1. In ______ all the logic are implemented using resistors and transistors.
   Resistor Transistor logic
2. _______ is the maximum number of inputs that can be driven by a logic gate.
   Fan-out
3. ________ logic family implements the logic gates using MOSFET devices
   MOS Logic
4. For which logic gate, the output is "true" if either, but not both, of the inputs are "true."
   XOR
5. The _______ latch is hazard free.
   Earle Latch
6. The input must be held steady in a period around the rising edge of clock known as ______.
   Aperture
7. The flag size of an HDLC frame is _______
   8 bits
8. Contents of one disk to another disk can be done using the command _______
   DISKCOPY
9. The assembler takes as its source code ________ language program
   Assembly
10. In computer graphics, digital differential analyzer is used for _______ of lines, triangles
    and polygons.
    Rasterization
11. The heuristic function A* should estimate the ___________ cost of reaching the destination.
    Minimum
12. The language that doesn’t use user defined functions, pointers and user defined types is____
    COBOL
13. ___  is a channel access method used by various radio communication technologies.
    CDMA
14. ______ acts as a multiple-input and single-output switch.
    Multiplexer
15. The small extremely fast, RAM’s are called as ______
    Cache
16. The decoded instruction is stored in ______
    Instruction Register
17. The instruction, `Add #45, R1` does _______

   **Adds 45 to the value of R1 and stores it in R1**

18. Let R1 and R2 be regular sets defined over the alphabet then:
   
   \[ \Sigma^* - R1 \text{ is regular} \]

19. If \( L_1 \) and \( L_2 \) are context free languages and \( R \) a regular set, ___ languages below is not necessarily a context free language.

   \[ L_1 \cap L_2 \]

20. The string 1101 does not belong to the set represented by
   
   \[ (10)^* (01)^* (00+11)^* \]

21. Identify which cannot be a advantageous development tool for working with an expert system

   **Recursion**

22. To make an algorithm in to a program which system can be used that is defined by Turing machine?

   **binary**

23. Which of the following technology is used to improve the relationship about people and computer machines?

   **human factors**

24. Which instinct determines the basic learning problem?

   **Feedback**

25. Spot out utility functions used in game playing algorithm?

   **Linear weighted polynomial**

26. What will be the outcome if the true function is contained by hypothesis?

   **Unrealizable**

27. Decision tree technique culminates its decision with_____

   **Sequence of tests**

28. In a graphic system the number of pixels in a buffer is called _____

   **Resolution**

29. Electrical energy can be converted into light using_____ device?

   **Emitters**

30. In which system, the Shadow mask methods are commonly used

   **Raster-scan system**

31. For calculating pixel positions, which of the following is an appropriate algorithm ?

   **DDA line**

32. Which body transformation will make the objects to move without deformation.
Translation
33. Figure out the model that exhibits dynamic behavior of the architecture?

Behavioral Model
34. In UML which diagrams support event based modeling?

State chart
35. Identify the model that hamper in early defining of requirements.

Prototyping & Spiral
36. Figure out the right option in the below

Both RAD & Prototyping Model facilitates reusability of components
37. The finest type of module coupling of the following is ________

Data Coupling
38. Which type of cohesion exhibits that all operations should be executed in same time span?

Temporal
39. Which is right as far as testing is concerned?

Evaluating deliverable to find errors
40. Cyclomatic complexity can also be called as_____

White box testing
41. The alias name of white box testing is ________

Structural testing
42. ______ interface transfer data to and from the memory through memory bus.

Direct Memory Access
43. Which of the following method cannot access information from memory locations

Indirect Access
44. The relationship between a function and its binary variables can be represented in a ____

Truth Table
45. Most common register, used to store data taken out from the memory is _____.

Accumulator
46. Which of the following is not a step in floating point addition and subtraction.

Reset Register
47. Identify the disadvantage of Pipelining from the following:

High instruction latency
48. Unplanned interrupts which are produced during execution of program is called ___

Exception
49. Data transfer between the CPU and the peripherals is initiated by the ______

CPU
50. __ algorithm determines whether there is a path between any two nodes in the graph.
51. Cycle graphs with an even number of ______ are bipartite.

52. Planar graphs have graph genus ______

53. For any planar graph with \( v \) vertices, \( e \) edges and \( f \) faces, we have ______

\[ v - e + f = 2 \]

54. Noise margin is high in which of the following___

55. The decimal equivalent of the binary number 101011 is ______

\((43)_{10}\)

56. The binary equivalent of the hexadecimal number \((3A5)_{16}\) is ______

\((0011 1010 0101)_{2}\)

57. Binary tree traversed in _____ traversal will produce sorted key values in ascending order.

In-order

58. A ___ binary tree has the minimum possible maximum height for the leaf nodes.

Balanced

59. In PASCAL, the data type ____ is equivalent to an array of boolean values.

Set

60. ____ is a variant that added non-numeric labels, a return statement and expressions as names of types.

Super Pascal

61. Which of the following statement doesn’t exist in FORTRAN

Halt

62. The unformatted I/O command for reading a tape in FORTAN is ______

READ TAPE

63. Which normal form is considered adequate for normal relational database design?

3 NF

64. Let \( R = ( A, B, C, D, E, F) \) be a relational schema with the following dependencies: C \( \rightarrow \) F, E \( \rightarrow \) A, EC \( \rightarrow \) D, A \( \rightarrow \) 2. Which of the following is the key for R?

EC

65. Which one of the following statements about normal form is FALSE?

. Lossless, dependency-preserving decomposition into BCNF is always possible.

.66. How many units in a single bus structure communicate at a time?

Two

67. Which of the following units cannot be used to measure the speed of computer?
68. B+-trees are preferred to binary trees in databases because

Disk access is slower than memory access.

69. Banker’s Algorithms is used as ________________.
   Deadlock Avoidance method

70. Assume that there are 3 page frames which are initially empty. If the page reference string is 1, 2, 3, 4, 2, 1, 5, 3, 2, 4, 6, the number of page faults using the optimal replacement policy is__________.

71. Which of the following page replacement algorithms suffers from Belady’s anomaly?
   FIFO

72. ______ Uses a standard called Distributed Queue Dual Bus (DQDB) or refer to as 802.6 IEEE Standard.
   MAN

73. The Hamming distance between 100 and 001 is ________.
   2

74. Manchester encoding is principally designed to ________________.
   Ensure that a transition occurs in the centre of each bit period.

75. Count-to-infinity problem arises in ____________Routing algorithm.
   Distance Vector

76. ____ is a path that visits each vertex of the graph exactly once.
   Hamiltonian Path

77. A graph with chromatic number $\leq 2$ is called ________
   Bi-colorable

78. The __ counts the number of ways a graph can be colored using no more than given colors.
   Chromatic Polynomial

79. Which of the following is not an application of Graph coloring?
   Classification

80. _____ is the formal specification of the behavior of computer programs and programming languages.
   Formal Semantics

81. The worst time complexity of Binary Search tree is ________
   $O(n)$

82. The average time complexity of AVL Tree is __________
   $O(\log(n))$
83. _____ is a comparison-based algorithm that builds a final sorted array one element at a time.

   **Insertion Sort**

84. The best-case time complexity of Heap Sort is ________

   \[ O(n \log n) \]

85. An ____ is a collection of operators and operands that represents a specific value.

   **Expression**

86. The Postfix expression for the given Infix expression \((A + B) \times (C - D)\) is ______

   \[ AB+CD-\times \]

87. The Postfix expression value of the expression \(5\ 3\ +\ 8\ 2\ -\ *\) is ________

   48

88. Which of the following statement is not true?

   **There can be only single state in both DFA and NFA.**

89. The data structure that can be used in Pushdown automata is __________

   **Stack**

90. ___ can be transformed into an equivalent nondeterministic pushdown automata.

   **Context-free grammar**

91. Which of the following does not exist in context free grammar?

   **End Symbol**

92. A Grammar which produces more than one parse tree for a sentence is called ________.

   **Ambiguous**

93. The computer language generally translated to pseudo-code is ____

   **Assembly**

94. Which of the following is not a basic operation of a Turing Machine?

   **Store the symbol on the square of the head.**

95. The tuple ‘Q’ in Turing machine refers to ______

   **States**

96. Type 0 grammar is known as _____ grammar.

   **Context free**

97. In C++, the ________ cannot be passed to a function.

   **Structure**

98. Which of the following is true in respect to Distributed Systems?

   **Loosely coupled O.S software on a tightly coupled hardware.**

99. Dijkstra’s algorithm is based on

   **Divide and Conquer paradigm**

100. Which of the following is not a multitasking operating system?
DOS
101. The ____ will scan partition table located within sector, for an active partition.

Master Boot Record
102. The centralized operating system running in UNIX is __________.

Kernel
103. Which of the following is not a UNIX feature?

File Allocation Table
104. ___ is a file system used to help user to hide different file systems complexities.

Virtual File System
105. _______ help interpret symbols, their types, and their relations with each other.

Semantics
106. ____ is the extraction of individual words or lexemes from an input stream of symbols.

Lexical Analysis
107. _______ parsing is top-down parsing using a stack as the memory.

LL(1)
108. We can look up a directory object by supplying its name to the _________ service.

Directory
109. ___ file system in volatile main memory, contents erased if the system reboots or crashes.

tmpfs
110. Which of the following is the base directory representation in Linux file system?

/ 
111. ____ is a description of sequences of events taken together, lead to a system doing something useful.

Use case diagram
112. A _____ model is an abstract model that describes how data is represented and used.

Data model
113. A ___ typically simulates few aspects and may be completely different from final product.

Prototype
114. __ idea is to build computers with easily replaceable parts that use standard interfaces.

Modular design
115. _____ is the degree of interdependence between Software modules.

Coupling
116. ________ cohesion is when parts of a module are grouped by when they are processed.

Temporal
117. A $\varepsilon$-free LL(1) grammar is also a ______ grammar.

SLR(1)
118. Which of the following is a bottom-up parser?
   LR

119. Which of the following layer doesn’t belong to Media layers?
   Transport

120. The ___ layer provides link between two directly connected nodes.
   Data link layer

121. The protocol data unit in the physical layer is ________
   Symbol

122. Regular languages are generated by _________ languages.
   Type - 3

123. The smallest free form that may be uttered in isolation with pragmatic content is ___.
   Word

124. Which of the following is not a graphic primitive.
   Richtext

125. Which of the following is not a subfield of animation.
   Rendering

126. The time complexity of Breadth-First search is ________
   O( V + E)

127. Which of the following is not true towards Spanning tree.
   Adding one edge to a spanning tree will not create a circuit.

128. Identify which of the following is not a characteristic of Data Structure.
   High lines of code

129. Data items that cannot be divided are called as ________.
   Elementary items

130. Identify the advantage of SIMD from the following.
   Instructions operate on all loaded data in a single operation.

131. In MIMD, each processor is connected to its ____ immediate neighbors.
   Four

132. Identify which of the following is not a type of Shared Memory.
   Shared Memory: Ring-based

133. _____ is a logic programming language associated with artificial intelligence.
   Prolog

134. A ___ is a general reusable solution to a commonly occurring problem in Software design.
   Design Pattern

135. Consider the join of a relation R with a relation S. if R has m tuples and S has n tuples,
then the maximum and minimum sizes of the join respectively are: 

\[ mn \text{ and } 0 \]

136. Context-free languages are:

**Closed under union**

137. ____ is one of LISP’s major data structure.

**Linked list**

138. Which of the following is an expression oriented language.

**LISP**

139. In synchronous framing, a flag sequence consists of ____ consecutive 1-bits.

6

140. ____ is a computer system that emulates the decision-making ability of a human expert.

**Expert system**

141. _____ takes executable module generated by linker.

**Loader**

142. ___ incorporates findings from psychology about how humans solve problems.

**Knowledge representation**

143. The compress or expand of the dimensions of an object is called ______

**Scaling Process**

144. ____ of a data point is accomplished through the addition of factors to the \( x \) and \( y \) coordinates.

**Translation**

145. A ___ is a finite state machine whose output depends on present state and present input.

**Mealy Machine**

146. _______ is the set of all objects that are a member of A, or B, or both.

**Union**

147. Which of the following is not a representation of a Set.

**Equal set**

148. ___ is the allocation of a Computer’s processor power to specific tasks.

**Scheduling**

149. Symbol used to get the value of the variable that the pointer is pointing to ___.

\[ * \]

150. A function ____ tells the compiler about a function’s name, return type and parameters.

**Declaration**