1. Encoders are made by three

A) AND gate
B) OR gate
C) NAND gate
D) XOR gate

Answer: B

2. Entities are described by properties called as _____.

A) Attributes
B) Characteristics
C) Features
D) Relations

Answer:

3. Entity Relationship model consists of collection of basic objects called _____ and relationship among these objects.

A) Functions
B) Models
C) Entities
D) None of these

Answer: C

4. Entries in a stack are "ordered". What is the meaning of this statement?

A) A collection of stacks is sortable
B) Stack entries may be compared with the '<' operation
C) The entries are stored in a linked list
D) There is a sequential entry that is one by one

Answer: D
Explanation: In stack data structure, elements are added one by one using push operation. Stack follows LIFO Principle i.e. Last In First Out(LIFO).

5. External fragmentation exists when :

A) enough total memory exists to satisfy a request but it is not contiguou
B) the total memory is insufficient to satisfy a request
C) a request cannot be satisfied even when the total memory is free
D) None of these

Answer: A

6. External fragmentation will not occur when :

A) First fit is used
B) Best fit is used
C) Worst fit is used
D) No matter which algorithm is used, that will always occur.

Answer: D

7. For an S-R flip-flop to be set or reset, the respective input must be:

A) Installed with steering diodes
B) In parallel with a limiting resistor
C) LOW
D) HIGH

Answer: D

8. For larger page tables, they are kept in main memory and a _____ points to the page table.

A) Page table base register
B) Page table base pointer
C) Page table register pointer
D) Page table base

Answer: A

9. For the following code snippet:

char *str = “VIT\0” “University”, The character pointer str holds reference to string:

A) VIT
B) VITUniversity
C) University
D) Invalid declaration

Answer:

10. For the following functional dependencies A->BC,CD->E,E->C,D->AEG,ABH->BD,DH->BC. Find the closure

A) A+
B) B+
C) C+
D) D+

Answer:

11. Form of dependency in which set of attributes that are neither a subset of any of keys nor candidate key is classified as

A) Transitive dependency
B) Full functional dependency
C) Partial dependency
D) Prime functional dependency

Answer:

12. Four gates in a package is called

A) Biruple
B) Octruple
C) Dualruple
D) Quadruple

Answer: D

13. Full adder forms sum of

A) 2 bits
B) 3 bits
C) 4 bits
D) 5 bits

Answer:

14. Function has basically these two parts

A) Definition and calling
B) Calling and address
C) Calling and methods
D) Methods and declarations

Answer:

15. Function overloading is also similar to which of the following?

A) Operator overloading
B) Destructor overloading
C) Constructor overloading
D) None of the above

Answer: C
Explanation: In constructor overloading, we will be using the same options availed in function overloading.

16. Functional Dependencies are the types of constraints that are based on_____

A) Key
B) Key revisited
C) Superset key
D) None of the mentioned

Answer: A

17. Functions are used to

A) Provide modularity to code
B) Increases number of lines
C) Does not do the same work
D) Used only for mathematical calculation

Answer:

18. Given an empty AVL tree, how would you construct AVL tree when a set of numbers are given without performing any rotations?

A) just build the tree with the given input
B) find the median of the set of elements given, make it as root and construct the tree
C) use trial and error
D) use dynamic programming to build the tree

Answer: B

19. Grouped data are diagrammatically presented by :

A) Bar diagram
B) Histogram
C) Simple graph
D) Pictogram

Answer:

20. Half-adders have a major limitation in that they cannot

A) Accept a carry bit from a present stage
B) Accept a carry bit from a next stage
C) Accept a carry bit from a previous stage
D) None of the mentioned

Answer: C
Explanation: Half-adders have a major limitation in that they cannot accept a carry bit from a previous stage, meaning that they cannot be chained together to add multi-bit numbers. However, the two output bits of a half-adder can also represent the result A+B=3 as sum and carry both being high.

21. Here is an infix expression: 4 + 3*(6*3-12). Suppose that we are using the usual stack algorithm to convert the expression from infix to postfix notation.The maximum number of symbols that will appear on the stack AT ONE TIME during the conversion of this expression?

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

Answer: D

22. How can you ensure that an inline function isn't inlined for a particular function call for function foo?

A) Unline x();
B) Noexpand x();
C) x();
D) This is not possible on a case-by-case basis

Answer: D

23. How does an arithmetic operation take place in binary adders?

A) By addition of two bits corresponding to 2n digit
B) By addition of resultant to carry from 2n-1 digit
C) Both a & b
D) None of the above

Answer: C

24. How does C++ compiler differs between overloaded postfix and prefix operators?

A) C++ doesn’t allow both operators to be overlaoded in a class
B) A postfix ++ has a dummy parameter
C) A prefix ++ has a dummy parameter
D) By making prefix ++ as a global function and postfix as a member function.

Answer: B

25. How is a J-K flip-flop made to toggle?

A) J = 0, k = 0
B) J = 1, k = 0
C) J = 0, k = 1
D) J = 1, k = 1

Answer: D

Explanation: When j=k=1 then the race condition is occurs that means both output wants to be HIGH. Hence, there is toggle condition is occurs, where 0 becomes 1 and 1 becomes 0. That is device is either set or reset.

26. How many 3-to-8 line decoders with an enable input are needed to construct a 6-to-64 line decoder without using any other logic gates?

A) 7
B) 8
C) 9
D) 10

Answer: C

27. How many AND, OR and EXOR gates are required for the configuration of full adder

A) 1,2,2
B) 2,1,2
C) 3,1,2
D) 4,0,1

Answer: B

Explanation: there are 2 and, 1 or and 2 exor gates required for the configuration of full adder, provided using half adder. otherwise, configuration of full adder would require 3 and, 2 or and 2 exor.

28. How many bits would be required to encode decimal numbers 0 to 9999 in straight binary codes.

A) 12
B) 14
C) 16
D) 18

Answer: B
Explanation: total number of decimals to be represented = 10000 = 104 = 2n (where n is the number of bits required) = 213.29. therefore, the number of bits required for straight binary encoding = 14.

29. How many entries would a truth table for a four-input NAND gate have?

A) 2
B) 8
C) 16
D) 32

Answer: C

30. How many flip-flops are in the 7475 IC?

A) 1
B) 2
C) 4
D) 8

Answer: C

31. How many gates would be required to implement the following Boolean expression before simplification? XY + X(X + Z) + Y(X + Z)

A) 1
B) 2
C) 4
D) 5

Answer: B

32. How many pulses are needed to change the contents of a 8-bit up counter from 10101100 to 00100111

A) 134
B) 133
C) 124
D) 123

Answer: D

33. How many select lines would be required for an 8-line-to-1-line multiplexer?

A) 8
B) 2
C) 3
D) 4

Answer: C

34. How many types of inheritance are there in c++?

A) 2
B) 3
C) 4
D) 5

Answer: D

35. How to check whether the stack is empty or not ?

A) S[Top]==-1
B) S[Top +n]
C) S[top-n-1]
D) None of the option

Answer:

36. HSAM stands for?

A) Hierarchic Sequential Access Method
B) Hierarchic Standard Access Method
C) Hierarchic Sequential and Method
D) Hierarchic Standard and Method

Answer: A

37. IC decoders are made with

A) AND gate
B) OR gate
C) NAND gate
D) XOR gate

Answer:

38. How many queues are needed to implement a stack?

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

Answer: 2

39. Identify the characteristics of transactions

A) Atomicity
B) Durabiliry
C) Isolation
D) All of the mentioned

Answer: D
Explanation: Because of the above three properties, transactions are an ideal way of structuring interaction with a database.

40. Identify the data structure which allows deletions at both ends of the list but insertion at only one end.

A) Input restricted dequeue
B) Output restricted queue
C) Priority queues
D) Stack

Answer:A

41. If a 3-input AND gate has eight input possibilities, how many of those possibilities will result in a HIGH output?

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

Answer:

42. If a 3-input NOR gate has eight input possibilities, how many of those possibilities will result in a HIGH output?

A) 1
B) 2
C) 7
D) 8

Answer: 1

43. If A and B are the inputs of a half adder, the sum is given by

A) A AND B
B) A OR B
C) A XOR B
D) A EXOR B

Answer: C

44. If a database server is referenced in a distributed transaction, the value of its commit point strength determines which role it plays in the .....…

A) Two phase commit
B) Two phase locking
C) Transaction locking
D) Checkpoints

Answer: A

45. If a node having two children is deleted from a binray tree, it is replaced by its ___

A) Preorder predecessor
B) Preorder successor
C) Inorder predecessor
D) Inorder successor

Answer: D

46. If a signal passing through a gate is inhibited by sending a LOW into one of the inputs, and the output is HIGH, the gate is a(n):

A) AND
B) NAND
C) OR
D) NOT

Answer: B

47. If a transaction acquires a shared lock, then it can perform ..... operation.

A) Read
B) Write
C) Read & Write
D) Update

Answer: A

48. If a transaction acquires exclusive lock, then it can perform ..... operation.

A) Read
B) Write
C) Read & Write
D) Update

Answer: C

49. If a transaction obtains a shared lock on a row, it means that the transaction wants to ..... that row.

A) Write
B) Insert
C) Execute
D) Read

Answer: D

50. If a transaction obtains an exclusive lock on a row, it means that the transaction wants to ..... that row.

A) Select
B) Update
C) View
D) Read

Answer: B

51. If an input is activated by a signal transition, it is _____.

A) Edge-triggered
B) Toggle-triggered
C) Clock triggered
D) Noise triggered

Answer: A

52. If any anomalies are present make sure that programs that ____ the database will operate correctly

A) Insert
B) Delete
C) Update
D) Alter

Answer:

53. If attributes A and B determine attribute C, then it is also true that:

A) ? C
B) ? C
C) (A,B) is a composite determinant
D) C is a determinant

Answer: C

54. If both inputs of an S-R flip-flop are low, what will happen when the clock goes HIGH?

A) An invalid state will exist
B) No change will occur in the output
C) The output will toggle
D) The output will reset

Answer: B

55. If every functional dependency in set E is also in closure of F then this is classified as
A) FD is covered by E
B) E is covered by F
C) F is covered by E
D) Fplus is covered by E
Answer: B

56. If relocation is static and is done at assembly or load time, compaction _____.
A) Cannot be done
B) Must be done
C) Must not be done
D) Can be done
Answer: A

57. If several requests have different deadlines that are relaticely close together, then using the SCAN – EDF algorithm :
A) The SCAN ordering will service the requests in that batch
B) The EDF ordering will service the requests in that batch
C) The FCFS ordering will service the requests in that batch
D) None of these
Answer: A

58. If the thread pool contains no available thread :
A) the server runs a new process
B) the server goes to another thread pool
C) the server demands for a new pool creation
D) the server waits until one becomes free
Answer: D

59. If the variables x and y are not linearly related, then the correlation between x and y is:
A) 0
B) -1
C) 1
D) 0.5
Answer:

60. If there are 32 segments, each of size 1Kb, then the logical address should have :
A) 13 bits
B) 14 bits
C) 15 bits
D) 16 bits
Answer: C

61. If two inputs are active on a priority encoder, which will be coded on the output?
A) The higher value
B) The lower value
C) Both of the inputs
D) Neither of the inputs
Answer: A

62. If we choose Prim's Algorithm for uniquely weighted spanning tree instead of Kruskal's Algorithm, then

A) we'll get a different spanning tree.
B) we'll get the same spanning tree.
C) spanning will have less edges.
D) spanning will not cover all vertices.

Answer: B

63. If we perform xor operation of same operand then what is the status condition that is getting affected?

A) Zero
B) Sign
C) Carry
D) Overflow

Answer:

64. If X is a Poisson variate with mean λ such that $P(X = 3) = P(X = 4)$, then the value of is

A) 3
B) 4
C) 2
D) 6

Answer:

65. If Y subset- of X, then

A) Y -> X
B) X -> Y
C) XY -> Y
D) None of the above

Answer:

66. If you have an empty queue and you insert characters 'r', 'a', 't' (in this order only), what is the order of the characters when you dequeue all the elements?

A) 'r','a','t'
B) 't','a','r'
C) 'r','t','a'
D) 't','r','a'

Answer:

67. If you were collecting and storing information about your music collection, an album would be considered a(n) _____.

A) Relation
B) Entity
C) Instance
D) Attribute

Answer: B

68. If $b_{YX} = -\frac{1}{6}$ and $b_{XY} = -\frac{2}{3}$ are the two regression coefficients of variables X and Y, then the value of the correlation coefficient $r(X, Y)$ is

A) 1/3
B) 1/9
C) -1/3
D) -1/9
Answer:

69. In ....., we have many mini transactions within a main transaction.
A) Transaction control
B) Chained transaction
C) Nested transaction
D) Calling transaction
Answer: B

70. In ..... policy, when the last track has been visited in one direction, the arm is returned to the opposite end of the disk and the scan begins again.
A) Last in first out
B) Shortest service time first
C) SCAN
D) Circular SCAN
Answer: D

71. In ..... inheritance, the base classes are constructed in the order in which they appear in the deceleration of the derived class.
A) Multipath
B) Multiple
C) Multilevel
D) Hierarchical
Answer: B

72. In ..... inheritance, the constructors are executed in the order of inheritance.
A) Multipath
B) Multiple
C) Multilevel
D) Hierarchical
Answer: C

73. In 2NF
A) No functional dependencies exist
B) No multivalued dependencies exist
C) No partial functional dependencies exist
D) No partial multivalued dependencies exist
Answer: C

74. In _____, information is recorded magnetically on platters.
A) Magnetic disks
B) Electrical disks
C) Assemblies
D) Cylinders
Answer: A

75. In _____, there is an inefficient use of memory due to internal fragmentation.

A) Fixed partitioning
B) Simple paging
C) Virtual memory paging
D) Simple segmentation

Answer: A

76. In _____, there is an inefficient use of processor due to the need for compaction to counter external fragmentation.

A) Fixed partitioning
B) Dynamic partitioning
C) Virtual memory paging
D) Simple segmentation

Answer: B

77. In _____ linked list, there are backward and forward link

A) Single linked list
B) Doubly linked list
C) Circular linked list
D) All the option

Answer:

78. In a 2-tree, nodes with 0 children are called ___

A) External node
B) Exterior node
C) Outer node
D) Outside node

Answer: A

79. In a circular queue the value of r will be _____

A) r = r+1
B) r=(r+1)% [QUEUE_SIZE – 1]
C) r=(r+1)% QUEUE_SIZE
D) r=(r-1)% QUEUE_SIZE

Answer: C

80. In a doubly linked list traversing comes to a halt at

A) Null
B) Front
C) Rear
D) Rear - 1

Answer: A

81. In a four variable Karnaugh map eight adjacent cells give a

A) Two variable term
B) Single variable term
C) Three variable term
D) Four variable term

Answer: B

82. In a full binary tree if number of internal nodes is I, then number of leaves L are?

A) L = 2I
B) L = I + 1
C) L = I - 1

D) L = 2I - 1
Answer: B

83. In a linked list the _____ field contains the address of next element in the list.
A) Link field
B) Next element field
C) Start field
D) Info field
Answer: A

84. In a paged memory, the page hit ratio is 0.35. The required to access a page in secondary memory is equal to 100 ns. The time required to access a page in primary memory is 10 ns. The average time required to access a page is :
A) 3.0 ns
B) 68.0 ns
C) 68.5 ns
D) 78.5 ns
Answer: C

85. In a priority queue, insertion and deletion takes place at
A) Front, rear end
B) Only at rear end
C) Only at front end
D) Any position
Answer: D

86. In a queue, the initial values of front pointer f rear pointer r should be ……. and ……. respectively.
A) 0 and 1
B) 0 and -1
C) -1 and 0
D) 1 and 0
Answer: B

87. In a relational model, relations are termed as
A) Tuples
B) Attributes
C) Tables
D) Rows
Answer: C

88. In a stack the command to access nth element from top of the stack s will be _____
A) S[Top –n]
B) S[Top +n]
C) S[top-n-1]
D) None of the above
Answer: A

89. In a three variable K-Map with minterms of variables x, y, and z an Octet will represent
A) x
B) x'
C) z
D) 1

Answer:

90. In a two-phase locking protocol, a transaction release locks in ..... phase.

A) Shrinking phase
B) Growing phase
C) Running phase
D) Initial phase

Answer: A

91. In a(n) ____ backup of the database, only the last modifications to the database are copied.

A) Full
B) Incomplete
C) Differential
D) Transaction log

Answer: C

92. In an E-R diagram an entity set is represent by a

A) Rectangle
B) Ellipse
C) Diamond box
D) Circle

Answer: A

93. In an Entity-Relationship Diagram Rectangles represents

A) Entity sets
B) Attributes
C) Database
D) Tables

Answer: A

94. In an expression involving || operator, evaluation

I.Will be stopped if one of its components evaluates to false
II.Will be stopped if one of its components evaluates to true
III.Takes place from right to left
IV. Takes place from left to right

A) I and II
B) I and III
C) II and III
D) II and IV

Answer: D

95. In an operating system a utility which lets the users issue and execute commands from the keyboard is called:

A) Terminal handler
B) Command interpreter
C) Kernel
D) None of the above

Answer: B

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

A) Q = 0, Q’ = 1
B) Q = 1, Q’ = 0
C) Q = 1, Q’ = 1
D) Indeterminate states

Answer: C

97. In Augmentation Inference rule If X -> Y, then XZ ->

A) ZX
B) YZ
C) YX
D) None of the above

Answer:

98. In C++, const qualifier can be applied to

1) Member functions of a class
2) Function arguments
3) To a class data member which is declared as static
4) Reference variables

A) Only 1, 2 and 3
B) Only 1, 2 and 4
C) All
D) Only 1, 3

Answer: C