
Answer : (d)
Reason: when the elements of a module all operate on the same data we call it as a communicational cohesion.
57.
Answer : (c)
Reason: Stress testing is to confront the program with abnormal situations.
58.
Answer : (e)
Reason: Artificial Intelligent software belongs to knowledge based system.
59.
Answer : (c)
Reason: practice is not involved in software development process.
60.

Answer : (e)
Reason: size, effort, schedule and quality are the direct measures.

61.
How does a software project manager need to act to minimize the risk of software failure?
(a)
Double the project team size
(b)
Request a large budget
(c)
Form a small software team
(d)
Track progress
(e)
Request for more period of time.
62.
To be an effective aid in process improvement the baseline metrics used must be
(a)
Based on reasonable estimates from failed projects
(b)
Measured consistently across projects
(c)
Drawn from large projects only
(d)
Based only on successful projects
(e)
Drawn from failed projects.
63.
Empirical estimation models are typically based on
(a)
Expert judgment based on past project experiences
(b)
Refinement of current project estimation
(c)
Regression models derived from historical project data

(d)
Trial and error determination of the parameters and coefficients
(e)
Estimation of present data.
64.
Which of the following is not the guiding principle of software project scheduling?
(a)
Compartmentalization
(b)
Market assessment
(c)
Time allocation
(d)
Effort validation
(e)
Interdependency.
65.
The tools for computing critical path and project completion times from activity networks is/are
I. CPM.
II. DRE.
III. FP.
IV. PERT.
(a)
Both (I) and (III) above
(b)
Both (I) and (IV) above
(c)
Both (II) and (IV) above
(d)
Both (II) and (III) above
(e)
All (I), (II), (III) and (IV) above.
66.
The purpose of earned value analysis is to
(a)

Determine how to compensate developers based on their productivity
(b)
Provide a quantitative means of assessing software project progress
(c)
Provide a qualitative means of assessing software project progress
(d)
Set the price point for a software product based on development effort
(e)
Provide qualitative and quantitative measure of assesing software project progress.
67.
The rapid application development model is
(a)
Same as component-based development
(b)
A useful approach when a customer cannot define requirements clearly
(c)
A high-speed adaptation of the linear sequential model
(d)
Same as incremental model
(e)
Same as water fall model.
68.
Which of the following is not an objective for building analysis models?
(a)
Define set of software requirements that can be validated
(b)
Describe customer requirements
(c)
Develop a solution for the problem
(d)
Establish basis for software design

(e)
Define set of software requirements that can be verified.
69.
The entity relationship diagram
(a)
Depicts relationships between data objects
(b)
Depicts functions that transform the data flow
(c)
Indicates how data are transformed by the system
(d)
Indicates system reactions to external events
(e)
Depicts the physical design of the data.
70.
Which of the following is not an area of concern in the design model?
(a)
Architecture
(b)
Data design
(c)
Interfaces design
(d)
Project scope
(e)
Modular design.

Answers

61.
Answer : (d)
Reason : a software project manager need to act to minimize the risk of software failure by Tracking the progress of software
62.
Answer : (b)
Reason : To be an effective aid in process improvement the baseline metrics used must be Measured consistently across

projects
63.
Answer : (c)
Reason : Empirical estimation models are typically based on Regression models derived from historical project data.
64.
Answer : (b)
Reason : Market Assessment is not one of the guiding principles of software project scheduling:
65.
Answer : (b)
Reason : Two tools for computing critical path and project completion times from activity networks are CPM &PERT
66.
Answer : (b)
Reason : The purpose of earned value analysis is to Provide a quantitative means of assessing software project progress
67.
Answer : (c)
Reason : The rapid application development model is A high-speed adaptation of the linear sequential model.
68.
Answer : (c)
Reason : Develop a solution for the problem is not an objective for building analysis models?
69.
Answer : (a)
Reason : The entity relationship diagram depicts relationships between data objects
70.
Answer : (d)
Reason : Project Scope is not an area of concern in the design model

71.
Coupling is a qualitative indication of the degree to which a module
(a)

Can be written more compactly
(b)
Focuses on just one thing
(c)
Is able to complete its function in a timely manner
(d)
Is connected to other modules
(e)
Is able to completed its logic in a timely manner.

72.
Which of the following interface design principles reduces the user's memory load?
e. Define intuitive shortcuts
II. Disclose information in a progressive fashion
III. Establish meaningful defaults
IV. Provide an on-line tutorial
(a)
Only (I) above
(b)
Only (II) above
(c)
Only (III) above
(d)
(I), (II) and (III) above
(e)
All (I), (II), (III) and (IV) above.

73.
Black box testing is also called
(a)
Specification-based testing
(b)
Structural testing
(c)
Verification
(d)
Unit testing

(e)
Stress testing.

74.
Which configuration objects would not typically be found in the project database?
(a)
Design specification
(b)
Marketing data
(c)
Executable code
(d)
Test plans
(e)
Test procedures.

75.
Which of the following task(s) is/are not part of software configuration management?
e. Change control.
II. Reporting.
III. Statistical quality control.
(a)
Only (I) above
(b)
Only (II) above
(c)
Only (III) above
(d)
Both (I) and (II) above
(e)
Both (I) and (III) above.

76.
Which box specification is not associated with cleanroom approach?
(a)

Black box
(b)
Clear box
(c)
State box
(d)
White box
(e)
Silver box.

77.
Which of the following is not a logical layer of the application in client server system?
(a)
Presentation layer
(b)
Application layer
(c)
Data Management layer
(d)
Programming layer
(e)
Business layer.

78.
Which of the following is true for a thin-client?
(a)
Processes application logic
(b)
Performs data management task
(c)
Places heavy processing load on the server
(d)
Makes use of processing power of the client
(e)
Places heavy processing load on the client.

79.

Traditionally, the phase of software development where a formal approach used is
(a)
Programming
(b)
Design
(c)
Requirements
(d)
Planning
(e)
Testing.

80.
Domain Engineering in CBSE is to
(a)
Identification of components
(b)
Catalogue reusable components
(c)
Domain modeling
(d)
Structural modeling
(e)
All the above.

Answers:

71.
Answer : (d)
Reason : Coupling is a qualitative indication of the degree to which a module is connected to other modules.

72.
Answer : (d)
Reason : The following Define intuitive shortcuts ,Disclose information in a progressive fashion, Establish meaningful defaults interface design principles reduces the user's memory

load

73.
Answer : (a)
Reason : Black box testing is another name for Specification-based testing.

74.
Answer : (b)
Reason : Marketing data configuration objects would not typically be found in the project database

75.
Answer : (c)
Reason : the following task Statistical quality control is not part of software configuration management

76.
Answer : (d)
Reason : White box specification is not associated with cleanroom approach

77.
Answer : (d)
Reason : Programming is not a logical layer of the application in client server
system

78.
Answer : (c)
Reason : Places heavy processing load on the server

79.
Answer : (a)
Reason : Traditionally, the only phase of software development where a formal approach is used is Programming.

80.

Answer : (e)
Reason : Domain Engineering in CBSE is toIdentification of components,Catalogue reusable components,Domain modeling, Structural modeling.

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ONE THOUGHT ON "100 TOP SOFTWARE ENGINEERING MULTIPLE CHOICE QUESTIONS AND ANSWERS"

shabbir marri
SEPTEMBER 18, 2016 AT 3:55 PM
Respected Sir i want mcqz of Software Engineering....so please send me multiple question,....i am from Balochistan.

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THEORY of COMPUTATION Multiple Choice Questions and Answers :-

1. The following grammar
G = (N, T, P, S)
N = {S, A, B}
T = {a, b, c}
P : S ? aSa
S ? aAa
A ? bB
B ? bB
B ? c is
a. is type 3
b. is type 2 but not type 3
c. is type 1 but not type 2
d. is type 0 but not type 1

2.The following grammar
G = (N, T, P, S)
N = {S, A, B, C, D, E}
T = {a, b, c}
P : S ? aAB
AB ? CD
CD ? CE
C ? aC
C ? b
bE ? bc is

a. is type 3
b. is type 2 but not type 3
c. is type 1 but not type 2
d. is type 0 but not type 1

3. The following grammar

G = (N, T, P, S)
N = {S, A, B, C}
T = {a, b, c}
P : S ? aS
A ? bB
B ? cC
C ? a is
a. is type 3
b. is type 2 but not type 3
c. is type 1 but not type 2
d. is type 0 but not type 1

4. The following grammar
G = (N, T, P, S)
N = {S, A, B, C, D, E}
T = (a, b, c}
P : S ? ABCD
BCD ? DE
D ? aD
D ? a
E ? bE
E ? c is

a. is type 3
b. is type 2 but not type 3
c. is type 1 but not type 2
d. is type 0 but not type 1

5. Consider the following CFG
S ? aB S ? bA
B ? b A ? a
B ? bS A ? aS
B ? aBB A ? bAA

Consider the following derivation
S ? aB
? aaBB
? aaBb

? aabSb
? aabbAb
? aabbab

This derivation is
a. a leftmost derivation
b. a rightmost derivation
c. both leftmost and rightmost derivation
d. neither leftmost nor rightmost derivation
6.
Consider the following language
L = {anbncndn|n = 1}
L is
a. CFL but not regular
b. CSL but not CFL
c. regular
d. type 0 language but not type 1
7.
Consider the following language
L = {anbn|n = 1}
L is
a. CFL but not regular
b. CSL but not CFL
c. regular
d. type 0 language but not type 1
8.
Consider the following language
L = {anbmcpdq|n, m, p, q = 1}
L is
a. CFL but not regular
b. CSL but not CFL
c. regular
d. type 0 language but not type 1
9.
The following CFG is in
S ? AB
B ? CD
B ? AD

B ? b
D ? AD
D ? d
A ? a
C ? a
a. Chomsky normal form but not strong Chomsky normal form
b. Weak Chomsky normal form but not Chomsky normal form
c. Strong Chomsky normal form
d. Greibach normal form
10.
The following CFG is in
S ? aBB
B ? bAA
A ? a
B ? b
a. Chomsky normal form but not strong Chomsky normal form
b. Weak Chomsky normal form but not Chomsky normal form
c. Strong Chomsky normal form
d. Greibach normal form
11.
Which of the following CF language is inherently ambiguous?
a. {anbncmdm|n, m = 1}
b. {anbmcpdq|n = p or m = q, n, m, p, q = 1}
c. {anbmcpdq|n ? m ? p ? q}
d. {anbmcpdq|n ? m ? p ? q}

14.
Can a DFSA simulate a NFSA
a. No
b. Yes
c. sometimes
d. depends on NFA

16.
The concept of FSA is much used in this part of the compiler
a. lexical analysis
b. parser
c. code generation

d. code optimization

17.

The concept of grammar is much used in this part of the compiler

a. lexical analysis

b. parser

c. code generation

d. code optimization

18.

(a + b)(cd)*(a + b) denotes the following set

a. {a(cd)nb|n = 1}

b. {a(cd)na|n = 1} ? {b(cd)nb/n = 1}

c. {a(cd)na|n = 0} ? {a(cd)nb/n = 0} ? {b(cd)na/n = 0} ? {b(cd)nb/n = 0}

d. {acndnb|n = 1}

19.

baa*c denotes the set

a. {bnamcp|n, m, p = 1}

b. {banc|n = 0}

c. {banc|n = 1}

d. {w|w is a string of a, b, c}

20. The set of all strings over the alphabet S = {a, b} (including e) is denoted by

a. (a + b)*

b. (a + b)+

c. a+b+

d. a*b*

THEORY of COMPUTATION Multiple Choice Questions and Answers :-

21. Palindromes can't be recognized by any FSA because

a. FSA cannot remember arbitrarily large amount of information

b. FSA cannot deterministically fix the midpoint

c. Even if the mid point is known an FSA cannot find whether the second half of the string matches the first half

d. all of the above

22.
Let S = {a, b, c, d, e}. The number of strings in S* of length 4 such that no symbol is used more than once in a string is
a. 360
b. 120
c. 35d. 36
23.
Which of the following denotes Chomskian hiearchy?
a. REG ? CFL ? CSL ? typeo
b. CFL ? REG ? typeo ? CSL
c. CSL ? typeo ? REG ? CFL
d. CSL ? CFL ? REG ? typeo
24.
A language L is accepted by a FSA iff it is
a. CFL
b. CSL
c. recursive
d. regular
25.
Which of the following regular expressions denotes a language comprising of all possible strings over S = {a, b} of length n where n is a multiple of 3.
a. (a + b + aa + bb + aba + bba)*
b. (aaa + bbb)*
c. ((a + b)(a + b)(a + b))*
d. (aaa + ab + a) + (bbb + bb + a)
26.
A language is represented by a regular expression (a)*(a + ba). Which of the following string does not belong to the regular set represented by the above expression.
a. aaa
b. aba
c. ababad. aa
27.
Which of the following is not primitive recursive but partially recursive?
a. McCarthy's function
b. Riemann function

c. Ackermann's function
d. Bounded function
28.
Consider the following right-linear grammar G = (N, T, P, S) N = {S}
P : S ? aS|aA T = {a, b}
A ? bA|b
Which of the following regular expression denotes L(G)?
a. (a + b)*
b. a(ab)*b
c. aa*bb*
d. a*b*
29.
Which of the following strings is not generated by the following grammar? S ? SaSbS|e
a. aabb
b. abab
c. aababb
d. aaabb

31.
Consider a language L for which there exists a Turing machine ™, T, that accepts every word in L and either rejects or loops for every word that is not in L. The language L is
a. NP hard
b. NP complete
c. recursive
d. recursively enumerable
32.
Consider the following statements
I. Recursive languages are closed under complementation
II. Recursively enumerable languages are closed under union
III. Recursively enumerable languages are closed under complementation
Which of the above statement are TRUE?
a. I only
b. I and II
c. I and III

d. II and III

33.

Which of the following statement is wrong?

a. Any regular language can be generated by a context-free grammar

b. Some non-regular languages cannot be generated by any CFG

c. the intersection of a CFL and regular set is a CFL

d. All non-regular languages can be generated by CFGs.

34.

Recursively enumerable languages are not closed under

a. union

b. homomorphism

c. complementation

d. concatenation

35.

Which of the following problem is undecidable?

a. membership problem for CFL

b. membership problem for regular sets

c. membership problem for CSL

d. membership problem for type 0 languages

36.

Recursive languages are

a. a proper superset of CFL

b. always recognized by PDA

c. are also called type 0 languages

d. always recognized by FSA

37.

R1 and R2 are regular sets. Which of the following is not true?

a. R1 n R2 neet not be regular

b. S* – R1 is regular

c. R1 ? R2 is regular

d. is regular

38.

Which of the following regular expression identity is true?

a. r(*) = r*

b. (r*s*)* = (r + s)*

c. (r + s)* = r* + s*
d. r*s* = r* + s*
39.
Which one of the following statement is FALSE?
a. context-free languages are closed under union
b. context-free languages are closed under concatenation
c. context-free languages are closed under intersection
d. context-free languages are closed under Kleene closure
40.
Which of the following conversion is not possible (algorithmically)?
a. regular grammar to context-free grammar
b. nondeterministic FSA to deterministic FSA
c. nondeterministic PDA to deterministic PDA
d. nondeterministic TM to deterministic TM

Answers ::

1.b 2.c 3.a 4.d 5.d 6.b 7.a 8.c 9.c 10.d 11.b 12.a 13.b 14.b 15.b 16.a 17.b18.c 19.c 20.a 21.d 22.b 23.a 24.d 25.c 26.c 27.c 28.c 29.d 30.c 31.d 32.b 33.d 34.c 35.d 36.a 37.a 38.b 39.c 40.c

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