

Multiple Choice Questions of Artificial Intelligence

S/No	Statements and Options	Ans
1.	Which is the most straightforward approach for planning algorithm? a) Best-first search b) State-space search c) Depth-first search d) Hill-climbing search	B
2.	How many ways are available to solve the state-space search? a) 1 b) 2 c) 3 d) 4	B
3.	What is Artificial intelligence? a) Putting your intelligence into Computer b) Programming with your own intelligence c) Making a Machine intelligent d) Playing a Game	C
4.	Which search method takes less memory? a) Depth-First Search b) Breadth-First search c) Optimal search d) Linear Search	A
5.	How do you represent "All dogs have tails"? a) $\forall X \text{ dog}(X) \text{ ahas tail}(X)$ b) $\forall X \text{ dog}(X) \text{ ahas tail}(Y)$ c) $\forall X \text{ dog}(Y) \text{ ahas tail}(X)$ d) $\forall X \text{ dog}(X) \text{ ahas tail}(X, Y)$	A
6.	Which condition is used to cease the growth of forward chaining? a) Atomic sentences b) Complex sentences c) No further inference d) All of the mentioned	C
7.	What is the condition of variables in first-order literals? a) Existentially quantified b) Universally quantified c) Both Existentially & Universally quantified d) None of the mentioned	B
8.	There exist only two types of quantifiers, Universal Quantification and Existential Quantification. a) True b) False	A
9.	Translate the following statement into FOL. "For every a, if a is a philosopher, then a is a scholar" a) $\forall a \text{ philosopher}(a) \text{ scholar}(a)$ b) $\exists a \text{ philosopher}(a) \text{ scholar}(a)$ c) All of the mentioned d) None of the mentioned	A
10.	First Order Logic is also known as _____ a) First Order Predicate Calculus b) Quantification Theory c) Lower Order Calculus d) All of the mentioned	D
11.	Which algorithm will work backward from the goal to solve a problem? a) Forward chaining b) Backward chaining c) Hill-climb algorithm d) None of the mentioned	B
12.	Which is mainly used for automated reasoning? a) Backward chaining b) Forward chaining c) Logic programming d) Parallel programming	C
13.	Which algorithm are in more similar to backward chaining algorithm? a) Depth-first search algorithm b) Breadth-first search algorithm c) Hill-climbing search algorithm d) All of the mentioned	A
14.	Which problem can frequently occur in backward chaining algorithm? a) Repeated states b) Incompleteness c) Complexity d) Both Repeated states & Incompleteness	D
15.	State Space is a _____ a) Representing your problem with variable and parameter b) Problem you design c) Your Definition to a problem d) The whole problem	Aa

S/No	Statements and Options	Ans
16.	Factors which affect the performance of learner system does not include a) Representation scheme used b) Training scenario c) Type of feedback d) Good data structures	D
17.	Which of the following is the model used for learning? a) Decision trees b) Neural networks c) Propositional and FOL rules d) All of the mentioned	D
18.	Automated vehicle is an example of _____ a) Supervised learning b) Unsupervised learning c) Active learning d) Reinforcement learning	A
19.	A heuristic is a way of trying a) To discover something or an idea embedded in a program b) To search and measure how far a node in a search tree seems to be from a goal c) To compare two nodes in a search tree to see if one is better than another d) All of the mentioned	D
20.	The search strategy the uses a problem specific knowledge is known as a) Informed Search b) Best First Search c) Heuristic Search d) All of the mentioned	D
21.	Best-First search is a type of informed search, which uses _____ to choose the best next node for expansion. a) Evaluation function returning lowest evaluation b) Evaluation function returning highest evaluation c) Evaluation function returning lowest & highest evaluation d) None of them is applicable	A
22.	Best-First search can be implemented using the following data structure. a) Queue b) Stack c) Priority Queue d) Circular Queue	C
23.	Heuristic function $h(n)$ is ____ a) Lowest path cost b) Cheapest path from root to goal node c) Estimated cost of cheapest path from root to goal node d) Average path cost	C
24.	In a rule-based system, procedural domain knowledge is in the form of: a) production rules b) rule interpreters c) meta-rules d) control rules	A
25.	Following is an example of active learning: a) News Recommender system b) Dust cleaning machine c) Automated vehicle d) None of the mentioned	a
26.	Which of the following is not an application of learning? a) Data mining b) WWW c) Speech recognition d) None of the mentioned	d
27.	Which of the following is the component of learning system? a) Goal b) Model c) Learning rules d) All of the mentioned	D
28.	What among the following could the universal instantiation of _____ For all x $King(x) \wedge Greedy(x) \Rightarrow Evil(x)$ a) $King(John) \wedge Greedy(John) \Rightarrow Evil(John)$ b) $King(y) \wedge Greedy(y) \Rightarrow Evil(y)$ c) $King(Richard) \wedge Greedy(Richard) \Rightarrow Evil(Richard)$ d) All of the mentioned	D
29.	Lifted inference rules require finding substitutions that make different logical expressions looks identical.	C

S/No	Statements and Options	Ans
	a) Existential Instantiation b) Universal Instantiation c) Unification d) Modus Ponon	
30.	What among the following could the Existential instantiation of $\exists x \text{Crown}(x) \wedge \text{OnHead}(x, \text{Johnny})$ a) $\text{Crown}(\text{John}) \wedge \text{OnHead}(\text{John}, \text{Jonny})$ b) $\text{Crown}(y) \vee \text{OnHead}(y, \text{Jonny})$ c) $\text{Crown}(x) \wedge \text{OnHead}(x, \text{Jonny})$ d) None of the mentioned	A
31.	Translate the following statement into FOL. “For every a, if a is a PhD student, then a has a master degree” a) $\forall a \text{PhD}(a) \rightarrow \text{Master}(a)$ b) $\exists a \text{PhD}(a) \rightarrow \text{Master}(a)$ c) A is true, B is true d) A is false, B is false	A
32.	To overcome the need to backtrack in constraint satisfaction problem can be eliminated by a) Forward Searching b) Constraint Propagation c) Backtrack after a forward search d) Omitting the constraints and focusing only on goals	A
33.	Language/Languages used for programming Constraint Programming includes a) Prolog b) C# c) C d) Fortrun	A
34.	Backtracking is based on, a) Last in first out b) First in first out c) Recursion d) Both Last in first out & Recursion	D
35.	An Artificial Intelligence technique that allows computers to understand associations and relationships between objects and events is called: a) heuristic processing b) cognitive science c) relative symbolim d) pattern matching	C
36.	The field that investigates the mechanics of human intelligence is: a) history b) cognitive science c) psychology d) sociology	B
37.	What is the name of the computer program that simulates the thought processes of human beings? a) Human logic b) Expert reason c) Expert system d) Personal information	C
38.	What is the name of the computer program that contains the distilled knowledge of an expert? a) Database management system b) Management information System c) Expert system d) Artificial intelligence	C
39.	A computer program that contains expertise in a particular domain is called an: a) intelligent planner b) automatic processor c) expert system d) operational symbolizer	C
40.	What is the term used for describing the judgmental or commonsense part of problem solving? a) Heuristic b) Critical c) Value based d) Analytical	A
41.	Decision support programs are designed to help managers make: a) budget projections b) visual presentations c) business decisions d) vacation schedules	C
42.	Programming a robot by physically moving it through the trajectory you want it to follow is called:	B

S/No	Statements and Options	Ans
	a) contact sensing control b) continuous-path control c) robot vision control d) pick-and-place contro	
43.	What is the goal of artificial intelligence? a) To solve real-world problems b) To solve artificial problems c) To explain various sorts of intelligence d) To extract scientific causes	C
44.	Which is true regarding BFS (Breadth First Search)? a) BFS will get trapped exploring a single path b) The entire tree so far been generated must be stored in BFS c) BFS is not guaranteed to find a solution, if exists d) BFS is nothing but Binary First Search	B
45.	What is a heuristic function? a) A function to solve mathematical problems b) A function which takes parameters of type string and returns an integer value c) A function whose return type is nothing d) A function that maps from problem state descriptions to measures of desirability	D
46.	The traveling salesman problem involves n cities with paths connecting the cities. The time taken for traversing through all the cities, without knowing in advance the length of a minimum tour, is a) $O(n)$ b) $O(n^2)$ c) $O(n!)$ d) $O(n/2)$	C
47.	An algorithm A is admissible if a) It is not guaranteed to return an optimal solution when one exists b) It is guaranteed to return an optimal solution when one exists c) It returns more solutions, but not an optimal one d) It guarantees to return more optimal solutions	B
48.	Knowledge may be I. Declarative. II. Procedural. III. Non-procedural. a) Only (I) above b) Only (II) above c) Only (III) above d) Both (I) and (II) above	D
49.	In LISP, the addition $3 + 2$ is entered as a) $3 + 2$ b) 3 add 2 c) $3 + 2 =$ d) (+ 3 2)	D
50.	In LISP, the function assigns the symbol x to y is a) (setq y x) b) (set y = 'x') c) (setq y = 'x') d) (setq y 'x')	D
51.	In LISP, the function (minusp (-20 4 8 8 1)) returns a) T b) F c) NIL d) -20	A
52.	In LISP, which of the following function assigns the value 10 to the symbol a? a) (setq a 10) b) (a = b) where b = 10 c) (a = 10) (d) (setq 10 a) d) All of the mentioned	A
53.	In LISP, the atom that stands for "False" is a) t b) nil c) y d) time	B
54.	In AI programming, a list may contain: a) cells b) fields c) pointers d) all of the mentioned	D

S/No	Statements and Options	Ans
55.	Forward chaining systems are _____ where as backward chaining systems are _____ a) Goal-driven, goal-driven b) Goal-driven, data-driven c) Data-driven, goal-driven d) Data-driven, data-driven	C

ARTIFICIAL INTELLIGENCE

1. A perceptron is:
 - a) a single layer feed-forward neural network with pre-processing
 - b) an auto-associative neural network
 - c) a double layer auto-associative neural network
 - d) a neural network that contains feedback

2. An auto-associative network is:
 - a) a neural network that contains no loops
 - b) a neural network that contains feedback
 - c) a neural network that has only one loop
 - d) a single layer feed-forward neural network with pre-processing

3. What are the advantages of neural networks over conventional computers?
 - (i) They have the ability to learn by example
 - (ii) They are more fault tolerant
 - (iii) They are more suited for real time operation due to their high 'computational' rates
 - a) (i) and (ii) are true
 - b) (i) and (iii) are true
 - c) Only (i)
 - d) All of the mentioned

4. Which is true for neural networks?
 - a) It has set of nodes and connections
 - b) Each node computes it's weighted input
 - c) Node could be in excited state or non-excited state
 - d) All of the mentioned

5. Why is the XOR problem exceptionally interesting to neural network researchers?
 - a) Because it can be expressed in a way that allows you to use a neural network
 - b) Because it is complex binary operation that cannot be solved using neural networks
 - c) Because it can be solved by a single layer perceptron
 - d) Because it is the simplest linearly inseparable problem that exists.

6. What is back propagation?
 - a) It is another name given to the curvy function in the perceptron
 - b) It is the transmission of error back through the network to adjust the inputs
 - c) It is the transmission of error back through the network to allow weights to be adjusted so that the network can learn.
 - d) None of the mentioned

7. A perceptron adds up all the weighted inputs it receives, and if it exceeds a certain value, it outputs a 1, otherwise it just outputs a 0.

- a) True
 - b) False
 - c) Sometimes – it can also output intermediate values as well
 - d) Can't say
8. The network that involves backward links from output to the input and hidden layers is called as -----.
- a) Self organizing maps
 - b) Perceptrons
 - c) Recurrent neural network
 - d) Multi layered perceptron
9. Which of the following is an application of NN (Neural Network)?
- a) Sales forecasting
 - b) Data validation
 - c) Risk management
 - d) All of the mentioned
10. A rule-based system generally represents which one of the following statement..
- a) If
 - b) If-Then
 - c) If-Else
 - d) Iff
11. Two basic types of rule based systems are,
- 1. -----
 - 2. -----
 - a) Forward chaining, backward chaining
 - b) Reduction to propositional logic, Apply modus ponens
 - c) Apply modus ponens, Manipulate rules directly
 - d) Convert every rule to Horn Clause, Reduction to propositional logic
12. Artificial intelligence is
- a) It uses machine-learning techniques. Here program can learn From past experience and adapt themselves to new situations
 - b) Computational procedure that takes some value as input and produces some value as output.
 - c) Science of making machines performs tasks that would require intelligence when performed by humans
 - d) None of these
13. Input segments of AI programming contains...
- a) Sound and smell
 - b) Touch
 - c) Sight and taste

d) All of the above

14. Output segments of AI programming contains?

- a) Printed language and synthesized
- b) Manipulation of physical object
- c) Locomotion
- d) All of above

15. Forward chaining systems are -----, where as backward chaining systems are -----.

- a) Goal-driven, goal-driven
- b) Goal-driven, data-driven
- c) Data-driven, goal-driven
- d) Data-driven, data-driven

16. The turing machine showed that you could use a/ansystem to program any algorithmic task ?

- a) Binary
- b) Electrochemical
- c) Recursive
- d) Semantic

17. The characteristics of the computer system capable of thinking, reasoning and learning is called ?

- a) Machine intelligence
- b) Human intelligence
- c) Artificial intelligence
- d) Virtual intelligence

18. Semantic Networks is

- a) A way of representing knowledge
- b) Data Structure
- c) Data Type
- d) None of the mentioned

19. Graph used to represent semantic network is,

- a) Undirected graph
- b) Directed graph
- c) Directed Acyclic graph (DAG)
- d) a or b

20. A.M Turing developed a technique for determining whether a computer could or could not demonstrate the artificial intelligence. Presently this technique is called ?

- a) Turing test
- b) Algorithm
- c) Boolean algebra
- d) Logarithm

21. What is the term used for describing the judgmental or commonsense part of problem solving?
- a) Heuristic
 - b) Critical
 - c) Value based
 - d) Analytical
22. Weak AI is
- a) the embodiment of human intellectual capabilities within a computer.
 - b) a set of computer programs that produce output that would be considered to reflect intelligence if it were generated by humans.
 - c) the study of mental faculties through the use of mental models implemented on a computer.
 - d) All of the above
23. What among the following constitutes to the representation of the knowledge in different forms?
- a) Relational method where each fact is set out systematically in columns
 - b) Using Frames
 - c) Inferential knowledge
 - d) Semantic Networks
 - e) All above
24. Strong Artificial Intelligence is
- a) the embodiment of human intellectual capabilities within a computer.
 - b) a set of computer programs that produce output that would be considered to reflect intelligence if it were generated by humans.
 - c) the study of mental faculties through the use of mental models implemented on a computer.
 - d) All of the mentioned
25. A.M. turing developed a technique for determining whether a computer could or could not demonstrate the artificial Intelligence, Presently, this technique is called
- a) Turing Test
 - b) Algorithm
 - c) Boolean Algebra
 - d) Logarithm
26. Which of the following, is a component of an expert system?
- a) inference engine
 - b) knowledge base
 - c) user interface
 - d) All of the mentioned

27. One method of programming a computer to exhibit human intelligence is called modeling or:
- a) simulation
 - b) cognitization
 - c) duplication
 - d) psychic amelioration
28. Machine learning is
- a) The autonomous acquisition of knowledge through the use of computer programs
 - b) The autonomous acquisition of knowledge through the use of manual programs
 - e) The selective acquisition of knowledge through the use of computer programs
 - d) The selective acquisition of knowledge through the use of manual programs
 - e) None of the mentioned
29. Factors which affect the performance of learner system does not include
- a) Representation scheme used
 - b) Training scenario
 - e) Type of feedback
 - d) Good data structures
 - e) Learning algorithm
30. Perception involves
- a) Sights, sounds, smell and touch
 - b) Hitting
 - e) Boxing
 - d) Dancing
 - e) Acting
31. How the new states are generated in genetic algorithm?
- a) Composition
 - b) Mutation
 - c) Cross-over
 - d) Both b & c
32. Though local search algorithms are not systematic, key advantages would include
- a) Less memory
 - b) More time
 - c) Finds a solution in large infinite space
 - d) a & c
33. An optimal algorithm finds a...
- a) Global minimum
 - b) Global maximum
 - c) a or b
 - d) None

34. Hill-Climbing algorithm terminates when,
- Stopping criterion met
 - Global Min/Max is achieved
 - No neighbor has higher value
 - Local Min/Max is achieved
 - c & d
35. Hill climbing sometimes called ----- because it grabs a good neighbor state without thinking ahead about where to go next.
- Needy local search
 - Heuristic local search
 - Greedy local search
 - Optimal local search
36. Hill-Climbing approach stuck for the following reasons
- Local maxima
 - Ridges
 - Plateaux
 - All of above
37. Where does the bayes rule can be used?
- Solving queries
 - Increasing complexity
 - Decreasing complexity
 - Answering probabilistic query
38. What does the Bayesian network provides?
- Complete description of the domain
 - Partial description of the domain
 - Complete description of the problem
 - None of the mentioned
39. From which rule does the modus ponens are derived?
- Inference rule
 - Module rule
 - Both a & b
 - None of the mentioned
40. The field that investigates the mechanics of human intelligence is:
- history
 - cognitive science
 - psychology
 - sociology
41. Natural language processing is divided into the two subfields of:
- symbolic and numeric

- b) time and motion
 - c) algorithmic and heuristic
 - d) understanding and generation
42. Which of the following have people traditionally done better than computers?
- a) recognizing relative importance
 - b) finding similarities
 - c) resolving ambiguity
 - d) All of the mentioned
43. Weak Artificial intelligence is?
- a) The embodiment of human intellectual capabilities within a computer
 - b) A set of computer programs that produce output that would be consider to reflect intelligence if it
 - c) The study of mental faculties using mental models implemented on a computer.
 - d) All of the mentioned
44. Input segments of AI programming contain?
- a) Sound and smell
 - b) Touch
 - c) Sight and taste
 - d) All of the mentioned
45. Output segments of AI programming contain?
- a) Printed language and synthesized
 - b) Manipulation of physical object
 - c) Locomotion
 - d) All of the mentioned
46. What is a Cybernetics?
- a) Study of communication between two machines
 - b) Study of communication between human and machine
 - c) Study of communication between two humans
 - d) Study of Boolean values
 - e) Study of communication between logic circuits
47. What is the goal of artificial intelligence?
- a) To solve real-world problems
 - b) To solve artificial problems
 - c) To explain various sorts of intelligence
 - d) To extract scientific causes
 - e) To restrict problems
48. Which is true regarding BFS (Breadth First Search)?
- a) BFS will get trapped exploring a single path
 - b) The entire tree so far been generated must be stored in BFS

- c) BFS is not guaranteed to find a solution, if exists
- d) BFS is nothing but Binary First Search
- e) BFS is one type of sorting

49. What is a heuristic function?

- a) A function to solve mathematical problems
- b) A function which takes parameters of type string and returns an integer value
- c) A function whose return type is nothing
- d) A function which returns an object
- e) A function that maps from problem state descriptions to measures of desirability

50. What kind of perception is used in printing?

- a) Optical character recognition
- b) Speech recognition
- c) Perception
- d) None of the mentioned

51. What is the name for information sent from robot sensors to robot controllers?

- a) temperature
- b) pressure
- c) feedback
- d) signal
- e) output

52. The first AI programming language was called:

- a) BASIC
- b) FORTRAN
- c) IPL(Inductive logic programming)
- d) LISP

53. The field that investigates the mechanics of human intelligence is:

- a) history
- b) cognitive science
- c) psychology
- d) sociology

54. -----reasoning is based on forming, or inducing a 'generalization' from a limited set of observations

- a) Deductive
- b) Abductive
- c) Analogical
- d) Inductive

55. ----- is the process of deriving logical conclusions from given facts

- a) Representation
- b) Execution
- c) Reasoning

d) Planning

56. Identify the correct step used to start design of an expert system

- a) Feasibility study
- b) Problem recognition
- c) Scope study
- d) Rapid prototyping

57. If the antecedent is only partially true, then the output fuzzy set is truncated according to the ----- method

- a) Intrinsic
- b) Implication
- c) Boolean
- d) None of the given

58. Choose the fields in which Fuzzy inference systems have been successfully applied

- a) automatic control
- b) data classification
- c) decision analysis
- d) All of the given

59. Usually a ----- graph is chosen to represent a fuzzy set

- a) Triangular
- b) Circular
- c) Conical
- d) None of the given

60. What is the name of the computer program that simulates the thought processes of human beings?

- a) Human logic
- b) Expert reason
- c) Expert system
- d) Personal information

61. MSE stands for -----

- a) Mean Square Error
- b) Mean Standard Error
- c) Mean Square Entry
- d) None of the given

62. IF name is "Bob" AND weather is cold THEN tell Bob "Wear a coat" The above rule is an example of -----

- a) Recommendation Rule
- b) Directive Rule
- c) Relation Rule
- d) None of the given options

63. Which of the following is a valid example which represents a suitable antecedent in a rule?
- a) IF $x > 3$
 - b) IF name is "Bob"
 - c) IF weather is cold
 - d) All of the given options
64. IF A THEN B This can be considered to have a similar logical meaning as the following
- a) $A \rightarrow B$
 - b) $A \leftrightarrow B$
 - c) $A \leftarrow B$
 - d) None of the given
65. A rule, which takes a set of inputs and gives advice as a result, is called
- a) Recommendation Rule
 - b) Directive Rule
 - c) Relation Rule
 - d) None of the given options
66. In the statement "IF A THEN B", B is called
- a) Antecedent
 - b) Consequent
67. Using deduction to reach a conclusion from a set of antecedents is called
- a) Forward chaining
 - b) Backward chaining
68. Measure of the effectiveness of an attribute in classifying the training data is called
- a) Information Gain
 - b) Measure Gain
 - c) Information Goal
 - d) None of the given
69. Which one is NOT the advantage of Neural Network
- a) Excellent for pattern recognition
 - b) Excellent classifiers
 - c) Handles noisy data well
 - d) None of the given
70. The entropy is 1 when the collection contains number of positive example -----to/than negative example
- a) Equal
 - b) Greater
 - c) Less
 - d) None of given
71. The multilayer perceptions are the most basic artificial neural

- a) Network
 - b) Layers
 - c) Icon
 - d) None of given
72. A computer program that contains expertise in a particular domain is called an:
- a) intelligent planner
 - b) automatic processor
 - c) expert system
 - d) operational symbolizer
73. Backpropagation is used with..
- (a) expert systems
 - (b) theorem proving
 - (c) neural nets
 - (d) Markov chains
 - (e) none of these
74. Which one is NOT the phase of machine learning
- a) Training
 - b) Application
 - c) Validation
 - d) None of the given
75. In training a neural net, weights of connections are changed in response to
- (a) agent judgment
 - (b) Bayesian formulas
 - (c) predicate-logic expression values
 - (d) errors detected in output units
 - (e) correct outputs
76. In GA, the random process is repeated until an individual with required ----- level is found
- a) Higher
 - b) Lower
 - c) Fitness
 - d) Logical
77. Neurons in hidden layers are those
- (a) protected from firing
 - (b) with external inputs and outputs
 - (c) with external inputs but no external outputs
 - (d) with external outputs but no external inputs
 - (e) without external inputs or outputs
78. Artificial Neural Networks is a new learning paradigm which takes its roots from ----- inspired approach to learning

- a) Chemistry
- b) Physics
- c) Biology
- d) Mathematics

79. Neural nets learn by...

- (a) abduction
- (b) symbolic methods
- (c) Bayesian inference
- (d) adjusting weights of synapses
- (e) computing rewards

80. Perceptron learning adjusts....

- (a) a knowledge base
- (b) inference rules
- (c) probability estimates
- (d) synapseweights
- (e) transitions

81. Graphs represent.... problems and their solution spaces

- a) Problems
- b) Solutions
- c) a & b
- d) None of the above

82. Graph can be converted into

- a) Tree
- b) Path
- c) Semantic net
- d) Relation

83. Breadth-first search is a good idea when you are confident that the branching factor is

- a) Extremely
- b) Small
- c) Medium
- d) Large

84. In Basic Genetic Algorithm the term mutation refers to a small random

- a) Number
- b) Change
- c) Operator
- d) Operand

85. An ----- is "A computer program designed to model the problem solving ability of a human expert."

- a) Expert system

- b) Intelligent System
 - c) Echo System
 - d) Energy System
86. An expert system may
- a) replace the expert
 - b) assist the expert
 - c) a & b
 - d) None
87. In Artificial Intelligence GA stands for..
- a) Genetic Algorithm
 - b) Graph Algorithm
 - c) Graph Approach
 - d) None
88. A database of rules is also called knowledge base
- a) Schema
 - b) Knowledge Base
 - c) Inference
 - d) None
89. In optimal path searches we try to find the ----- solution
- a) Worst
 - b) Least
 - c) Least but not worst
 - d) Best
90. The High level language has now become the dominant AI programming language.
- a) Ada
 - b) Lisp
 - b) AI pro
 - d) High AI
91. In AI, a representation of is a combination of data structures and interpretive procedures that is used in the right way in a program.
- a) Knowledge
 - b) Power
 - c) Strength
 - d) Intelligence
92. is an environment in which the search takes place.
- a) problem place
 - b) problem instance
 - c) problem space
 - d) Non of the above

93. Which is not the commonly used programming language for AI?
- (a) PROLOG
 - (b) Java
 - (c) LISP
 - (d) Perl
 - (e) Java script.
94. What is the name for information sent from robot sensors to robot controllers?
- a) temperature
 - b) pressure
 - c) feedback
 - d) signal
 - e) output
95. Which provides agents with information about the world they inhabit?
- a) Sense
 - b) Perception
 - c) Reading
 - d) Hearing
96. What is used to initiate the perception in the environment?
- a) Sensor
 - b) Read
 - c) Actuators
 - d) None of the mentioned
97. How to increase the brightness of the pixel?
- a) Sound
 - b) Amount of light
 - c) Surface
 - d) Waves
98. What is the process of breaking an image into groups?
- a) Edge detection
 - b) Smoothing
 - c) Segmentation
 - d) None of the mentioned
99. What is defined by set of strings?
- a) Signs
 - b) Formal language
 - c) Communication
 - d) None of the mentioned
100. What is a finite set of rules that specifies a language?

- a) Signs
- b) Communication
- c) Grammar
- d) Phrase

Answers

- | | | | | | |
|-----|---|-----|---|-----|---|
| 1. | a | 20. | a | 39. | a |
| 2. | b | 21. | a | 40. | b |
| 3. | d | 22. | c | 41. | d |
| 4. | d | 23. | e | 42. | d |
| 5. | d | 24. | a | 43. | c |
| 6. | c | 25. | a | 44. | d |
| 7. | a | 26. | d | 45. | d |
| 8. | c | 27. | a | 46. | b |
| 9. | d | 28. | a | 47. | c |
| 10. | b | 29. | d | 48. | b |
| 11. | a | 30. | a | 49. | e |
| 12. | c | 31. | d | 50. | a |
| 13. | d | 32. | d | 51. | c |
| 14. | d | 33. | a | 52. | d |
| 15. | c | 34. | e | 53. | b |
| 16. | a | 35. | c | 54. | d |
| 17. | c | 36. | d | 55. | c |
| 18. | a | 37. | d | 56. | a |
| 19. | d | 38. | a | 57. | b |

- | | | | | | |
|-----|---|-----|---|------|---|
| 58. | d | 73. | c | 88. | b |
| 59. | a | 74. | d | 89. | d |
| 60. | c | 75. | d | 90. | b |
| 61. | a | 76. | c | 91. | a |
| 62. | b | 77. | b | 92. | c |
| 63. | d | 78. | c | 93. | d |
| 64. | a | 79. | d | 94. | c |
| 65. | b | 80. | d | 95. | b |
| 66. | b | 81. | c | 96. | a |
| 67. | a | 82. | a | 97. | b |
| 68. | a | 83. | b | 98. | c |
| 69. | d | 84. | b | 99. | b |
| 70. | a | 85. | a | 100. | c |
| 71. | a | 86. | c | | |
| 72. | c | 87. | a | | |

ARTIFICIAL INTELLIGENCE

1. A perceptron is:
 - a) a single layer feed-forward neural network with pre-processing
 - b) an auto-associative neural network
 - c) a double layer auto-associative neural network
 - d) a neural network that contains feedback

2. An auto-associative network is:
 - a) a neural network that contains no loops
 - b) a neural network that contains feedback
 - c) a neural network that has only one loop
 - d) a single layer feed-forward neural network with pre-processing

3. What are the advantages of neural networks over conventional computers?
 - (i) They have the ability to learn by example
 - (ii) They are more fault tolerant
 - (iii) They are more suited for real time operation due to their high 'computational' rates
 - a) (i) and (ii) are true
 - b) (i) and (iii) are true
 - c) Only (i)
 - d) All of the mentioned

4. Which is true for neural networks?
 - a) It has set of nodes and connections
 - b) Each node computes it's weighted input
 - c) Node could be in excited state or non-excited state
 - d) All of the mentioned

5. Why is the XOR problem exceptionally interesting to neural network researchers?
 - a) Because it can be expressed in a way that allows you to use a neural network
 - b) Because it is complex binary operation that cannot be solved using neural networks
 - c) Because it can be solved by a single layer perceptron
 - d) Because it is the simplest linearly inseparable problem that exists.

6. What is back propagation?
 - a) It is another name given to the curvy function in the perceptron
 - b) It is the transmission of error back through the network to adjust the inputs
 - c) It is the transmission of error back through the network to allow weights to be adjusted so that the network can learn.
 - d) None of the mentioned

7. A perceptron adds up all the weighted inputs it receives, and if it exceeds a certain value, it outputs a 1, otherwise it just outputs a 0.

- a) True
 - b) False
 - c) Sometimes – it can also output intermediate values as well
 - d) Can't say
8. The network that involves backward links from output to the input and hidden layers is called as -----.
- a) Self organizing maps
 - b) Perceptrons
 - c) Recurrent neural network
 - d) Multi layered perceptron
9. Which of the following is an application of NN (Neural Network)?
- a) Sales forecasting
 - b) Data validation
 - c) Risk management
 - d) All of the mentioned
10. A rule-based system generally represents which one of the following statement..
- a) If
 - b) If-Then
 - c) If-Else
 - d) Iff
11. Two basic types of rule based systems are,
- 1. -----
 - 2. -----
 - a) Forward chaining, backward chaining
 - b) Reduction to propositional logic, Apply modus ponens
 - c) Apply modus ponens, Manipulate rules directly
 - d) Convert every rule to Horn Clause, Reduction to propositional logic
12. Artificial intelligence is
- a) It uses machine-learning techniques. Here program can learn From past experience and adapt themselves to new situations
 - b) Computational procedure that takes some value as input and produces some value as output.
 - c) Science of making machines performs tasks that would require intelligence when performed by humans
 - d) None of these
13. Input segments of AI programming contains...
- a) Sound and smell
 - b) Touch
 - c) Sight and taste

d) All of the above

14. Output segments of AI programming contains?

- a) Printed language and synthesized
- b) Manipulation of physical object
- c) Locomotion
- d) All of above

15. Forward chaining systems are -----, where as backward chaining systems are -----.

- a) Goal-driven, goal-driven
- b) Goal-driven, data-driven
- c) Data-driven, goal-driven
- d) Data-driven, data-driven

16. The turing machine showed that you could use a/ansystem to program any algorithmic task ?

- a) Binary
- b) Electrochemical
- c) Recursive
- d) Semantic

17. The characteristics of the computer system capable of thinking, reasoning and learning is called ?

- a) Machine intelligence
- b) Human intelligence
- c) Artificial intelligence
- d) Virtual intelligence

18. Semantic Networks is

- a) A way of representing knowledge
- b) Data Structure
- c) Data Type
- d) None of the mentioned

19. Graph used to represent semantic network is,

- a) Undirected graph
- b) Directed graph
- c) Directed Acyclic graph (DAG)
- d) a or b

20. A.M Turing developed a technique for determining whether a computer could or could not demonstrate the artificial intelligence. Presently this technique is called ?

- a) Turing test
- b) Algorithm
- c) Boolean algebra
- d) Logarithm

21. What is the term used for describing the judgmental or commonsense part of problem solving?
- a) Heuristic
 - b) Critical
 - c) Value based
 - d) Analytical
22. Weak AI is
- a) the embodiment of human intellectual capabilities within a computer.
 - b) a set of computer programs that produce output that would be considered to reflect intelligence if it were generated by humans.
 - c) the study of mental faculties through the use of mental models implemented on a computer.
 - d) All of the above
23. What among the following constitutes to the representation of the knowledge in different forms?
- a) Relational method where each fact is set out systematically in columns
 - b) Using Frames
 - c) Inferential knowledge
 - d) Semantic Networks
 - e) All above
24. Strong Artificial Intelligence is
- a) the embodiment of human intellectual capabilities within a computer.
 - b) a set of computer programs that produce output that would be considered to reflect intelligence if it were generated by humans.
 - c) the study of mental faculties through the use of mental models implemented on a computer.
 - d) All of the mentioned
25. A.M. turing developed a technique for determining whether a computer could or could not demonstrate the artificial Intelligence, Presently, this technique is called
- a) Turing Test
 - b) Algorithm
 - c) Boolean Algebra
 - d) Logarithm
26. Which of the following, is a component of an expert system?
- a) inference engine
 - b) knowledge base
 - c) user interface
 - d) All of the mentioned

27. One method of programming a computer to exhibit human intelligence is called modeling or:
- a) simulation
 - b) cognitization
 - c) duplication
 - d) psychic amelioration
28. Machine learning is
- a) The autonomous acquisition of knowledge through the use of computer programs
 - b) The autonomous acquisition of knowledge through the use of manual programs
 - e) The selective acquisition of knowledge through the use of computer programs
 - d) The selective acquisition of knowledge through the use of manual programs
 - e) None of the mentioned
29. Factors which affect the performance of learner system does not include
- a) Representation scheme used
 - b) Training scenario
 - e) Type of feedback
 - d) Good data structures
 - e) Learning algorithm
30. Perception involves
- a) Sights, sounds, smell and touch
 - b) Hitting
 - e) Boxing
 - d) Dancing
 - e) Acting
31. How the new states are generated in genetic algorithm?
- a) Composition
 - b) Mutation
 - c) Cross-over
 - d) Both b & c
32. Though local search algorithms are not systematic, key advantages would include
- a) Less memory
 - b) More time
 - c) Finds a solution in large infinite space
 - d) a & c
33. An optimal algorithm finds a...
- a) Global minimum
 - b) Global maximum
 - c) a or b
 - d) None

34. Hill-Climbing algorithm terminates when,
- a) Stopping criterion met
 - b) Global Min/Max is achieved
 - c) No neighbor has higher value
 - d) Local Min/Max is achieved
 - e) c & d
35. Hill climbing sometimes called ----- because it grabs a good neighbor state without thinking ahead about where to go next.
- a) Needy local search
 - b) Heuristic local search
 - c) Greedy local search
 - d) Optimal local search
36. Hill-Climbing approach stuck for the following reasons
- a) Local maxima
 - b) Ridges
 - c) Plateaux
 - d) All of above
37. Where does the bayes rule can be used?
- a) Solving queries
 - b) Increasing complexity
 - c) Decreasing complexity
 - d) Answering probabilistic query
38. What does the Bayesian network provides?
- a) Complete description of the domain
 - b) Partial description of the domain
 - c) Complete description of the problem
 - d) None of the mentioned
39. From which rule does the modus ponens are derived?
- a) Inference rule
 - b) Module rule
 - c) Both a & b
 - d) None of the mentioned
40. The field that investigates the mechanics of human intelligence is:
- a) history
 - b) cognitive science
 - c) psychology
 - d) sociology
41. Natural language processing is divided into the two subfields of:
- a) symbolic and numeric

- b) time and motion
 - c) algorithmic and heuristic
 - d) understanding and generation
42. Which of the following have people traditionally done better than computers?
- a) recognizing relative importance
 - b) finding similarities
 - c) resolving ambiguity
 - d) All of the mentioned
43. Weak Artificial intelligence is?
- a) The embodiment of human intellectual capabilities within a computer
 - b) A set of computer programs that produce output that would be consider to reflect intelligence if it
 - c) The study of mental faculties using mental models implemented on a computer.
 - d) All of the mentioned
44. Input segments of AI programming contain?
- a) Sound and smell
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 - d) All of the mentioned
45. Output segments of AI programming contain?
- a) Printed language and synthesized
 - b) Manipulation of physical object
 - c) Locomotion
 - d) All of the mentioned
46. What is a Cybernetics?
- a) Study of communication between two machines
 - b) Study of communication between human and machine
 - c) Study of communication between two humans
 - d) Study of Boolean values
 - e) Study of communication between logic circuits
47. What is the goal of artificial intelligence?
- a) To solve real-world problems
 - b) To solve artificial problems
 - c) To explain various sorts of intelligence
 - d) To extract scientific causes
 - e) To restrict problems
48. Which is true regarding BFS (Breadth First Search)?
- a) BFS will get trapped exploring a single path
 - b) The entire tree so far been generated must be stored in BFS

- c) BFS is not guaranteed to find a solution, if exists
- d) BFS is nothing but Binary First Search
- e) BFS is one type of sorting

49. What is a heuristic function?

- a) A function to solve mathematical problems
- b) A function which takes parameters of type string and returns an integer value
- c) A function whose return type is nothing
- d) A function which returns an object
- e) A function that maps from problem state descriptions to measures of desirability

50. What kind of perception is used in printing?

- a) Optical character recognition
- b) Speech recognition
- c) Perception
- d) None of the mentioned

51. What is the name for information sent from robot sensors to robot controllers?

- a) temperature
- b) pressure
- c) feedback
- d) signal
- e) output

52. The first AI programming language was called:

- a) BASIC
- b) FORTRAN
- c) IPL(Inductive logic programming)
- d) LISP

53. The field that investigates the mechanics of human intelligence is:

- a) history
- b) cognitive science
- c) psychology
- d) sociology

54. -----reasoning is based on forming, or inducing a 'generalization' from a limited set of observations

- a) Deductive
- b) Abductive
- c) Analogical
- d) Inductive

55. ----- is the process of deriving logical conclusions from given facts

- a) Representation
- b) Execution
- c) Reasoning

d) Planning

56. Identify the correct step used to start design of an expert system

- a) Feasibility study
- b) Problem recognition
- c) Scope study
- d) Rapid prototyping

57. If the antecedent is only partially true, then the output fuzzy set is truncated according to the ----- method

- a) Intrinsic
- b) Implication
- c) Boolean
- d) None of the given

58. Choose the fields in which Fuzzy inference systems have been successfully applied

- a) automatic control
- b) data classification
- c) decision analysis
- d) All of the given

59. Usually a ----- graph is chosen to represent a fuzzy set

- a) Triangular
- b) Circular
- c) Conical
- d) None of the given

60. What is the name of the computer program that simulates the thought processes of human beings?

- a) Human logic
- b) Expert reason
- c) Expert system
- d) Personal information

61. MSE stands for -----

- a) Mean Square Error
- b) Mean Standard Error
- c) Mean Square Entry
- d) None of the given

62. IF name is "Bob" AND weather is cold THEN tell Bob "Wear a coat" The above rule is an example of -----

- a) Recommendation Rule
- b) Directive Rule
- c) Relation Rule
- d) None of the given options

63. Which of the following is a valid example which represents a suitable antecedent in a rule?
- a) IF $x > 3$
 - b) IF name is "Bob"
 - c) IF weather is cold
 - d) All of the given options
64. IF A THEN B This can be considered to have a similar logical meaning as the following
- a) $A \rightarrow B$
 - b) $A \leftrightarrow B$
 - c) $A \leftarrow B$
 - d) None of the given
65. A rule, which takes a set of inputs and gives advice as a result, is called
- a) Recommendation Rule
 - b) Directive Rule
 - c) Relation Rule
 - d) None of the given options
66. In the statement "IF A THEN B", B is called
- a) Antecedent
 - b) Consequent
67. Using deduction to reach a conclusion from a set of antecedents is called
- a) Forward chaining
 - b) Backward chaining
68. Measure of the effectiveness of an attribute in classifying the training data is called
- a) Information Gain
 - b) Measure Gain
 - c) Information Goal
 - d) None of the given
69. Which one is NOT the advantage of Neural Network
- a) Excellent for pattern recognition
 - b) Excellent classifiers
 - c) Handles noisy data well
 - d) None of the given
70. The entropy is 1 when the collection contains number of positive example -----to/than negative example
- a) Equal
 - b) Greater
 - c) Less
 - d) None of given
71. The multilayer perceptions are the most basic artificial neural

- a) Network
 - b) Layers
 - c) Icon
 - d) None of given
72. A computer program that contains expertise in a particular domain is called an:
- a) intelligent planner
 - b) automatic processor
 - c) expert system
 - d) operational symbolizer
73. Backpropagation is used with..
- (a) expert systems
 - (b) theorem proving
 - (c) neural nets
 - (d) Markov chains
 - (e) none of these
74. Which one is NOT the phase of machine learning
- a) Training
 - b) Application
 - c) Validation
 - d) None of the given
75. In training a neural net, weights of connections are changed in response to
- (a) agent judgment
 - (b) Bayesian formulas
 - (c) predicate-logic expression values
 - (d) errors detected in output units
 - (e) correct outputs
76. In GA, the random process is repeated until an individual with required ----- level is found
- a) Higher
 - b) Lower
 - c) Fitness
 - d) Logical
77. Neurons in hidden layers are those
- (a) protected from firing
 - (b) with external inputs and outputs
 - (c) with external inputs but no external outputs
 - (d) with external outputs but no external inputs
 - (e) without external inputs or outputs
78. Artificial Neural Networks is a new learning paradigm which takes its roots from ----- inspired approach to learning

- a) Chemistry
- b) Physics
- c) Biology
- d) Mathematics

79. Neural nets learn by...

- (a) abduction
- (b) symbolic methods
- (c) Bayesian inference
- (d) adjusting weights of synapses
- (e) computing rewards

80. Perceptron learning adjusts....

- (a) a knowledge base
- (b) inference rules
- (c) probability estimates
- (d) synapseweights
- (e) transitions

81. Graphs represent.... problems and their solution spaces

- a) Problems
- b) Solutions
- c) a & b
- d) None of the above

82. Graph can be converted into

- a) Tree
- b) Path
- c) Semantic net
- d) Relation

83. Breadth-first search is a good idea when you are confident that the branching factor is

- a) Extremely
- b) Small
- c) Medium
- d) Large

84. In Basic Genetic Algorithm the term mutation refers to a small random

- a) Number
- b) Change
- c) Operator
- d) Operand

85. An ----- is "A computer program designed to model the problem solving ability of a human expert."

- a) Expert system

- b) Intelligent System
 - c) Echo System
 - d) Energy System
86. An expert system may
- a) replace the expert
 - b) assist the expert
 - c) a & b
 - d) None
87. In Artificial Intelligence GA stands for..
- a) Genetic Algorithm
 - b) Graph Algorithm
 - c) Graph Approach
 - d) None
88. A database of rules is also called knowledge base
- a) Schema
 - b) Knowledge Base
 - c) Inference
 - d) None
89. In optimal path searches we try to find the ----- solution
- a) Worst
 - b) Least
 - c) Least but not worst
 - d) Best
90. The High level language has now become the dominant AI programming language.
- a) Ada
 - b) Lisp
 - b) AI pro
 - d) High AI
91. In AI, a representation of is a combination of data structures and interpretive procedures that is used in the right way in a program.
- a) Knowledge
 - b) Power
 - c) Strength
 - d) Intelligence
92. is an environment in which the search takes place.
- a) problem place
 - b) problem instance
 - c) problem space
 - d) Non of the above

93. Which is not the commonly used programming language for AI?
- (a) PROLOG
 - (b) Java
 - (c) LISP
 - (d) Perl
 - (e) Java script.
94. What is the name for information sent from robot sensors to robot controllers?
- a) temperature
 - b) pressure
 - c) feedback
 - d) signal
 - e) output
95. Which provides agents with information about the world they inhabit?
- a) Sense
 - b) Perception
 - c) Reading
 - d) Hearing
96. What is used to initiate the perception in the environment?
- a) Sensor
 - b) Read
 - c) Actuators
 - d) None of the mentioned
97. How to increase the brightness of the pixel?
- a) Sound
 - b) Amount of light
 - c) Surface
 - d) Waves
98. What is the process of breaking an image into groups?
- a) Edge detection
 - b) Smoothing
 - c) Segmentation
 - d) None of the mentioned
99. What is defined by set of strings?
- a) Signs
 - b) Formal language
 - c) Communication
 - d) None of the mentioned
100. What is a finite set of rules that specifies a language?

- a) Signs
- b) Communication
- c) Grammar
- d) Phrase

Answers

- | | | | | | |
|-----|---|-----|---|-----|---|
| 1. | a | 20. | a | 39. | a |
| 2. | b | 21. | a | 40. | b |
| 3. | d | 22. | c | 41. | d |
| 4. | d | 23. | e | 42. | d |
| 5. | d | 24. | a | 43. | c |
| 6. | c | 25. | a | 44. | d |
| 7. | a | 26. | d | 45. | d |
| 8. | c | 27. | a | 46. | b |
| 9. | d | 28. | a | 47. | c |
| 10. | b | 29. | d | 48. | b |
| 11. | a | 30. | a | 49. | e |
| 12. | c | 31. | d | 50. | a |
| 13. | d | 32. | d | 51. | c |
| 14. | d | 33. | a | 52. | d |
| 15. | c | 34. | e | 53. | b |
| 16. | a | 35. | c | 54. | d |
| 17. | c | 36. | d | 55. | c |
| 18. | a | 37. | d | 56. | a |
| 19. | d | 38. | a | 57. | b |

- | | | | | | |
|-----|---|-----|---|------|---|
| 58. | d | 73. | c | 88. | b |
| 59. | a | 74. | d | 89. | d |
| 60. | c | 75. | d | 90. | b |
| 61. | a | 76. | c | 91. | a |
| 62. | b | 77. | b | 92. | c |
| 63. | d | 78. | c | 93. | d |
| 64. | a | 79. | d | 94. | c |
| 65. | b | 80. | d | 95. | b |
| 66. | b | 81. | c | 96. | a |
| 67. | a | 82. | a | 97. | b |
| 68. | a | 83. | b | 98. | c |
| 69. | d | 84. | b | 99. | b |
| 70. | a | 85. | a | 100. | c |
| 71. | a | 86. | c | | |
| 72. | c | 87. | a | | |

Introduction to Programming

- 1) Program development process has -----stages
a) 5 b) 6 c) 4 d) None
- 2) When program is finalized its -----is prepared
a) documentation b) implementation c) algorithm d) None
- 3) -----example of procedural language
a) C b) C++ c) SQL d) None
- 4) The -----are used in programs to increase readability
a) token b) variable c) white spaces d) None
- 5) Which symbol is used to represent the OR operator in C++?
a) * b) || c) && d) None
- 6) The maximum range of an integer variable is -----
a) 32768 b) 32776 c) 32778 d) None
- 7) Symbolic constant can be declared in -----ways
a) 3 b) 0 c) 1 d) None
- 8) In if statement, true is represented by
a) 0 b) 1 c) 3 d) None
- 9) Which of the following is a correct identifier in C++?
a) 7maketea b) int c) VAR_a1234 d) \$var_name
- 10) Which of the following is called address operator?
a) * b) % c) _ d) &
- 11) Which of the following escape sequence represents tab?
a) \t b) \r c) \b d) \a
- 12) Who created C++
a) Ken Thompson b) Bjarne Stroustrup c) Dennis Ritchie d) None
- 13) Which of the following correctly declares an array?
a) int array; b) int array[10]; c) array{ 10}; d) None
- 14) Which of the following gives the memory address of the first element in array?
a) array[1]; b) array[3]; c) array(0); d) array[0];
- 15) The data elements in the structure are also known as ?
a) objects b) members c) data d) None
- 16) The contents of a variable can be
a) fix b) permanent c) changed d) None
- 17) From where the execution of the program starts in C++?
a) Headers b) main function c) header files d) None
- 18) How many objects can present in a single class?
a) 1 b) 2 c) as many as possible d) 3
- 19) How many types of returning values from function are present in c++?
a) 1 b) 2 c) 4 d) 3
- 20) Object is a collection of functions and
a) properties b) methods c) class d) None
- 21) Which operator is used to declare the destructor?
a) # b) & c) \$ d) ~
- 22) The switch statement is also called as?
a) choosing structure b) selective structure c) certain structure d) None

- 23) The destination statement for the goto label is identified by what label?
a) : b) * c) @ d) &
- 24) The maximum range of a character variable is -----
a) -128 b) 0 c) 127 d) None
- 25) Which of the following is used to terminate the function declaration?
a) : b) ; c) :: d) None
- 26) How many minimum number of functions are need to be presented in C++?
a) 0 b) 2 c) 1 d) None
- 27) How many specifiers are present in access specifiers in class?
a) 1 b) 2 c) 4 d) None
- 28) Which is used to define the member of a class externally?
a) :: b) : c) # d) None
- 29) An expression consists of
a) operators b) operand c) both a & b d) None
- 30) What is the result of given expression: $11 * 3 - 35 / (11 \% 4)$
a) 20 b) 22 c) 29 d) None
- 31) How many variables can be used in one cout object?
a) one b) two c) many d) None
- 32) Which of following symbol is used for AND operator?
a) || b) ! c) & d) None
- 33) All of the following are logical operators except
a) = b) && c) ! d) ||
- 34) The do while loop is this type of loop
a) pre-test b) post-test c) infinite d) None
- 35) Which of following loop is called counter loop?
a) for b) if c) do-while d) None
- 36) Which of the following is not a simple data type?
a) int b) float c) char d) array
- 37) The index of first element of an array is always starts with
a) 2 b) 1 c) 0 d) None
- 38) How many elements are in the array? `int a[5];`
a) 5 b) 4 c) 0 d) None
- 39) Array is a collection of consecutive memory
a) values b) locations c) data types d) None
- 40) Before a structure can be used, it must be
a) declared b) initialized c) de-allocated d) None
- 41) How many ways, a function definition can be given in C++
a) 2 b) 1 c) 0 d) 3
- 42) The statement that activates the function is known as function
a) argument b) call c) definition d) None
- 43) Which one is not a valid variable example?
a) \$sam_paro b) ohc c) hi_ccc d) file123
- 44) C++ class contains data members and
a) interfaces b) methods c) clients d) None

- 45) Which of the class's members are available to anyone
 a) private b) protected c) public d) None
- 46) Constructor function's return type is
 a) int b) char c) float d) None
- 47) Which is an example of invalid variable in C++?
 a) pukhsam b) float c) big_face d) None
- 48) Another name for base class is
 a) sub class b) derived class c) parent class d) None
- 49) The inheritance relationship between classes of a program is called a class
 a) hierarchy b) inheritance c) base d) None
- 50) Which one is a type of constant in C++
 a) variable b) uaf c) int d) literal
- 51) Which of the following has no return type in C++
 a) void b) int c) float d) None
- 52) The cout object is used with which operator?
 a) >> b) :: c) << d) None
- 53) The output of given line in C++ will be: int a=5; a+=5; cout<<"a";
 a) a b) 5 c) 10 d) None
- 54) How many variables can be used in one cin object?
 a) one b) two c) as many as possible d) None
- 55) Single line comments can be given in C++ with
 a) /* b) // c) / d) None
- 56) In C++, variable may include letters, numbers and
 a) keywords b) data type c) underscore d) None

Answer Key

- | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| 1) a | 2) a | 3) a | 4) c | 5) b | 6) d | 7) d |
| 8) b | 9) c | 10) d | 11) a | 12) b | 13) b | 14) d |
| 15) b | 16) c | 17) b | 18) c | 19) d | 20) a | 21) d |
| 22) b | 23) a | 24) c | 25) b | 26) c | 27) d | 28) a |
| 29) c | 30) b | 31) c | 32) d | 33) a | 34) b | 35) a |
| 36) d | 37) c | 38) a | 39) b | 40) a | 41) d | 42) b |
| 43) a | 44) b | 45) c | 46) d | 47) b | 48) c | 49) a |
| 50) d | 51) a | 52) c | 53) a | 54) c | 55) b | 56) c |

Q1.	Which code is known as machine code that is processed or executed by the processor?
	a. Source code
	b. Object code
	c. MISL code
	d. Byte code
Q2.	Low level language is also called as
	a. Machine language
	b. Binary language
	c. A and B are same
	d. High level languages
Q3.	Which programming language use symbolic codes called MNEMONICS for developing the program?
	a. Machine language
	b. Low level language
	c. High level language
	d. Assembly language
Q4.	Which programming language uses constraint rather than algorithm?
	a. SQL
	b. C++
	c. Assembly
	d. PROLOG
Q5.	Which program allows text to be entered and changed?
	a. Editor
	b. Translator
	c. Compiler
	d. Interpreter
Q6.	Which program is known as translator , which read the whole code written in high level language at once and then convert it into machine language?
	a. Editor
	b. Linker
	c. Compiler
	d. Interpreter
Q7.	Which is a translator program, which read the code written in high level language line by line convert it into machine language?
	a. Linker
	b. Editor
	c. Compiler
	d. Interpreter
Q8.	Which program combine two or more object modules into a single object module or into an executable file?

	a. Linker
	b. Interpreter
	c. Assembler
	D Compiler
Q9.	Which program is also called as loader?
	a. Interpreter
	b. Linker
	c. Javac
	d. Compiler
Q10.	A _____ is responsible for the task of collecting different modules of a skeletal source program.
	a. Linker
	b. Loader
	c. Preprocessor
	d. Processor
Q11.	Which code have extension ".o" in unix system?
	a. Source code
	b. C language program
	c. Object code
	d. Binary code
Q12.	Machine language belong to _____ generation of computer language.
	a. First
	b. Third
	c. Fourth
	d. Fifth
Q13.	Which program is used to translates from low level language to higher one?
	a. Parse generator
	b. De compiler
	c. Cross compiler
	d. Scanner
Q14.	_____ refer to program that translate machine code to corresponding assembly code.
	a. Parse generator
	b. Scanner
	c. Disassembler
	d. Cross compiler
Q15.	Which compiler is used to convert high level code into machine level code?
	a. General compiler
	b. Cross compiler
	c. Native code compiler
	d. JIT compiler
Q16.	Which compiler is used to test new hardware platform?
	a. Cross compiler
	b. Native code compiler
	c. Source to source compiler

	d	JIT compiler
Q17.	Which compiler comes with the virtual machine and it is optional?	
	a.	Cross compiler
	b.	Miltipass compiler
	c.	One pass compiler
	d	JIT compiler
Q18.	Native code is also called _____.	
	a.	C-code
	b.	O-code
	c.	P-code
	D	Byte-code
Q19.	Which compiler is the compiler that passes through the source code of each compilation unit only once?	
	a.	One pass compiler
	b.	Narrow compiler
	c.	A and B is same
	d	Multipass compiler
Q20.	Which compiler is faster?	
	a.	Single pass
	b.	Multi pass
	c.	Narrow
	d	None
Q21.	_____ accept the stream of character as input and produces stream of token as output.	
	a.	Parser
	b.	Lexical analyzer
	c.	Scanner
	d	B and C are same
Q22.	The sequences of character that give rise to token are called _____.	
	a.	Intermediate code
	b.	Stream
	c.	Lexemes
	d	Semantic
Q23.	The syntactical analyzer is also called _____.	
	a.	Lexemes
	b.	Parser
	c.	Lexical analyzer
	d	Scanner
Q24.	What is refer to checking context dependent datatype?	
	a.	Lexical analysis
	b.	Parser
	c.	Semantic analysis
	d	Syntactical analysis
Q25.	What is responsible to produce faster and smaller object program by performing some improvements over intermediate code?	
	a.	Intermediate code generator
	b.	Code generator
	c.	Interpreter

	d	Code optimizer
Q26.	What is responsible for generation of final machine code tailored to target system?	
	a.	Interpreter
	b.	Semantic analyzer
	c.	Code generator
	d.	Code optimizer
Q27.	Which programming language use compiler as well as interpreter to produce output?	
	a.	C language
	b.	C++
	c.	COBOL
	d.	Java
Q28.	Which data structure is used for book keeping?	
	a.	Lookup table
	b.	Symbol table
	c.	Inode table
	d.	Tree
Q29.	Which tool is used to construct compiler?	
	a.	Compiler – Compiler
	b.	Compiler - generator
	c.	NELIAC
	d.	Both a and b
Q30.	_____ is used to construct compiler.	
	a.	Context free grammer
	b.	Pragmas
	c.	Significant Comments
	d.	Lexical analyzer
Q31.	In ADA programming language compiler directives are called _____.	
	a.	Pregmas
	b.	Preprocessor directives
	c.	Linker
	d.	Loader
Q32.	Bootstrapping technique is also called as _____.	
	a.	Parser
	b.	Self – hosting
	c.	NELIAC
	d.	None of these
Q33.	The process of modifying an existing compiler to work on a new machine is often known as _____.	
	a.	Boot starp
	b.	Translation
	c.	Porting
	d.	Transformation
Q34.	Which program is used collect statistics on the behavior of an object program during execution?	
	a.	Profilers
	b.	Debugger
	c.	Loader
	d.	Preprocessor

Q35.	The lexical analyzer produce tokens, which are stored in a buffer until they are consumed by the _____.	
	a.	Linker
	b.	Loader
	c.	Parser
	d.	Preprocessor
Q36.	What is called lexical analysis?	
	a.	Parallel analysis
	b.	Linear analysis
	c.	Parser
	d.	Token
Q37.	_____ expressions are widely used to specify lexical pattern.	
	a.	Regular
	b.	Mathematical
	c.	String
	d.	Prefix
Q38.	Which operation is used for searching a lexical entry in the symbol table?	
	a.	Insert
	b.	Lookup
	c.	Select
	d.	Scanner
Q39.	The additional information along with a token is called its _____.	
	a.	Lexeme
	b.	Keyword
	c.	Attributes
	d.	Subset
Q40.	A lexical analyzer filter out _____ and _____.	
	a.	Comment, Keyword
	b.	Whitespace, Comment
	c.	Character, Number
	d.	Operator, oprand
Q41.	Token refer to a set of _____.	
	a.	String
	b.	Keyword
	c.	Pattern
	d.	Lexeme
Q42.	Which kind of relationship exists between lexical analyzer and parser?	
	a.	Producer- Consumer
	b.	Teacher- student
	c.	Has- a
	d.	Association
Q43.	What is sequence of characters that gives rise to token?	
	a.	Keyword
	b.	Word
	c.	Pattern
	d.	Lexeme
Q44.	Lexer is implemented as a _____, which in turn is called by the parser.	
	a.	Lexical analyzer

	b.	Function
	c.	Processor
	d.	Scanner
Q45.	A _____ is finite sequence of symbol.	
	a.	String
	b.	Word
	c.	Both a and b
	d.	Language
Q46.	An alphabet is a _____ set of symbol.	
	a.	Finite
	b.	Infinite
	c.	Large
	d.	None
Q47.	How many type of formal language according to Noam Chomsky?	
	a.	Two
	b.	Three
	c.	Four
	d.	Five
Q48.	The process of discovering a handle and reducing it to the appropriate left hand side is called _____.	
	a.	Handle
	b.	Handle pruning
	c.	Bottom parsing
	d.	Handle parsing
Q49.	Which is parse generator?	
	a.	Yacc
	b.	Visual parse++
	c.	Grammatica
	d.	All of the above
Q50.	<p>The following grammar</p> $G = (N, T, P, S)$ $N = \{S, A, B\}$ $T = \{a, b, c\}$ $P : S \rightarrow aSa$ $S \rightarrow aAa$ $A \rightarrow bB$ $B \rightarrow bB$ $B \rightarrow c$ 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
Q51.	<p>The following grammar</p> $G = (N, T, P, S)$ $N = \{S, A, B, C, D, E\}$ $T = \{a, b, c\}$ $P : S \rightarrow aAB$	

	<p>AB ? CD CD ? CE C ? aC C ? b bE ? bc is</p>								
	<table border="1"> <tr> <td>a.</td> <td>Is type 3</td> </tr> <tr> <td>b.</td> <td>Is type 2 but not type 3</td> </tr> <tr> <td>c.</td> <td>Is type 1 but not type 2</td> </tr> <tr> <td>d.</td> <td>Is type 0 but not type 1</td> </tr> </table>	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
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								
Q52.	<p>The following grammar $G = (N, T, P, S)$ $N = \{S, A, B, C\}$ $T = \{a, b, c\}$ $P : S \rightarrow aS$ $A \rightarrow bB$ $B \rightarrow cC$ $C \rightarrow a$ is</p>								
	<table border="1"> <tr> <td>a.</td> <td>Is type 3</td> </tr> <tr> <td>b.</td> <td>Is type 2 but not type 3</td> </tr> <tr> <td>c.</td> <td>Is type 1 but not type 2</td> </tr> <tr> <td>d.</td> <td>Is type 0 but not type 1</td> </tr> </table>	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
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								
Q53	<p>The following grammar $G = (N, T, P, S)$ $N = \{S, A, B, C, D, E\}$ $T = \{a, b, c\}$ $P : S \rightarrow ABCD$ $BCD \rightarrow DE$ $D \rightarrow aD$ $D \rightarrow a$ $E \rightarrow bE$ $E \rightarrow c$ is</p>								
	<table border="1"> <tr> <td>a.</td> <td>Is type 3</td> </tr> <tr> <td>b.</td> <td>Is type 2 but not type 3</td> </tr> <tr> <td>c.</td> <td>Is type 1 but not type 2</td> </tr> <tr> <td>d.</td> <td>Is type 0 but not type 1</td> </tr> </table>	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
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								
Q54.	<p>Consider the following CFG $S \rightarrow aB \mid S \rightarrow bA$ $B \rightarrow b \mid A \rightarrow a$</p>								

	<p>B ? bS A ? aS B ? aBB A ? bAA</p> <p>Consider the following derivation</p> <p>S ? aB ? aaBB ? aaBb ? aabSb ? aabbAb ? aabbab</p> <p>This derivation is</p>	
	a.	A leftmost derivation
	b.	A rightmost derivation
	c.	Both a and b
	d.	Neither a and b
Q55.	<p>Consider the following language</p> $L = \{anbncndn \mid n = 1\}$ L is	
	a.	CFL but not regular
	b.	CSL but not CFL
	c.	Regular
	d.	Type 0 language but not type 1

Answers:

1	b	11	c	21	d	31	a	41	a	Q.51	C
2	c	12	a	22	c	32	b	42	a	52	A
3	d	13	b	23	b	33	c	43	d	53	D
4	d	14	c	24	c	34	a	44	b	54	D
5	a	15	a	25	d	35	c	45	c	55	B
6	c	16	a	26	c	36	b	46	a		
7	d	17	d	27	d	37	a	47	c		
8	a	18	c	28	b	38	b	48	b		
9	b	19	c	29	d	39	c	49	d		
10	c	20	a	30	a	40	b	50	b		

DATA COMMUNICATION AND NETWORKING (MCQ's)

- Which of the following items is not used in Local Area Networks(LANs)?
 - Computer Modem
 - Cable
 - Modem
 - Interface card
- Which of the following represents the fastest data transmission speed?
 - Gbps
 - Kbps
 - Bps
 - Bandwidth
- A device that connects to a network without the use of cables is said to be
 - Open source
 - Cabled
 - Distributed
 - Wireless
- WI-FI uses
 - Phase line
 - Radio waves
 - Optic fiber
 - Sound waves
- Network components are connected to the same cable in the _____ topology.
 - Mesh
 - Bus
 - Star
 - Ring
- How many bits are there in the Ethernet address?
 - 16 bits
 - 32 bits
 - 48 bits
 - 64 bits
- Geometric arrangement of devices on the network is called.
 - Protocols
 - Topology
 - Trailer
 - LAN
- Which type of network would use phone lines?
 - Wireless
 - WAN
 - LAN
 - WWAN
- Which of the following is not a network device?
 - Router
 - Modem
 - Bridge
 - Switch
- Servers are other computer which provide resources to other computer connected by.
 - Super computer
 - Mainframe
 - Network
 - Client

11. Which of the following refers to a small, single-site network?
A. RAM B. DSL C. USB D. PAN
12. Ethernet uses
A. Mesh topology B. Ring topology
C. Bus topology D. All of these
13. A device operating at the physical layer is called a
A. Bridge B. Router C. Repeater D. All of these
14. Which of the following is the fastest communication channel?
A. Micro wave B. Optical fiber
C. Radio wave D. None of the above
15. Encryption and decryption are the function of
A. Session layer B. Presentation layer
C. Transport layer D. None of the above
16. _____ is the most important/powerful computer in a typical network.
A. Desktop B. Network client
C. Network server D. Network station
17. In a ring topology, the computer in possession of the _____ can transmit data.
A. Data B. Packet C. Access method D. Token
18. How many layers are in the TCP/IP model?
A. 4 layers B. 5 layers C. 7 layers D. 8 layers
19. Which of the following topologies is not of broadcast type.
A. Bus B. Ring C. Star D. All of these
20. An alternate name for the completely interconnected network topology is
A. Mesh B. Star C. Tree D. Ring
21. What is the use of bridge in network?
A. To connect LAN's B. To separate LAN's
C. To control network speed D. None of these

22. What type of resource is most likely to be a shared common resource in a computer network?
- A. Printers
 - B. Speakers
 - C. Floppy disk drives
 - D. Keyboards
23. Information can be represented as a sequence of
- A. byte patterns
 - B. characters
 - C. bit patterns
 - D. images
24. Parameter that refers to recording and broadcasting of picture is
- A. Text
 - B. Audio
 - C. Image
 - D. Video
25. Both station can transmit and receive data simultaneously in
- A. Simplex mode
 - B. Half duplex mode
 - C. Full duplex mode
 - D. None of Above`
26. Data communications are transfer of data through some
- A. transmission medium
 - B. linear medium
 - C. Network LAN
 - D. Protocols
27. In OSI network architecture, the routing is performed by
- A. Data link layer
 - B. Network layer
 - C. Session layer
 - D. Transport layer
28. Hub is associated with_____ network.
- A. Bus
 - B. Star
 - C. Ring
 - D. Mesh
29. A combination of hardware and software that allows communication and electronic transfer of information between computer is a
- A. Network
 - B. Server
 - C. Peripheral
 - D. Backup system
30. LAN can use _____ architecture.
- A. Client and server
 - B. Peer-to-peer
 - C. Both a and b
 - D. Neither A or B

31. P2P is a _____ application architecture.
- A. 1-tier
 - B. Network client
 - C. Client/server
 - D. None of these
32. _____ is the transmission of data between two or more computers over communication links.
- A. Data communication
 - B. Data networking
 - C. Networking
 - D. Communication
33. Communication channel having _____ types.
- A. 1
 - B. 2
 - C. 3
 - D. 4
34. LAN can use _____ architecture.
- A. Client and server
 - B. Peer-to-peer
 - C. Both a and b
 - D. Neither A or B
35. P2P is a _____ application architecture.
- A. tier-1
 - B. Network client
 - C. Client/server
 - D. None of these
36. _____ is the transmission of data between two or more computers over communication links.
- A. Data communication
 - B. Data networking
 - C. Networking
 - D. Communication
37. Keyboard and traditional monitors are examples of
- A. Simplex devices
 - B. Duplex devices
 - C. Half Duplex devices
 - D. Full Duplex devices
38. Term that is used for physical path by which a message travels from sender to receiver is
- A. Jitter
 - B. Protocol
 - C. Transmission Medium
 - D. Information

39. In star topology if central hub goes down, it effects
- A. One node B. No node C. whole system D. whole network
40. Protocols are, set of rules to govern
- A. Communication B. Standards
C. Metropolitan communication D. None of Above
41. Parameter that refers to uneven delay of data packets in delivery is
- A. Jitter B. Timelessness
C. Accuracy D. Transmission medium
42. Mode in which each station can send and receive data but not at same time is called.
- A. Half Duplex B. Simplex
C. Full Duplex D. Duplex
43. Maximum number of characters or symbols that can be represented by Unicode
- A. 2^4 B. 2^6 C. 2^{16} D. 2^{32}
44. In mesh topology, devices are connected via
- A. Multipoint link B. Point to point link C. No Link D. None of the above
45. Performance, reliability and security are criteria of
- A. Efficient network B. intranet
C. Ethernet D. None of Above
46. Effectiveness of a data communications system depends on four fundamental characteristics
- A. delivery, accuracy B. timeliness and jitter
C. jitter and delivery D. both a and b
47. Hybrid network includes combination of
- A. Nodes B. Devices C. topologies D. None of the above
48. Delivering data to correct destination is
- A. Full Duplex B. Simplex C. Half Duplex D. None of the above

49. Telephone is an example of
A. Full Duplex B. Simplex C. Half Duplex D. None of the above
50. An internet is a
A. Collection of WANS B. Network of networks
C. collection of LANS D. Collection of identical LANS and WANS
51. When system delivers data accurately then it is called
A. Accuracy B. Delivery C. Jitter D. Timelessness
52. Mode that is like a two ways street with traffic flowing in both directions simultaneously is
A. Simplex B. Full Duplex
C. Half Duplex D. None of the above
53. Agreement between communicating devices are called
A. Data B. Message C. Protocol D. Transmission Medium
54. Five components that make up a data communications system are message, sender, receiver, medium and
A. protocol B. Code C. connecting device D. both a and b
55. Two computers connected by an Ethernet hub are of
A. LAN topology B. MAN topology
C. WAN topology D. None of the above

ANSWERS

1	C	2	A	3	D	4	B	5	B
6	C	7	B	8	B	9	B	10	C
11	D	12	C	13	C	14	A	15	B
16	C	17	D	18	B	19	A	20	A
21	A	22	A	23	C	24	D	25	C
26	A	27	B	28	B	29	A	30	C
31	C	32	A	33	C	34	C	35	C
36	A	37	A	38	C	39	C	40	A
41	A	42	A	43	D	44	B	45	A
46	D	47	C	48	A	49	A	50	B
51	A	52	B	53	C	54	A	55	A

EXIT EXAMINATION

DATA STRUCTURES AND ALGORITHMS MCQS

1. The smallest element of an array's index is called its
 - A. lower bound
 - B. upper bound
 - C. range
 - D. extraction
2. The extra key inserted at the end of the array is called a,
 - A. End key.
 - B. Stop key.
 - C. Sentinel.
 - D. Transposition.
3. 3. The largest element of an array index is called its
 - A. lower bound
 - B. range
 - C. upper bound
 - D. All of these
4. 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
5. 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
6. What does the following function do if S is an array used to implement a stack
float peep (float S[], int *t, int i)
{
float val;
if((*t-i+1) > 0)
{
val = S[*t-i+1];
return val;
}
}

 - A. Returns the ith value from top of the stack

- B. Returns the value at the top of the stack
 - C. It gives a compilation error
 - D. Returns the value at the *i*th position of the array
7. You want to find the *n*th element of a set of numbers. If you store the numbers in
- A. Finding the *n*th element is slower if it was stored in an array
 - B. Finding the *n*th element is faster if it was stored in an array
 - C. Finding the *n*th element takes the same amount of time across all data structures
 - D. Finding the *n*th element is slower if it was stored in a hash table
8. 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
9. Arrays are best data structures for
- A. relatively permanent collections of data
 - B. the size of the structure and the data in the structure are constantly changing
 - C. both of above situation
 - D. none of above situation
10. Two dimensional arrays are also called
- A. tables arrays
 - B. matrix arrays
 - C. both of the above
 - D. none of the above
11. What Member function places a new node at the end of the linked list?
- A. addNode
 - B. append Node
 - C. DisplayNode
 - D. StructNode
 - E. None of these
12. How would you make the middle node of a doubly linked list to the top of the list?
Let assume "X" is the middle node
- A. $X \rightarrow \text{next} \rightarrow \text{prev} = x \rightarrow \text{prev}$ $x \rightarrow \text{prev} \rightarrow \text{next} = x \rightarrow \text{next}$ $x \rightarrow \text{next} = \text{head}$ $\text{head} \rightarrow \text{prev} = x$
 - B. $x \rightarrow \text{next} = \text{head}$ $\text{head} \rightarrow \text{prev} = x$
 - C. $X \rightarrow \text{next} \rightarrow \text{prev} = x \rightarrow \text{next}$ $x \rightarrow \text{prev} \rightarrow \text{next} = x \rightarrow \text{prev}$ $x \rightarrow \text{next} = \text{head}$ $\text{head} \rightarrow \text{prev} = x$
 - D. None of these
13. To create a linked list, we can allocate space and make something point to it, by writing:
`struct-name *pointer-variable;`
Which of the following statement will correctly allocate the space
- A. `pointer-variable = malloc(sizeof(*struct-name));`
 - B. `pointer-variable = malloc(sizeof(struct struct-name));`
 - C. `pointer-variable = a!loc(sizeof(struct struct-name));`
 - D. `pointer-variable = alloc(sizeof(*struct-name));`

14. Assume single linked list pseudo code as follows?

```
struct Node {
    data
    next
}
record List {
    Node firstNode
}

function1(List list) {
    obsoleteNode = list.firstNode; list.firstNode = list.firstNode.next; free obsoleteNode;
}

function2(node node) {
    obsoleteNode = node.next; node.next= node.next.next; free obsoleteNode;
}

function3(Node node,Node newNode) {
    newNode.next = node.next;node.next= newNode
}

function4(List list, Node newNode) {
    newNode.next = list.firstNode; list.firstNode = newNode;
}
```

- A. function1 removes the first node
 - B. function2 removes node past this one
 - C. function3 inserts newNode after node
 - D. function4 inserts newNode after current first node
15. Which of the following can a Dynamic Link Library contain?
- A. Only Code
 - B. Code and Data Only
 - C. Code and Resources only
 - D. Code, Data and Resources
16. Consider a linked list of n elements. What is the time taken to insert an element after an element pointed by some pointer?
- A. $O(1)$
 - B. $O(\log_2 n)$
 - C. $O(n)$
 - D. $O(n \log_2 n)$
17. In a circular linked list
- A. components are all linked together in some sequential manner
 - B. there is no beginning and no end
 - C. components are arranged hierarchically
 - D. forward and backward traversal within the list is permitted

18. In a linked list with n nodes, the time taken to insert an element after an element pointed by some pointer is
- A. $O(1)$
 - B. $O(\log n)$
 - C. $O(n)$
 - D. $O(n \log n)$
19. Which of the following operations is performed more efficiently by doubly linked list than by singly linked list?
- A. Deleting a node whose location is given
 - B. Searching of an unsorted list for a given item
 - C. Inverting a node after the node with given location
 - D. Traversing a list to process each node
20. The time required to delete a node x from a doubly linked list having n nodes is
- A. $O(n)$
 - B. $O(\log n)$
 - C. $O(1)$
 - D. $O(n \log n)$
21. How is Data in a queue accessed
- A. First in First out
 - B. First in last out
 - C. Last in First out
 - D. None of these
22. Item in priority queue can jump to the front of the line if they have priority
- A. TRUE
 - B. FALSE
 - C. None of these
23. The dequeue process removes data from the front of the single ended queue
- A. TRUE
 - B. FALSE
 - C. None of these
24. Time taken for addition of element in queue is
- A. $O(1)$
 - B. $O(n)$
 - C. $O(\log n)$
 - D. None of these options
25. A linear list of elements in which deletion can be done from one end (front) and insertion can take place only at the other end (rear) is known as a
- A. queue
 - B. stack
 - C. tree
 - D. linked list
26. The data structure required for Breadth First Traversal on a graph is
- A. queue

- B. stack
 - C. array
 - D. tree
27. Let the following circular queue can accommodate maximum six elements with the following data
front = 2 rear = 4
queue = _____; L, M, N, ____, ____
What will happen after ADD O operation takes place?
- A. front = 2 rear = 5 queue = _____; L, M, N, O, ____
 - B. front = 3 rear = 5 queue = L, M, N, O, ____
 - C. front = 3 rear = 4 queue = _____; L, M, N, O, ____
 - D. front = 2 rear = 4 queue = L, M, N, O, ____
28. A queue is a,
- A. FIFO (First In First Out) list.
 - B. LIFO (Last In First Out) list.
 - C. Ordered array.
 - D. Linear tree.
29. 9, 6, 8, 4, 3, and 1 are inserted into a data structure in that order. An item is deleted using only a basic data structure operation. If the deleted item is a 1, the data structure cannot be a ?
- A. Queue
 - B. Tree
 - C. Stack
 - D. Hash Table
30. We need to implement a queue using a circular array. If DATA is a circular array of CAPACITY elements, and rear is an index into that array, what will be the index for the element after rear?
- A. $(rear + 1) \% CAPACITY$
 - B. $rear + (1 \% CAPACITY)$
 - C. $rear \% (1 + CAPACITY)$
 - D. $(rear \% 1) + CAPACITY$
31. The five items: A,B,C,D and E are pushed in stack, one after the other starting from A. The stack is Is popped four items and each element is inserted in a queue. Then two elements are deleted from the queue and pushed back on the stack . Now one item is popped from the stack. The popped item is:
- A. A
 - B. B
 - C. C
 - D. D
32. Convert the infix to postfix for $A-(B+C)*(D/E)$
- A. $ABC+DE/*-$
 - B. $ABC-DE/*-$
 - C. $ABC-DE*/*-$

- D. None of the above
33. What is the postfix form of the following prefix expression $-A/B*C\$DE$
- ABCDE $\$*/-$
 - A-BCDE $\$*/-$
 - ABC $\$ED*/-$
 - A-BCDE $\$*/$
34. The minimum number of multiplications and additions required to evaluate the polynomial
 $P = 4x^3 + 3x^2 - 15x + 45$ is
- 6&3
 - 4&2
 - 3&3
 - 8&3
35. The data structure required to evaluate a postfix expression is
- queue
 - stack
 - array
 - linked-list
36. 6. The data structure required to check whether an expression contains balanced parenthesis is
- Stack
 - Queue
 - Tree
 - Array
37. The process of accessing data stored in a serial access memory is similar to manipulating data on a
- heap
 - queue
 - stack
 - binary tree
38. The postfix form of the expression is $(A+B) * (C*D-E)*F/G$ is
- AB+CD*E-FG/**
 - AB+CD*E-*F*G/
 - AB+CD*E-F**G/
 - AB+CDE*-*F*G/
39. The pre-order and post order traversal of a Binary Tree generates the same output. The tree can have maximum
- Three nodes
 - Two nodes
 - One node
 - Any number of nodes
40. What data structure would you mostly likely see in a nonrecursive implementation of a recursive algorithm?

- A. Stack
 - B. Linked list
 - C. Queue
 - D. Trees
41. Which of the following algorithmic paradigm is used in the merge sort?
- A. Dynamic Programming
 - B. BackTracking
 - C. Greedy method
 - D. Divide and Conquer
42. What is the worst case performance of Selection sort algorithm?
- A. $O(\log n)$
 - B. $O(n * n)$
 - C. $O(n)$
 - D. $O(n \log n)$
43. Let P be a quick sort program to sort numbers in ascending order using the first element as the pivot. Let t1 and t2 be the number of comparisons made by P for the input [1 2 3 4 5] and [4 1 5 3 2] respectively. Which one of the following holds?
- A. $t1 = 5$
 - B. $t1 < t2$
 - C. $t1 > t2$
 - D. $t1 = t2$
44. Consider the C function given below. Assume the array listA contains ($n > 0$) elements, sorted in ascending order.
- ```
int Process array (int * list A, int x, int n){
int i, j, k;
i =0;j=n-1;
do {
k = (i+j)/2;
if (x<=list A[k])
j=k-1;
if (list A[k] <=x)
i =k+1;
} while (i <=j);
if (list A[k] == x)
return (k);
else
return -1;}
```
- Which one of the following statements about the function Process Array is CORRECT?
- A. It will run into an infinite loop when x is not in listA
  - B. It is an implementation of binary search.
  - C. It will always find the maximum element in listA.
  - D. It will return -1 even when x is present in listA.
45. What sorting algos have their best and worst case times equal?



- A. heap and selection sort
  - B. insertion sort & merge sort
  - C. merge sort and heap sort
  - D. None of these
46. What data structures you should use for dictionary searching and it should be capable of doing spell check also?
- A. array
  - B. Hashing
  - C. linked list
  - D. Tree
47. In worst case Quick Sort has order
- A.  $O(n \log n)$
  - B.  $O[n^2/2]$
  - C.  $O(\log n)$
  - D.  $O[n^2/4]$
48. A sort which relatively passes through a list to exchange the first element with any element less than it and then repeats with a new first element is called
- A. insertion sort.
  - B. selection sort.
  - C. heap sort.
  - D. quick sort.
49. Which of the following sorting algorithms does not have a worst-case running time of  $O(n^2)$ ?
- A. Insertion sort
  - B. Merge sort
  - C. Quick sort
  - D. Bubble sort
50. The quick sort algorithm exploit \_\_\_\_\_ design technique
- A. Greedy
  - B. Dynamic programming
  - C. Divide and Conquer
  - D. Backtracking

## ANSWER KEY

- |       |       |
|-------|-------|
| 1. A  | 26. A |
| 2. C  | 27. A |
| 3. C  | 28. A |
| 4. C  | 29. A |
| 5. A  | 30. D |
| 6. A  | 31. D |
| 7. B  | 32. A |
| 8. A  | 33. A |
| 9. A  | 34. C |
| 10. C | 35. B |
| 11. A | 36. A |
| 12. A | 37. C |
| 13. A | 38. A |
| 14. C | 39. C |
| 15. D | 40. A |
| 16. A | 41. D |
| 17. B | 42. B |
| 18. A | 43. C |
| 19. A | 44. B |
| 20. C | 45. C |
| 21. A | 46. B |
| 22. A | 47. B |
| 23. A | 48. D |
| 24. C | 49. B |
| 25. A | 50. C |

## *MCQ's of Database Systems*

1. A database containing all students in a class would store basic data of students in:  
a). Record                      b). Field                      c). Cell                      d). File
2. SQL stands for:  
a). Unstructured Language                      b). Structured Language  
c). Seek Quality Language                      d). None
3. The objectives of database management systems include:  
a) Database Integrity                      b). Data Integration                      c). Availability                      d). All
4. Which of the following is handled by DBMS?  
a) Data Integrity                      b). Data Security                      c). Data Independence                      d). All
5. The database system is composed of four major parts:  
a) Hardware, Hard drive, Monitor, Data, User                      b). Hardware, Software, People and Data  
c). Software, You, Me, DBA, Client                      d). DBMS, Hardware, User, Programming, Engineer
6. Data that causes inconsistency lacks:  
a). Good data                      b). Data integrity                      c). Data redundancy                      d). Data Anomaly
7. DBMS stand for:  
a). Database Modeling system                      b). Database Management System  
c). Data business model system                      d). Data business management service
8. Database application contain procedures for:  
a). Adding records                      b). Deleting records                      c). Processing queries                      d). All
9. The major component of DBMS is called:  
a). Database manager                      b). File Management                      c). Data Manager                      d). All
10. Duplicate data in multiple data files is:  
a). Data redundancy                      b). Data Multiplication                      c). Data Integrity                      d). None
11. The description of structure and organization of data in a database is contained in:  
a). Data dictionary                      b). Data Mine                      c). Structured query language  
d). None
12. A request for information from a database in database terminology is called:  
a). Report                      b). Letter                      c). Table                      d). Query
13. Which of the following is not a database management system?  
a). MS Access                      b). MS SQL                      c). Oracle                      d). SQL server
14. Which of the following is not one of the three schemas used in the ANSI/SPARC  
a). External                      b). Internal                      c). Implementation                      d). Conceptual

15. Which of three schemas used in three-schema model represents how users view database?  
a). External                      b). Internal                      c). Implementation                      d). Conceptual
16. Which data model creates parent-child relationships between data elements and enables each child to have just one parent?  
a). Hierarchical                      b). Network                      c). Relational                      d). Object
17. Which of the following data models stores data in table structures and performs various operations on table rows and columns?  
a). Hierarchical                      b). Network                      c). Relational                      d). Object
18. DBA stand for.  
a). Database administrator                      b). data basic administration  
c). Database application                      d). database authority
19. Which of the following represents a collection of concepts that are used to describe the Structure of a database.  
a). Data warehouse                      b). data model                      c). data structure                      d). data type
20. Physical database design decisions must be made carefully because of impacts on  
a). Data accessibility                      b). response time                      c). security                      d). all
21. Organizing the database in-computer disk storage is done in.  
a). Logical design                      b). physical design                      c). analysis  
d). implementation
22. Customers, cars, and parts are examples of  
a). Entities                      b). attributes                      c). cardinals                      d). relationships
23. An identifier may be.  
a). Composite                      b). unique                      c). non-unique                      d). all
24. The relationship can be.  
a). one by one                      b). one to many                      c). many to many                      d). all
25. Which of the following is an example of one to one relationship?  
a). student-RegNo                      b). person-automobile                      c). mother-daughter  
d). person-phone number
26. Which of the following is a one-to-many relationship?  
a). student-RegNo                      b). person-automobile                      c). mother-daughter  
d). both b and c
27. An entity related to itself in an ERD model refers to.  
a). Recursive relationship                      b). one-to-many relationship  
c). many-to-many relationship                      d). one-to-one relationship

28. In an E-R diagram, a rectangle represents a (n).
- a). Entity class                      b). weak entity                      c). relationship                      d). attribute
29. The most common type of relationship encountered in data modeling is \_\_\_\_\_relationship:
- a). Unary                      b). Binary                      c). Ternary                      d). Associative
30. The degree of a relationship refers to the:
- a). Number of entities                      b). Maximum cardinality  
c). Minimum cardinality                      d). Number of attributes in a the identifiers
- a). Table                      b). Record                      c). Field                      d). Cell
31. A table must have
- a). Primary key                      b). Secondary Key                      c). Composite Key                      d). Sort key
32. A two dimensional table of data is called a:
- a). Group                      b). Set                      c). Declaration                      d). Relation
33. A relation is also known as:
- a). Table                      b). Tuple                      c). Relationship                      d). Attribute
34. A row of a relation is called a (n)
- a). Attribute                      b). Entity                      c). tuple                      d). Field
35. A key is:
- a). A field that identifies only one record                      b). The most important field in a record  
c). The first field of table                      d). None
36. Which of the following describes the primary key?
- a). It must be unique                      b). It helps in indexing of a large database  
c). It makes sorting quicker                      d). All of the above
37. How many primary keys can a table have?
- a). One                      b). At least one, but not more than two  
c). Between 1 and 5                      d). No limit
38. Which field listed below is the most appropriate primary key?
- a). A person's name                      b). A person's street address  
c). A person's birth date                      d). A person's social security number
39. An attribute in a relation of a database that serves as the primary key of another relation in the same database is called a:
- a). Global key                      b). Line key                      c). Foreign key                      d). None
40. A primary key that consists of more than one attributes is called a:
- a). Foreign key                      b). Composite key                      c). Multi-valued key                      d). Global key

41. In 3NF, which form of dependency is removed?  
a). Functional                      b). Non-Functional                      c). Associative                      d). Transitive
42. In relational database, table is also called:  
a). Tuple                      b). Relation                      c). File                      d). Schema
43. In 3NF, a non-key attribute must not depend on a:  
a). Non-key Attribute                      b). Key attribute                      c). Composite key                      d). Sort key
44. Every relation must have:  
a). Primary key                      b). Candidate key  
c). Secondary key                      d). Mutually exclusiveness
45. The goal of normalization is to:  
a). Get stable data structure                      b). Increase number of relation  
c). Increase redundancy                      d). None
46. In 2NF, which form of dependency is removed?  
a). Functional                      b). Partial                      c). Associative                      d). Transitive
47. A relation is in third normal form if it is in second normal form and:  
a). Dependent on part of the key                      b). Dependent on all of the key  
c). Independent of the key                      d). Has no transitive dependencies
48. The 2NF describes the tabular format in which:  
a). All the key attributes are defined                      b). No repeating groups in the table  
c). All attributes are dependent on the primary key                      d). All
49. The normalization process generally:  
a). Reduces the number of relations                      b). Increases the number of relations  
c). Reduces the number of functional dependencies  
d). Increases the number of functional dependencies
50. A relation is automatically in:  
a). First normal form                      b). Second normal form                      c). Third normal form  
d). Boyce-Codd normal form
51. A relation is considered a:  
a). Column                      b). One dimensional table                      c). Two dimensional table  
d). Three dimensional table
52. Which of the following is a requirement of 3NF?  
a). Must contain a partial dependency                      b). Must contain a composite  
c). Must contain no transitive dependency                      d). Must contain no partial dependencies

53. Which of the following should not be placed in a relational table?  
 a). Entity                      b). Attribute                      c). Relationship                      d). Repeating group
54. Which of the following is a group of one or more attributes that uniquely identifies a row?  
 a). Key                      b). Determinant                      c). Tuple                      d). Relation
55. A weak entity is one which:  
 a). Is not in a relationship with any other entities    b). Does not have a unique identifier  
 c). Cannot exist in the database by itself                      d). Is a subtype

***Key of MCQ's Database Systems***

- |       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 1. d  | 2. b  | 3. d  | 4. d  | 5. b  |
| 6. b  | 7. b  | 8. d  | 9. a  | 10. a |
| 11. a | 12. d | 13. b | 14. c | 15. a |
| 16. a | 17. c | 18. a | 19. b | 20. d |
| 21. b | 22. a | 23. d | 24. d | 25. a |
| 26. d | 27. a | 28. a | 29. b | 30. a |
| 31. a | 32. d | 33. a | 34. c | 35. a |
| 36. d | 37. a | 38. d | 39. c | 40. b |
| 41. d | 42. b | 43. a | 44. a | 45. a |
| 46. b | 47. d | 48. b | 49. b | 50. a |
| 51. c | 52. c | 53. d | 54. a | 55. c |

|     |                                                                                                                        | Answer Key |
|-----|------------------------------------------------------------------------------------------------------------------------|------------|
| 1)  | What is the use of bridge in network?<br>A. To connect LAN's<br>C. To separate LAN's                                   | A          |
|     | B. To control network speed<br>D. None                                                                                 |            |
| 2)  | What type of resource is most likely to be a shared in a computer network?<br>A. Drives<br>C. Printers                 | D          |
|     | B. Internet<br>D. All                                                                                                  |            |
| 3)  | Both stations can transmit and receive data simultaneously in<br>A. Simplex mode<br>C. Half duplex mode                | B          |
|     | B. Full duplex mode<br>D. All                                                                                          |            |
| 4)  | In OSI network architecture, the routing is performed by<br>A. Data link layer<br>C. Network layer                     | C          |
|     | B. Session layer<br>D. None                                                                                            |            |
| 5)  | Hub is associated with a network known as<br>A. Bus<br>C. Star                                                         | C          |
|     | B. Ring<br>D. All                                                                                                      |            |
| 6)  | A combination of hardware and software that allows communication between computer is a<br>A. Network<br>C. Mail Server | A          |
|     | B. Backup system<br>D. All                                                                                             |            |
| 7)  | LAN can use architecture<br>A. Client and server<br>C. Neither A or B                                                  | D          |
|     | B. Peer-to-peer<br>D. Both A and B                                                                                     |            |
| 8)  | The order of queue is<br>A. FIFO<br>C. FILO                                                                            | A          |
|     | B. LIFO<br>D. None                                                                                                     |            |
| 9)  | Who created World Wide Web (WWW)?<br>A. Bill Gates<br>C. Steve Jobs                                                    | B          |
|     | B. Tim Berners<br>D. Guido van Rossum                                                                                  |            |
| 10) | The relationship can be<br>A. One to one<br>C. One to many                                                             | D          |
|     | B. Many to many<br>D. All                                                                                              |            |
| 11) | An entity related to itself in an ERD model refers to a relationship known as<br>A. Recursive<br>C. One to many        | A          |
|     | B. One to one<br>D. Many to many                                                                                       |            |
| 12) | Which of the following is an example of one to one relationship?<br>A. Student-RegNo<br>C. Mother-Daughters            | A          |
|     | B. Person-Automobiles<br>D. Person-Phone numbers                                                                       |            |
| 13) | Which of the following is a one-to-many relationship?<br>A. Student-RegNo<br>C. Mother-Daughters                       | D          |
|     | B. Person-Automobiles<br>D. Both B & C                                                                                 |            |
| 14) | In an E-R diagram, a rectangle represents an<br>A. Entity<br>C. Relationship                                           | A          |
|     | B. Weak entity<br>D. Attribute                                                                                         |            |
| 15) | The href attribute in the link tag specifies the<br>A. Destination of a link<br>C. Hypertext                           | A          |
|     | B. Link<br>D. None                                                                                                     |            |
| 16) | The degree of a relationship refers to the<br>A. Number of entities<br>C. Maximum cardinality                          | A          |
|     | B. Minimum cardinality<br>D. None                                                                                      |            |
| 17) | The switch statement is also called as<br>A. Looping structure<br>C. Selective structure                               | C          |
|     | B. Certain structure<br>D. None                                                                                        |            |
| 18) | The maximum range of a character variable is<br>A. 127                                                                 | A          |
|     | B. -128                                                                                                                |            |



|     |                                                                                    |                                    |   |
|-----|------------------------------------------------------------------------------------|------------------------------------|---|
|     | C. 10                                                                              | D. None                            |   |
| 19) | A memory address with some data value that cannot be changed is called             |                                    | D |
|     | A. Symbolic                                                                        | B. Named                           |   |
|     | C. Variable                                                                        | D. Constant                        |   |
| 20) | An expression consists of                                                          |                                    | C |
|     | A. Operators                                                                       | B. Operands                        |   |
|     | C. Both A & B                                                                      | D. None                            |   |
| 21) | In Java, which keyword is used to inherit a class                                  |                                    | A |
|     | A. extends                                                                         | B. relate                          |   |
|     | C. parent                                                                          | D. own                             |   |
| 22) | Variable and constant names cannot contain                                         |                                    | D |
|     | A. Number                                                                          | B. Letter                          |   |
|     | C. Underscore                                                                      | D. Special characters              |   |
| 23) | Which term describes the kind of values that a variable can store?                 |                                    | C |
|     | A. Variable Name                                                                   | B. Class                           |   |
|     | C. Datatype                                                                        | D. None                            |   |
| 24) | Variable names cannot begin with                                                   |                                    | A |
|     | A. Number                                                                          | B. Underscore                      |   |
|     | C. Upper-case letter                                                               | D. None                            |   |
| 25) | SDLC stands for?                                                                   |                                    | B |
|     | A. Software design life cycle                                                      | B. Software development life cycle |   |
|     | C. Development life cycle                                                          | D. None                            |   |
| 26) | SRS stands for?                                                                    |                                    | A |
|     | A. Software Requirement Specification                                              | B. Software testing                |   |
|     | C. Software requirement solution                                                   | D. None                            |   |
| 27) | Waterfall model is not suitable for?                                               |                                    | B |
|     | A. Small Projects                                                                  | B. Accommodating many change       |   |
|     | C. Complex Projects                                                                | D. None                            |   |
| 28) | Open box testing, a software testing technique is sometimes called?                |                                    | D |
|     | A. Basic testing                                                                   | B. Dataflow testing                |   |
|     | C. Graph testing                                                                   | D. Glass box testing               |   |
| 29) | The objective of testing is                                                        |                                    | B |
|     | A. To analyze requirements                                                         | B. To uncover errors               |   |
|     | C. To gain modularity                                                              | D. None                            |   |
| 30) | Agile Software Development is based on                                             |                                    | C |
|     | A. Incremental Development                                                         | B. Linear Development              |   |
|     | C. Iterative Development                                                           | D. None                            |   |
| 31) | RAD stands for?                                                                    |                                    | A |
|     | A. Rapid Application Development                                                   | B. Rare Agile Development          |   |
|     | C. Ready Agile Development                                                         | D. None                            |   |
| 32) | The register used to store the flags is called as                                  |                                    | A |
|     | A. Status/Flag register                                                            | B. Log register                    |   |
|     | C. Test register                                                                   | D. None                            |   |
| 33) | Which converts the programs written in assembly language into machine instructions |                                    | B |
|     | A. Compiler                                                                        | B. Assembler                       |   |
|     | C. Interpreter                                                                     | D. Converter                       |   |
| 34) | Pixel is short for                                                                 |                                    | B |
|     | A. Place edit                                                                      | B. Picture element                 |   |
|     | C. Picture enters                                                                  | D. None                            |   |
| 35) | A binary signal can be sent using                                                  |                                    | A |
|     | A. One bit                                                                         | B. Multiple bits                   |   |
|     | C. Three bits                                                                      | D. None                            |   |
| 36) | The physical layout of the LAN is known as                                         |                                    | B |
|     | A. Session                                                                         | B. Topology                        |   |
|     | C. Link                                                                            | D. Connector                       |   |
| 37) | The topmost layer of the OSI model is                                              |                                    | A |

|     |                                                                            |                                |   |
|-----|----------------------------------------------------------------------------|--------------------------------|---|
|     | A. Application                                                             | B. Seccession                  |   |
|     | C. Network                                                                 | D. Physical                    |   |
| 38) | The music and speech represent                                             |                                | B |
|     | A. Image                                                                   | B. Audio                       |   |
|     | C. Text                                                                    | D. Numeric                     |   |
| 39) | The order of the stack is                                                  |                                | C |
|     | A. FIFO                                                                    | B. GIGO                        |   |
|     | C. LIFO                                                                    | D. FIFG                        |   |
| 40) | Computer drives its basic strength from                                    |                                | D |
|     | A. Speed                                                                   | B. Storage                     |   |
|     | C. Accuracy                                                                | D. All                         |   |
| 41) | Computer cannot boot if it does not have                                   |                                | D |
|     | A. Compiler                                                                | B. Interpreter                 |   |
|     | C. Linker                                                                  | D. Operating System            |   |
| 42) | The virus that replicates itself is called                                 |                                | C |
|     | A. Bug                                                                     | B. Vaccine                     |   |
|     | C. Worm                                                                    | D. Bots                        |   |
| 43) | Trojan horse is a                                                          |                                | C |
|     | A. Antivirus                                                               | B. Animal                      |   |
|     | C. Virus                                                                   | D. Hardware                    |   |
| 44) | McAfee is a(n)                                                             |                                | D |
|     | A. Worm                                                                    | B. Virus                       |   |
|     | C. Hacker                                                                  | D. Antivirus                   |   |
| 45) | Which of the following are components of LAN                               |                                | D |
|     | A. UTP                                                                     | B. Switch                      |   |
|     | C. RJ 45                                                                   | D. All                         |   |
| 46) | Which one is faster                                                        |                                | A |
|     | A. Register                                                                | B. RAM                         |   |
|     | C. Cache                                                                   | D. Hard disk                   |   |
| 47) | What is the only function that all C++ programs must have?                 |                                | A |
|     | A. main()                                                                  | B. Iostream.h                  |   |
|     | C. system()                                                                | D. Stop()                      |   |
| 48) | Logical expressions produce which type of results?                         |                                | B |
|     | A. Explicit                                                                | B. Boolean                     |   |
|     | C. Garbage                                                                 | D. Static                      |   |
| 49) | A class can contain objects of other classes and this phenomenon is called |                                | C |
|     | A. Relationship                                                            | B. constructor                 |   |
|     | C. Containership                                                           | D. None                        |   |
| 50) | Which is called automatically when an object of a class is created?        |                                | C |
|     | A. constant                                                                | B. Friend                      |   |
|     | C. constructor                                                             | D. System Library              |   |
| 51) | The null character will take space of                                      |                                | A |
|     | A. 1 byte                                                                  | B. 2 bytes                     |   |
|     | C. 0 byte                                                                  | D. 4 bytes                     |   |
| 52) | Encapsulation helps                                                        |                                | D |
|     | A. Information hiding                                                      | B. Providing low coupling      |   |
|     | C. Providing high cohesion                                                 | D. All                         |   |
| 53) | An Abstract class                                                          |                                | A |
|     | A. Allows normal method declaration                                        | B. Must have abstract methods  |   |
|     | C. Can be instantiated                                                     | D. None                        |   |
| 54) | Which of the following is not a multitasking operating system?             |                                | A |
|     | A. DOS                                                                     | B. MacOS                       |   |
|     | C. Linux                                                                   | D. Windows                     |   |
| 55) | In operating system, the resource management can be done via:              |                                | C |
|     | A. Time division multiplexing                                              | B. Space division multiplexing |   |
|     | C. Both A & B                                                              | D. None                        |   |

|     |                                                                                                              |                                                     |    |                        |   |
|-----|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----|------------------------|---|
| 56) | If a process fails, most operating system write the error information to a                                   |                                                     |    |                        | A |
|     | A.                                                                                                           | Log file                                            | B. | New file               |   |
|     | C.                                                                                                           | New process                                         | D. | None                   |   |
| 57) | Which of the following data structure is of non-linear type?                                                 |                                                     |    |                        | A |
|     | A.                                                                                                           | Tree                                                | B. | Queue                  |   |
|     | C.                                                                                                           | Stack                                               | D. | Array                  |   |
| 58) | A collection of data that consists of name, address and email of a person is called                          |                                                     |    |                        | B |
|     | A.                                                                                                           | Byte                                                | B. | Record                 |   |
|     | C.                                                                                                           | Character                                           | D. | None                   |   |
| 59) | Which of the following is an example of a database                                                           |                                                     |    |                        | D |
|     | A.                                                                                                           | Phone Book                                          | B. | Student Record         |   |
|     | C.                                                                                                           | Library Catalog                                     | D. | All                    |   |
| 60) | A database is an organized collection of data                                                                |                                                     |    |                        | A |
|     | A.                                                                                                           | Logically                                           | B. | Loosely                |   |
|     | C.                                                                                                           | Physically                                          | D. | Badly                  |   |
| 61) | Database applications contain procedures for                                                                 |                                                     |    |                        | D |
|     | A.                                                                                                           | Adding records                                      | B. | Deleting records       |   |
|     | C.                                                                                                           | Processing queries                                  | D. | All                    |   |
| 62) | A request for information from a database in database terminology is called                                  |                                                     |    |                        | C |
|     | A.                                                                                                           | Report                                              | B. | Letter                 |   |
|     | C.                                                                                                           | Query                                               | D. | Table                  |   |
| 63) | Properties that describe the entity's characteristics are called                                             |                                                     |    |                        | B |
|     | A.                                                                                                           | Entity                                              | B. | Attribute              |   |
|     | C.                                                                                                           | Identifier                                          | D. | Relationship           |   |
| 64) | Merge sort uses                                                                                              |                                                     |    |                        | A |
|     | A.                                                                                                           | Divide-and-conquer                                  | B. | Heuristic approach     |   |
|     | C.                                                                                                           | Backtracking                                        | D. | Greedy approach        |   |
| 65) | The elements "A", "B", "C" and "D" are placed in a queue and are deleted one at a time, there order will be? |                                                     |    |                        | A |
|     | A.                                                                                                           | ABCD                                                | B. | DCBA                   |   |
|     | C.                                                                                                           | DCAB                                                | D. | ABDC                   |   |
|     | A.                                                                                                           | D and B are brothers                                | B. | A is the daughter of D |   |
|     | C.                                                                                                           | If D is the daughter of B, then A and D are sisters | D. | C is uncle of A        |   |

## Computer Science (MCQS)

- 1- The difference between memory and storage is that memory is \_\_\_\_\_ and storage is \_\_\_\_
  - a) Temporary , Permanent
  - b) Slow , Fast
  - c) Permanent , Temporary
  - d) All of above
- 2- Storage capacity of magnetic disk depends on?
  - a) Track per inch of surface
  - b) Bits per inch of tracks
  - c) Disk pack in disk surface
  - d) All of above
- 3- Instruction in computer languages consists of
  - a) OPERAND
  - b) OPCODE
  - c) Both a and b
  - d) None of above
- 4- Mnemonic a memory trick is used in which of the following language?
  - a) Assembly Language
  - b) PHP
  - c) Java
  - d) Machine Language
- 5- Instructions and memory address are represented by
  - a) Binary Code
  - b) Character Code
  - c) Binary Word
  - d) Parity Bit
- 6- If in a computer, 16 bits are used to specify address in a RAM, the number of addresses will be
  - a) 64K
  - b) 216
  - c) 65,536
  - d) None of above
- 7- Which of the following is not an input device?
  - a) OCR
  - b) Optical Scanner
  - c) Voice Recognition Device
  - d) COM (Computer Output to microfilm)
- 8- Which type of computers uses the 8-bit code called EBCDIC?
  - a) Microcomputers
  - b) Minicomputers
  - c) Super Computers
  - d) Mainframe Computers
- 9- The ALU of a computer responds to the commands coming from
  - a) Control Section
  - b) Primary Memory
  - c) External Memory

- d) Cache Memory
- 10- Operating System , Editors and , Debuggers comes under
- a) System Software
  - b) Application Software
  - c) Utilities
  - d) Both a and b
- 11- Communication between a computer and a keyboard involves \_\_\_\_\_ transmission.
- a) Automatic
  - b) Half Duplex
  - c) Full Duplex
  - d) Simplex
- 12- The First Network is called
- a) CNET
  - b) NSFNET
  - c) ARPANET
  - d) ASAFNET
- 13- The \_\_\_\_\_ is the physical path over which a message travels
- a) Protocol
  - b) Medium
  - c) Path
  - d) Route
- 14- TCP/IP model does not have \_\_\_\_\_ layer but OSI model have this layer.
- a) Session Layer
  - b) Presentation Layer
  - c) Application Layer
  - d) Both a and b
- 15- Which address is used in an internet employing the TCP/IP protocols?
- a) Physical Address and Logical Address
  - b) Port Address
  - c) Specific address
  - d) All of the mentioned
- 16- Which layer is responsible for process to process delivery?
- a) Network Layer
  - b) Transport Layer
  - c) Session Layer
  - d) Data Link Layer
- 17- Transmission data rate is decided by
- a) Network Layer
  - b) Data Link Layer
  - c) Physical Layer
  - d) Transport Layer
- 18- Which one of the following task is not done by data link layer?
- a) Framing
  - b) Error Control
  - c) Flow Control
  - d) Channel Coding

- 19- The technique of temporarily delaying outgoing acknowledgements so that they can be hooked onto the next outgoing data frame is called
- Piggybacking
  - Cyclic Redundancy Check
  - Fletcher's checksum
  - None of above
- 20- Application layer protocol defines
- types of messages exchanged
  - message format, syntax and semantics
  - rules for when and how processes send and respond to messages
  - all of the mentioned
- 21- When displaying a web page, the application layer uses the
- HTTP protocol
  - FTP Protocol
  - SMTP Protocol
  - None of these
- 22- Physical or logical arrangement of network is
- Routing
  - Topology
  - Networking
  - None
- 23- In Which topology requires multipoint connection
- Star
  - Mesh
  - Ring
  - Bus
- 24- Which of these is not applicable for IP protocol?
- Is connectionless
  - Offer reliable Service
  - Offer Unreliable Service
  - None
- 25- The Purpose of DHCP server is to
- maintains a database of available IP addresses
  - maintains the information about client configuration parameters
  - grants a IP address when receives a request from a client
  - all of the mentioned
- 26- The following are components of a database except \_\_\_\_\_
- User Data
  - Meta Data
  - Reports
  - Indexes
- 27- The following are functions of a DBMS except \_\_\_\_\_
- creating and processing forms
  - creating databases
  - processing data
  - Administrative Database
- 28- The DBMS that is most difficult to use is

- a) Microsoft's SQL Server
  - b) Microsoft's Access
  - c) IBM's DB2
  - d) Oracle Corporation's Oracle
- 29- An Attribute that is not part of any candidate key is known as
- a) Sub Prime Attribute
  - b) Non-Prime Attribute
  - c) Sub Candidate Key
  - d) Non Candidate Key
- 30- In Hierarchical Model Data is Organized into
- a) Logical Structure
  - b) Physical Structure
  - c) Tree like structure
  - d) None of them
- 31- In an Entity-Relationship Diagram Double Rectangles represents
- a) Relationship Sets
  - b) Weak Entity Sets
  - c) Derived Attributes
  - d) Multi Valued Attributes
- 32- The primary key is selected from the
- a) Composite Keys
  - b) Determinants
  - c) Candidate Keys
  - d) Foreign Keys
- 33- If attributes A and B determine attribute C, then it is also true that:
- a)  $A \rightarrow C$
  - b)  $B \rightarrow C$
  - c) (A,B) is a composite determinant.
  - d) C is a determinant.
- 34- One solution to the multivalued dependency constraint problem is to:
- a) Split the relation into two relations, each with a single theme.
  - b) Change the theme.
  - c) Add a composite key.
  - d) None of these
- 35- What SQL command can be used to delete columns from a table?
- a) MODIFY TABLE Table Name DROP COLUMN Column Name
  - b) MODIFY TABLE Table Name DROP Column Name
  - c) ALTER TABLE Table Name DROP COLUMN Column Name
  - d) ALTER TABLE Table Name DROP Column Name
- 36- The SQL WHERE clause:
- a) Limits the column data that are returned.
  - b) Limits the row data are returned.
  - c) Both A and B are correct.
  - d) Neither A nor B are correct.
- 37- SQL query and modification commands make up a(n) \_\_\_\_\_
- a) DDL
  - b) DML

- c) XML
  - d) HTML
- 38- When three or more AND and OR conditions are combined, it is easier to use the SQL keyword(s):
- a) LIKE only
  - b) IN Only
  - c) NOT IN only
  - d) Both IN and NOT IN
- 39- A sub query in an SQL SELECT statement:
- a) can only be used with two tables
  - b) can always be duplicated by a join
  - c) has a distinct form that cannot be duplicated by a join
  - d) cannot have its results sorted using ORDER BY
- 40- Which one of the following sorts rows in SQL?
- a) SORT BY
  - b) GROUP BY
  - c) ORDER BY
  - d) None of these
- 41- In object oriented design of software which of the following is not true?
- a) Objects Inherit the Properties of Class
  - b) Classes are defined based on Attributes of the Object
  - c) Object can belong two classes
  - d) Classes are always different
- 42- RAD stands for
- a) Relative Application Development
  - b) Rapid Application Development
  - c) Rapid Application Document
  - d) Both a and b
- 43- What is the major drawback of using RAD Model?
- a) Highly specialized & skilled developers/designers are required.
  - b) Increases re-usability of components.
  - c) Encourages customer/client feedback.
  - d) Both a & c.
- 44- Which model can be selected if user is involved in all the phases of SDLC?
- a) Waterfall Model
  - b) Prototyping Model
  - c) RAD Model
  - d) None of these
- 45- Which of the following is not a diagram studied in Requirement Analysis?
- a) Use Cases
  - b) Entity Relationship Diagram
  - c) State transition diagram
  - d) Activity Diagram
- 46- How many phases are there in Requirement Analysis
- a) Three
  - b) Four
  - c) Five



- d) Six
- 47- What are the four dimensions of Dependability
  - a) Usability, Reliability, Security, Flexibility
  - b) Availability, Reliability, Maintainability, Security
  - c) Availability, Reliability, Security, Safety
  - d) Security, Safety, Testability, Usability
- 48- What is the first step of requirement elicitation
  - a) Identifying Stakeholder
  - b) Listing out Requirements
  - c) Requirements Gathering
  - d) None of above
- 49- Which of the following UML diagrams has a static view
  - a) Collaboration
  - b) Use case
  - c) State chart
  - d) Activity
- 50- Interaction Diagram is a combined term for
  - a) Sequence Diagram + Collaboration Diagram
  - b) Activity Diagram + State Chart Diagram
  - c) Deployment Diagram + Collaboration Diagram
  - d) None of the mentioned
- 51- Which of the following is a mechanism that allows several objects in an class hierarchy to have different methods with the same name
  - a) Aggregation
  - b) Polymorphism
  - c) Inheritance
  - d) None
- 52- How is generalization implemented in Object Oriented programming languages
  - a) Inheritance
  - b) Polymorphism
  - c) Encapsulation
  - d) Abstract Classes
- 53- Objects are executed
  - a) Sequentially
  - b) in Parallel
  - c) Both a and b
  - d) None
- 54- Which of the following is conceptually similar to objects
  - a) PACKAGE
  - b) PROC
  - c) PRIVATE
  - d) None
- 55- Which model can be selected if user is involved in all the phases of SDLC
  - a) Waterfall Model
  - b) Prototyping Model
  - c) RAD Model
  - d) Both b and c

- 56- Which is not property of Knowledge Representation
- a) Representational Verification
  - b) Representational Adequacy
  - c) Inferential Efficiency
  - d) Acquisitional Efficiency
- 57- The area of AI that investigates methods of facilitating communication between people and computers is
- a) natural language processing
  - b) Symbolic Processing
  - c) decision support
  - d) Robotics
- 58- An AI technique that allows computers to understand associations and relationships between objects and events is called
- a) heuristic processing
  - b) cognitive science
  - c) Pattern Matching
  - d) relative symbolism
- 59- Which search strategy is also called as blind search
- a) Uninformed Search
  - b) Informed Search
  - c) Simple Reflex Search
  - d) All of above
- 60- Which search implements stack operation for searching the states
- a) Depth Limited Search
  - b) Depth First Search
  - c) Breadth First Search
  - d) Hill Climbing
- 61- What will take place as the agent observes its interactions with the world
- a) Hearing
  - b) Perceiving
  - c) Speech
  - d) Learning
- 62- A perceptron is
- a) a single layer feed-forward neural network with pre-processing
  - b) an auto-associative neural network
  - c) a double layer auto-associative neural network
  - d) None of these
- 63- Which is true for neural networks
- a) It has set of nodes and connections
  - b) Each node computes it's weighted input
  - c) Node could be in excited state or non-excited state
  - d) All of the mentioned
- 64- In many problems the path to goal is irrelevant, this class of problems can be solved using
- a) Informed search technique
  - b) Uninformed Search technique
  - c) Local Search technique

- d) Only a and b
- 65- In an Unsupervised learning
  - a) Specific output values are given
  - b) Specific output values are not given
  - c) No specific Inputs are given
  - d) Both inputs and outputs are given
- 66- Different learning methods does not include
  - a) Memorization
  - b) Analogy
  - c) Deduction
  - d) Introduction
- 67- Factors which affect the performance of learner system does not include
  - a) Representation scheme used
  - b) Learning algorithm
  - c) Good data structures
  - d) Type of feedback
- 68- Which is used to construct the complex sentences
  - a) Symbols
  - b) Connectives
  - c) Logical Connectives
  - d) All of Above
- 69- Which is used to compute the truth of any sentence
  - a) Semantics of propositional logic
  - b) Alpha-beta pruning
  - c) First-order logic
  - d) Both a and b
- 70- How many proposition symbols are there in artificial intelligence
  - a) 1
  - b) 2
  - c) 3
  - d) 4
- 71- To join the internet, the computer has to be connected to a
  - a) internet architecture board
  - b) internet society
  - c) internet service provider
  - d) none of the mentioned
- 72- IPv6 addressed have a size of
  - a) 32 Bit
  - b) 64 Bit
  - c) 128 Bit
  - d) None
- 73- Which one of the following is not used in media access control
  - a) Ethernet
  - b) Digital Subscriber Line
  - c) Fiber Distributed Data Interface
  - d) None of Mentioned
- 74- HTTP is \_\_\_\_\_ protocol

- a) Application Layer
  - b) Transport Layer
  - c) Data Link Layer
  - d) Network Layer
- 75- In file transfer protocol, data transfer can be done in
- a) Stream Mode
  - b) Block Mode
  - c) Compressed Mode
  - d) All of Above
- 76- The data field can carry which of the following
- a) TCP segment
  - b) UDP Segment
  - c) ICMP Messages
  - d) Both a and c
- 77- In Computer WWW Stands for
- a) World Wide Web Worm
  - b) World Wide Wildlife Web
  - c) World Wide Women's Web
  - d) World Wide Women's Week
- 78- A Computer on Internet are identified by
- a) E-mail Address
  - b) Street Address
  - c) IP Address
  - d) None of Above
- 79- The Process of Keeping Addresses in memory for future use is called
- a) Routing
  - b) Resolving
  - c) Caching
  - d) Both a and c
- 80- The Server on Internet is also Known as
- a) Hub
  - b) Host
  - c) Gateway
  - d) Repeater
- 81- In a class, member variables are often called its \_\_\_\_\_, and its member functions are sometimes referred to as its behavior, or \_\_\_\_\_
- a) Attribute , method
  - b) Attribute , Activities
  - c) Values , morals
  - d) None of these
- 82- Use of \_\_\_\_\_ protects data from inadvertent modifications.
- a) Protect() member function
  - b) Private access specifier
  - c) Public access specifier
  - d) Both a and b
- 83- How will a class protect the code inside it
- a) Using Access specifier

- b) Abstraction
  - c) Use of Inheritance
  - d) All of the mentioned
- 84- Which of the following concept is often expressed by the phrase, 'One interface, multiple methods
- a) Abstraction
  - b) Polymorphism
  - c) Inheritance
  - d) Encapsulation
- 85- Which Keyword from the following is used to inherit properties from one class into another
- a) Extends
  - b) Subclasses
  - c) Native
  - d) All of Above
- 86- Which of the following is a mechanism by which object acquires the properties of another object
- a) Encapsulation
  - b) Abstraction
  - c) Inheritance
  - d) Polymorphism
- 87- A copy constructor is called
- a) when an object is returned by value
  - b) when an object is passed by value as an argument
  - c) when compiler generates a temporary object
  - d) All of above
- 88- Which of the following HTML form method is suitable when you need to send larger form Submission
- a) GET
  - b) POST
  - c) Both GET and POST
  - d) Ajax
- 89- Function Templates can have
- a) Explicit instantiation definition with template argument for all parameters
  - b) explicit instantiation of declaration with template argument for all parameters
  - c) Both a and b
  - d) None
- 90- What is the index number of the last element of an array with 9 elements
- a) 9
  - b) 8
  - c) 0
  - d) Programmed Defined
- 91- What is the tool used in tasks such as zooming, shrinking, rotating, etc.
- a) Sampling
  - b) Interpolation
  - c) Filters
  - d) None

- 92- Dynamic range of imaging system is a ratio where the upper limit is determined by
- Saturation
  - Noise
  - Brightness
  - Contrast
- 93- Which of the following shows three basic types of functions used frequently for image enhancement
- Linear, logarithmic and inverse law
  - Power law, logarithmic and inverse law
  - Linear, logarithmic and power law
  - Linear, exponential and inverse law
- 94- An image is considered to be a function of  $a(x,y)$ , where  $a$  represents
- Height of image
  - Width of image
  - Amplitude of image
  - Resolution of image
- 95- What is pixel?
- Pixel is the elements of a digital image
  - Pixel is the elements of an analog image
  - Pixel is the cluster of a digital image
  - Pixel is the cluster of an analog image
- 96- Which was the first commercial computer
- Ferranti Mark 1
  - Analytical Engine
  - Difference Engine
  - Colosses
- 97- What Technology is used in fifth Generation of Computers
- Integrated Circuits
  - Vaccume Tubes
  - Artificial Intelligence
  - None
- 98- Which number system is usually followed in a typical 32-bit computer
- Binary
  - Decimal
  - Hexadecimal
  - Octal
- 99- Which of the following storage devices can store maximum amount of Data
- Floppy Disk
  - Hard Disk
  - Compact Disk
  - Magnetic Optical Disk
- 100- The Program which are as Permanent as hardware and stored in ROM is Known as
- Hardware
  - Software
  - Firmware
  - ROM Ware

## Answer Key

|       |       |       |        |
|-------|-------|-------|--------|
| 1- a  | 26- c | 51- b | 76- c  |
| 2- d  | 27- a | 52- a | 77- a  |
| 3- c  | 28- d | 53- c | 78- c  |
| 4- a  | 29- b | 54- a | 79- c  |
| 5- a  | 30- c | 55- c | 80- b  |
| 6- c  | 31- b | 56- a | 81- a  |
| 7- d  | 32- c | 57- a | 82- b  |
| 8- d  | 33- a | 58- c | 83- a  |
| 9- a  | 34- b | 59- a | 84- b  |
| 10- a | 35- c | 60- b | 85- a  |
| 11- d | 36- a | 61- d | 86- c  |
| 12- c | 37- b | 62- a | 87- d  |
| 13- b | 38- d | 63- d | 88- a  |
| 14- d | 39- c | 64- c | 89- c  |
| 15- d | 40- c | 65- b | 90- b  |
| 16- b | 41- c | 66- d | 91- b  |
| 17- c | 42- b | 67- b | 92- a  |
| 18- d | 43- d | 68- c | 93- b  |
| 19- a | 44- c | 69- a | 94- c  |
| 20- d | 45- d | 70- b | 95- a  |
| 21- a | 46- c | 71- c | 96- b  |
| 22- b | 47- c | 72- c | 97- c  |
| 23- d | 48- a | 73- d | 98- a  |
| 24- b | 49- b | 74- a | 99- b  |
| 25- d | 50- a | 75- d | 100- c |





## MCQs

- Machine learning is
  - a) The autonomous acquisition of knowledge through the use of computer programs**
  - b) The autonomous acquisition of knowledge through the use of manual programs
  - e) The selective acquisition of knowledge through the use of computer programs
  - d) The selective acquisition of knowledge through the use of manual programs
  - e) None of the mentioned
- Which modifies the performance element so that it makes better decision?
  - a) Performance element
  - b) Changing element
  - c) Learning element**
  - d) None of the mentioned
- How many things are concerned in design of a learning element?
  - a) 1
  - b) 2
  - c) 3**
  - d) 4
- What is used in determining the nature of the learning problem?
  - a) Environment
  - b) Feedback**
  - c) Problem
  - d) All of the mentioned
- Which is used for utility functions in game playing algorithm?
  - a) Linear polynomial
  - b) Weighted polynomial
  - c) Polynomial
  - d) Linear weighted polynomial**
- Which is used to choose among multiple consistent hypotheses?
  - a) Razor
  - b) Ockham razor**
  - c) Learning element
  - d) None of the mentioned
- What will happen if the hypothesis space contains the true function?
  - a) Realizable
  - b) Unrealizable**
  - c) Both a & b
  - d) None of the mentioned
- What takes input as an object described by a set of attributes?
  - a) Tree
  - b) Graph
  - c) Decision graph
  - d) Decision tree**

9. How the decision tree reaches its decision?
- a) Single test
  - b) Two test
  - c) Sequence of test**
  - d) No test
10. What will take place as the agent observes its interactions with the world?
- a) Learning**
  - b) Hearing
  - c) Perceiving
  - d) Speech
11. Which modifies the performance element so that it makes better decision?
- a) Performance element
  - b) Changing element
  - c) Learning element**
  - d) None of the mentioned
12. 3. How many things are concerned in design of a learning element?
- a) 1
  - b) 2
  - c) 3**
  - d) 4
- (The three main issues are affected in design of a learning element are components, feedback and representation.)
13. What is used in determining the nature of the learning problem?
- a) Environment
  - b) Feedback**
  - c) Problem
  - d) All of the mentioned
14. How many types are available in machine learning?
- a) 1
  - b) 2
  - c) 3**
  - d) 4
15. Factors which affect the performance of learner system does not include
- a) Representation scheme used
  - b) Training scenario
  - c) Type of feedback
  - d) Good data structures**
16. Different learning method does not include:
- a) Memorization
  - b) Analogy
  - c) Deduction
  - d) Introduction**
17. Which of the following is the model used for learning?
- a) Decision trees

- b) Neural networks
  - c) Propositional and FOL rules
  - d) All of the mentioned**
18. Automated vehicle is an example of \_\_\_\_\_.
- a) Supervised learning**
  - b) Unsupervised learning
  - c) Active learning
  - d) Reinforcement learning
19. Following is an example of active learning:
- a) News Recommender system**
  - b) Dust cleaning machine
  - c) Automated vehicle
  - d) None of the mentioned
20. In which of the following learning the teacher returns reward and punishment to learner?
- a) Active learning
  - b) Reinforcement learning**
  - c) Supervised learning
  - d) Unsupervised learning
21. Each IP packet must contain
- A. Only Source address
  - B. Only Destination address
  - C. Source and Destination address**
  - D. Source or Destination address
22. Bridge works in which layer of the OSI model?
- A. Application layer
  - B. Transport layer
  - C. Network layer
  - D. Datalink layer**
23. \_\_\_\_\_ provides a connection-oriented reliable service for sending messages
- A. TCP**
  - B. IP
  - C. UDP
  - D. All of the above
24. Which layers of the OSI model are host-to-host layers?
- A. Transport, Session, Presentation, Application**
  - B. Network, Transport, Session, Presentation
  - C. Datalink, Network, Transport, Session
  - D. Physical, Datalink, Network, Transport
25. Which of the following IP address class is Multicast
- A. Class A
  - B. Class B
  - C. Class C
  - D. Class D**

26. Which of the following is correct regarding Class B Address of IP address  
**A. Network bit – 14, Host bit – 16**  
B. Network bit – 16, Host bit – 14  
C. Network bit – 18, Host bit – 16  
D. Network bit – 12, Host bit – 14
27. The last address of IP address represents  
A. Unicast address  
B. Network address  
**C. Broadcast address**  
D. None of above
28. How many bits are there in the Ethernet address?  
A. 64 bits  
**B. 48 bits**  
C. 32 bits  
D. 16 bits
29. How many layers are in the TCP/IP model?  
**A. 4 layers**  
B. 5 layers  
C. 6 layers  
D. 7 layers
30. Which of the following layer of OSI model also called end-to-end layer?  
A. Presentation layer  
B. Network layer  
C. Session layer  
**D. Transport layer**
31. Why IP Protocol is considered as unreliable?  
A. A packet may be lost  
B. Packets may arrive out of order  
C. Duplicate packets may be generated  
**D. All of the above**
32. What is the minimum header size of an IP packet?  
A. 16 bytes  
B. 10 bytes  
**C. 20 bytes**  
D. 32 bytes
33. Which of following provides reliable communication?  
**A. TCP**  
B. IP  
C. UDP  
D. All of the above
34. What is the address size of IPv6?  
A. 32 bit

- B. 64 bit
- C. 128 bit**
- D. 256 bit

35. What is the size of Network bits & Host bits of Class A of IP address?

- A. Network bits 7, Host bits 24**
- B. Network bits 8, Host bits 24
- C. Network bits 7, Host bits 23
- D. Network bits 8, Host bits 23

36. What does Router do in a network?

- A. Forwards a packet to all outgoing links
- B. Forwards a packet to the next free outgoing link
- C. Determines on which outgoing link a packet is to be forwarded**
- D. Forwards a packet to all outgoing links except the originated link

37. The Internet is an example of

- A. Cell switched network
- B. circuit switched network
- C. Packet switched network**
- D. All of above

38. What does protocol defines?

- A. Protocol defines what data is communicated.
- B. Protocol defines how data is communicated.
- C. Protocol defines when data is communicated.
- D. All of above**

39. What is the uses of subnetting?

- A. It divides one large network into several smaller ones**
- B. It divides network into network classes
- C. It speeds up the speed of network
- D. None of above

40. Repeater operates in which layer of the OSI model?

- A. Physical layer**
- B. Data link layer
- C. Network layer
- D. Transport layer

41. Which of these does not account for software failure?

- a) Increasing Demand
- b) Low expectation
- c) Increasing Supply**
- d) Less reliable and expensive..

42. What are attributes of good software ?

- a) Software maintainability.
- b) Software functionality.

- c) Software development.
- d) a and b.**
- e) a,b and c..

43. Which of these software engineering activities are not a part of software processes ?

- a) Software dependence.**
- b) Software development.
- c) Software validation.
- d) Software specification.

44. Which of these is incorrect?

- a) Software engineering belongs to Computer science.
- b) Software engineering is a part of more general form of System Engineering.
- c) Computer science belongs to Software engineering.**
- d) Software engineering is concerned with the practicalities of developing and delivering useful software.

45. Which of these is true?

- a) Generic products and customized products are types of software products.
- b) Generic products are produced by organization and sold to open market.
- c) Customized products are commissioned by particular customer.
- d) All of the above..**

46. Which of these is not true?

- a) Web has led to availability of software services and possibility of developing highly distributed service based systems.
- b) Web based systems have led to the degradation of programming languages.**
- c) Web brings concept of software as service.
- d) Web based system should be developed and delivered incrementally.

47. 2. What is a Software?

- a) Software is set of programs.
- b) Software is documentation and configuration of data.
- c) Both a and b**
- d) None of the mentioned

48. The Unified Modeling Language (UML) has become an effective standard for software modelling. How many different notations does it have?

- a) Three
- b) Four
- c) Six
- d) Nine**

49. Which model in system modelling depicts the dynamic behaviour of the system?
- a) Context Model
  - b) Behavioral Model**
  - c) Data Model
  - d) Object Model
50. Which perspective in system modelling shows the system or data architecture?
- a) Structural perspective**
  - b) Behavioral perspective
  - c) External perspective
51. Activity diagrams are used to model the processing of data.
- a) True**
  - b) False
52. Model-driven engineering is just a theoretical concept. It cannot be converted into a working/executable code.
- a) True
  - b) False**
53. The UML supports event-based modeling using \_\_\_\_\_ diagrams.
- a) Deployment
  - b) Collaboration
  - c) State chart**
54. This section on Software Engineering MCQs focuses on "Diagrams in UML-1". Which of the following UML diagrams has a static view?
- a) Collaboration
  - b) Use case**
  - c) State chart
  - d) Activity
55. Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time?
- a) Sequence Diagram
  - b) Collaboration Diagram
  - c) Class Diagram
  - d) Object Diagram**
56. Interaction Diagram is a combined term for
- a) Sequence Diagram + Collaboration Diagram**
  - b) Activity Diagram + State Chart Diagram
  - c) Deployment Diagram + Collaboration Diagram
  - d) None of the mentioned

57. Which of the following is golden rule for interface design?
- a) Place the user in control
  - b) Reduce the user's memory load
  - c) Make the interface consistent
  - d) All of the mentioned**
58. A software might allow a user to interact via
- a) keyboard commands
  - b) mouse movement
  - c) voice recognition commands
  - d) all of the mentioned**
59. A software engineer designs the user interface by applying an iterative process that draws on predefined design principles.
- a) True**
  - b) False
60. What incorporates data, architectural, interface, and procedural representations of the software?
- a) design model**
  - b) user's model
  - c) mental image
  - d) system image
61. A perceptron is:
- a) a single layer feed-forward neural network with pre-processing**
  - b) an auto-associative neural network
  - c) a double layer auto-associative neural network
  - d) a neural network that contains feedback
62. An auto-associative network is:
- a) a neural network that contains no loops
  - b) a neural network that contains feedback**
  - c) a neural network that has only one loop
  - d) a single layer feed-forward neural network with pre-processing
63. What are the advantages of neural networks over conventional computers?
- (i) They have the ability to learn by example
  - (ii) They are more fault tolerant
  - (iii) They are more suited for real time operation due to their high 'computational' rates
- a) (i) and (ii) are true
  - b) (i) and (iii) are true
  - c) Only (i)
  - d) All of the mentioned**
64. Which is true for neural networks?
- a) It has set of nodes and connections



- b) Each node computes its weighted input
  - c) Node could be in excited state or non-excited state
  - d) **All of the mentioned**
65. Why is the XOR problem exceptionally interesting to neural network researchers?
- a) Because it can be expressed in a way that allows you to use a neural network
  - b) Because it is complex binary operation that cannot be solved using neural networks
  - c) Because it can be solved by a single layer perceptron
  - d) **Because it is the simplest linearly inseparable problem that exists.**
66. What is back propagation?
- a) It is another name given to the curvy function in the perceptron
  - b) It is the transmission of error back through the network to adjust the inputs
  - c) **It is the transmission of error back through the network to allow weights to be adjusted so that the network can learn.**
  - d) None of the mentioned
67. A perceptron adds up all the weighted inputs it receives, and if it exceeds a certain value, it outputs a 1, otherwise it just outputs a 0.
- a) **True**
  - b) False
  - c) Sometimes – it can also output intermediate values as well
  - d) Can't say
68. The network that involves backward links from output to the input and hidden layers is called as -----.
- a) Self organizing maps
  - b) Perceptrons
  - c) **Recurrent neural network**
  - d) Multi layered perceptron
69. Which of the following is an application of NN (Neural Network)?
- a) Sales forecasting
  - b) Data validation
  - c) Risk management
  - d) **All of the mentioned**
70. A rule-based system generally represents which one of the following statement..
- a) If
  - b) **If-Then**
  - c) If-Else
  - d) Iff

## Multiple Choice Questions: Operating System

|                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. What is operating system?</p> <p>a) collection of programs that manages hardware resources<br/>b) system service provider to the application programs<br/>c) link to interface the hardware and application programs<br/>d) all of the mentioned</p> |
| <p>2. If a process fails, most operating system write the error information to a _____</p> <p>a) log file<br/>b) another running process<br/>c) new file<br/>d) none of the mentioned</p>                                                                  |
| <p>3. The systems which allows only one process execution at a time, are called _____</p> <p>a) uniprogramming systems<br/>b) uniprocessing systems<br/>c) unitasking systems<br/>d) none of the mentioned</p>                                             |
| <p>4. A process can be terminated due to _____</p> <p>a) normal exit<br/>b) fatal error<br/>c) killed by another process<br/>d) all of the mentioned</p>                                                                                                   |
| <p>5. What is the ready state of a process?</p> <p>a) when process is scheduled to run after some execution<br/>b) when process is unable to run until some task has been completed<br/>c) when process is using the CPU<br/>d) none of the mentioned</p>  |
| <p>6. Hardware generated change of flow with in system is called _____</p> <p>a) Process<br/>b) Interrupts<br/>c) Request<br/>d) Instruction</p>                                                                                                           |
| <p>7. In _____ systems, user cannot interact with the job when it is executed.</p> <p>a) Parallel<br/>b) Multiuser<br/>c) Batch<br/>d) Embedded</p>                                                                                                        |
| <p>8. In operating system, each process has its own</p> <p>a) address space and global variables<br/>b) open files<br/>c) pending alarms, signals and signal handlers<br/>d) all of the mentioned</p>                                                      |
| <p>9. What is interprocess communication?</p> <p>a) communication within the process<br/>b) communication between two process<br/>c) communication between two threads of same process<br/>d) none of the mentioned</p>                                    |

|                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>10. A set of processes is deadlock if</p> <ul style="list-style-type: none"><li>a) each process is blocked and will remain so forever</li><li>b) each process is terminated</li><li>c) all processes are trying to kill each other</li><li>d) none of the mentioned</li></ul>                     |
| <p>11. Which system call returns the process identifier of a terminated child?</p> <ul style="list-style-type: none"><li>a) wait</li><li>b) exit</li><li>c) fork</li><li>d) get</li></ul>                                                                                                            |
| <p>12. The address of the next instruction to be executed by the current process is provided by the</p> <ul style="list-style-type: none"><li>a) CPU registers</li><li>b) Program counter</li><li>c) Process stack</li><li>d) Pipe</li></ul>                                                         |
| <p>13. A Process Control Block(PCB) does not contain which of the following :</p> <ul style="list-style-type: none"><li>a) Code</li><li>b) Stack</li><li>c) Bootstrap program</li><li>d) Data</li></ul>                                                                                              |
| <p>14. The number of processes completed per unit time is known as _____</p> <ul style="list-style-type: none"><li>a) Output</li><li>b) Throughput</li><li>c) Efficiency</li><li>d) Capacity</li></ul>                                                                                               |
| <p>15. The state of a process is defined by:</p> <ul style="list-style-type: none"><li>a) the final activity of the process</li><li>b) the activity just executed by the process</li><li>c) the activity to next be executed by the process</li><li>d) the current activity of the process</li></ul> |
| <p>16. Which of the following is not the state of a process?</p> <ul style="list-style-type: none"><li>a) New</li><li>b) Old</li><li>c) Waiting</li><li>d) Running</li></ul>                                                                                                                         |
| <p>17. The Process Control Block is:</p> <ul style="list-style-type: none"><li>a) Process type variable</li><li>b) Data Structure</li><li>c) A secondary storage section</li><li>d) A Block in memory</li></ul>                                                                                      |
| <p>18. The entry of all the PCBs of the current processes is in:</p> <ul style="list-style-type: none"><li>a) Process Register</li><li>b) Program Counter</li><li>c) Process Table</li><li>d) Process Unit</li></ul>                                                                                 |
| <p>19. The degree of multiprogramming is:</p>                                                                                                                                                                                                                                                        |

|                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>a) the number of processes executed per unit time</li> <li>b) the number of processes in the ready queue</li> <li>c) the number of processes in the I/O queue</li> <li>d) the number of processes in memory</li> </ul>                                                                                             |
| <p>20. A single thread of control allows the process to perform:</p> <ul style="list-style-type: none"> <li>a) only one task at a time</li> <li>b) multiple tasks at a time</li> <li>c) only two tasks at a time</li> <li>d) all of the mentioned</li> </ul>                                                                                              |
| <p>21. The objective of multiprogramming is to :</p> <ul style="list-style-type: none"> <li>a) Have some process running at all times</li> <li>b) Have multiple programs waiting in a queue ready to run</li> <li>c) To minimize CPU utilization</li> <li>d) None of the mentioned</li> </ul>                                                             |
| <p>22. When the process issues an I/O request :</p> <ul style="list-style-type: none"> <li>a) It is placed in an I/O queue</li> <li>b) It is placed in a waiting queue</li> <li>c) It is placed in the ready queue</li> <li>d) It is placed in the Job queue</li> </ul>                                                                                   |
| <p>23. When a process terminates :</p> <ul style="list-style-type: none"> <li>a) It is removed from all queues</li> <li>b) It is removed from all, but the job queue</li> <li>c) Its process control block is de-allocated</li> <li>d) Its process control block is never de-allocated</li> </ul>                                                         |
| <p>24. What is a long-term scheduler ?</p> <ul style="list-style-type: none"> <li>a) It selects which process has to be brought into the ready queue</li> <li>b) It selects which process has to be executed next and allocates CPU</li> <li>c) It selects which process to remove from memory by swapping</li> <li>d) None of the mentioned</li> </ul>   |
| <p>25. What is a medium-term scheduler ?</p> <ul style="list-style-type: none"> <li>a) It selects which process has to be brought into the ready queue</li> <li>b) It selects which process has to be executed next and allocates CPU</li> <li>c) It selects which process to remove from memory by swapping</li> <li>d) None of the mentioned</li> </ul> |
| <p>26. What is a short-term scheduler ?</p> <ul style="list-style-type: none"> <li>a) It selects which process has to be brought into the ready queue</li> <li>b) It selects which process has to be executed next and allocates CPU</li> <li>c) It selects which process to remove from memory by swapping</li> <li>d) None of the mentioned</li> </ul>  |
| <p>27. The primary distinction between the short term scheduler and the long term scheduler is :</p> <ul style="list-style-type: none"> <li>a) The length of their queues</li> <li>b) The type of processes they schedule</li> <li>c) The frequency of their execution</li> <li>d) None of the mentioned</li> </ul>                                       |
| <p>28. The only state transition that is initiated by the user process itself is :</p> <ul style="list-style-type: none"> <li>a) block</li> <li>b) wakeup</li> </ul>                                                                                                                                                                                      |

|                                                                                                                                                                                                                                                                                              |
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| <p>c) dispatch<br/>d) none of the mentioned</p>                                                                                                                                                                                                                                              |
| <p>29. In a time-sharing operating system, when the time slot given to a process is completed, the process goes from the running state to the :</p> <p>a) Blocked state<br/>b) Ready state<br/>c) Suspended state<br/>d) Terminated state</p>                                                |
| <p>30. In a multiprogramming environment :</p> <p>a) the processor executes more than one process at a time<br/>b) the programs are developed by more than one person<br/>c) more than one process resides in the memory<br/>d) a single user can execute many programs at the same time</p> |
| <p>31. Suppose that a process is in "Blocked" state waiting for some I/O service. When the service is completed, it goes to the :</p> <p>a) Running state<br/>b) Ready state<br/>c) Suspended state<br/>d) Terminated state</p>                                                              |
| <p>32. The context of a process in the PCB of a process does not contain :</p> <p>a) the value of the CPU registers<br/>b) the process state<br/>c) memory-management information<br/>d) context switch time</p>                                                                             |
| <p>33. Which of the following need not necessarily be saved on a context switch between processes?</p> <p>a) General purpose registers<br/>b) Translation look a side buffer<br/>c) Program counter<br/>d) All of the mentioned</p>                                                          |
| <p>34. Which of the following does not interrupt a running process ?</p> <p>a) A device<br/>b) Timer<br/>c) Scheduler process<br/>d) Power failure</p>                                                                                                                                       |
| <p>35. Which process can be affected by other processes executing in the system?</p> <p>a) cooperating process<br/>b) child process<br/>c) parent process<br/>d) init process</p>                                                                                                            |
| <p>36. When several processes access the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place, is called</p> <p>a) dynamic condition<br/>b) race condition<br/>c) essential condition<br/>d) critical condition</p>       |
| <p>37. If a process is executing in its critical section, then no other processes can be executing in their critical section. This condition is called</p>                                                                                                                                   |

|                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>a) mutual exclusion</li> <li>b) critical exclusion</li> <li>c) synchronous exclusion</li> <li>d) asynchronous exclusion</li> </ul>                                                                                                                                                      |
| <p>38. Which one of the following is a synchronization tool?</p> <ul style="list-style-type: none"> <li>a) thread</li> <li>b) pipe</li> <li>c) semaphore</li> <li>d) socket</li> </ul>                                                                                                                                         |
| <p>39. A semaphore is a shared integer variable</p> <ul style="list-style-type: none"> <li>a) that can not drop below zero</li> <li>b) that can not be more than zero</li> <li>c) that can not drop below one</li> <li>d) that can not be more than one</li> </ul>                                                             |
| <p>40. Process synchronization can be done on</p> <ul style="list-style-type: none"> <li>a) hardware level</li> <li>b) software level</li> <li>c) both hardware and software level</li> <li>d) none of the mentioned</li> </ul>                                                                                                |
| <p>41. A monitor is a module that encapsulates</p> <ul style="list-style-type: none"> <li>a) shared data structures</li> <li>b) procedures that operate on shared data structure</li> <li>c) synchronization between concurrent procedure invocation</li> <li>d) all of the mentioned</li> </ul>                               |
| <p>42. A parent process calling _____ system call will be suspended until children processes terminate.</p> <ul style="list-style-type: none"> <li>a) wait</li> <li>b) fork</li> <li>c) exit</li> <li>d) exec</li> </ul>                                                                                                       |
| <p>43. The child process can :</p> <ul style="list-style-type: none"> <li>a) be a duplicate of the parent process</li> <li>b) never be a duplicate of the parent process</li> <li>c) cannot have another program loaded into it</li> <li>d) never have another program loaded into it</li> </ul>                               |
| <p>44. Message passing system allows processes to :</p> <ul style="list-style-type: none"> <li>a) communicate with one another without resorting to shared data</li> <li>b) communicate with one another by resorting to shared data</li> <li>c) share data</li> <li>d) name the recipient or sender of the message</li> </ul> |
| <p>45. Messages sent by a process :</p> <ul style="list-style-type: none"> <li>a) have to be of a fixed size</li> <li>b) have to be a variable size</li> <li>c) can be fixed or variable sized</li> <li>d) None of the mentioned</li> </ul>                                                                                    |
| <p>46. The link between two processes P and Q to send and receive messages is called :</p> <ul style="list-style-type: none"> <li>a) communication link</li> <li>b) message-passing link</li> </ul>                                                                                                                            |

|                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>c) synchronization link<br/>d) all of the mentioned</p>                                                                                                                                                                                                                                                            |
| <p>47. In the Zero capacity queue :<br/>a) the queue can store at least one message<br/>b) the sender blocks until the receiver receives the message<br/>c) the sender keeps sending and the messages don't wait in the queue<br/>d) none of the mentioned</p>                                                        |
| <p>48. The Zero Capacity queue :<br/>a) is referred to as a message system with buffering<br/>b) is referred to as a message system with no buffering<br/>c) is referred to as a link<br/>d) none of the mentioned</p>                                                                                                |
| <p>49. Bounded capacity and Unbounded capacity queues are referred to as :<br/>a) Programmed buffering<br/>b) Automatic buffering<br/>c) User defined buffering<br/>d) No buffering</p>                                                                                                                               |
| <p>50. The request and release of resources are _____<br/>a) command line statements<br/>b) interrupts<br/>c) system calls<br/>d) special programs</p>                                                                                                                                                                |
| <p>51. Multithreaded programs are :<br/>a) lesser prone to deadlocks<br/>b) more prone to deadlocks<br/>c) not at all prone to deadlocks<br/>d) none of the mentioned</p>                                                                                                                                             |
| <p>52. For a deadlock to arise, which of the following conditions must hold simultaneously ?<br/>a) Mutual exclusion<br/>b) No preemption<br/>c) Hold and wait<br/>d) All of the mentioned</p>                                                                                                                        |
| <p>53. Deadlock prevention is a set of methods :<br/>a) to ensure that at least one of the necessary conditions cannot hold<br/>b) to ensure that all of the necessary conditions do not hold<br/>c) to decide if the requested resources for a process have to be given or not<br/>d) to recover from a deadlock</p> |
| <p>54. For non sharable resources like a printer, mutual exclusion :<br/>a) must exist<br/>b) must not exist<br/>c) may exist<br/>d) none of the mentioned</p>                                                                                                                                                        |
| <p>55. For sharable resources, mutual exclusion :<br/>a) is required<br/>b) is not required<br/>c) may be or may not be required<br/>d) none of the mentioned</p>                                                                                                                                                     |

Answers:

|    |   |    |   |    |   |    |   |    |   |
|----|---|----|---|----|---|----|---|----|---|
| 1  | D | 12 | B | 23 | A | 34 | C | 45 | C |
| 2  | A | 13 | C | 24 | A | 35 | A | 46 | A |
| 3  | B | 14 | B | 25 | C | 36 | B | 47 | B |
| 4  | D | 15 | D | 26 | B | 37 | A | 48 | B |
| 5  | A | 16 | B | 27 | C | 38 | C | 49 | B |
| 6  | B | 17 | B | 28 | A | 39 | A | 50 | C |
| 7  | C | 18 | C | 29 | B | 40 | C | 51 | B |
| 8  | D | 19 | D | 30 | C | 41 | D | 52 | D |
| 9  | B | 20 | A | 31 | B | 42 | A | 53 | A |
| 10 | A | 21 | A | 32 | D | 43 | A | 54 | A |
| 11 | A | 22 | A | 33 | B | 44 | A | 55 | B |





- 16. SDLC stands for?**  
 a) Software design life cycle    b) Software development life cycle    c) System design life cycle  
 d) Spiral development life cycle
- 17. SRS stands for?**  
 a) Software requirement specification    b) Software requirement solution  
 c) System requirement specification    d) None of these
- 18. Waterfall model is not suitable for?**  
 a) Small Projects    b) Complex Projects    c) Accommodating change    d) None of These
- 19. Software engineering aims at developing?**  
 a) Reliable Software    b) Cost Effective Software    c) Reliable and cost-effective Software  
 d) None of these
- 20. White box testing, a software testing technique is sometimes called ?**  
 a) Basic path    b) Graph Testing    c) Dataflow    d) Glass box testing
- 21. The objective of testing is ?**  
 a) Debugging    b) To uncover errors    c) To gain modularity    d) To analyze system
- 22. Effective software project management focuses on four P's which are**  
 a) people, performance, payoff, product    b) people, product, performance, process  
 c) people, product, process, project    d) people, process, payoff, product
- 23. The first step in project planning is to**  
 a) determine the budget.    b) select a team organizational model.    c) determine the project constraints.  
 d) establish the objectives and scope.
- 24. Agile Software Development is based on**  
 a) Incremental Development    b) Iterative Development    c) Linear Development  
 d) Both a&b
- 25. RAD stands for ?**  
 a) Rapid Application Development    b) Relative Application Development  
 c) Ready Application Development    d) Repeated Application Development
- 26. Which one of the following is NOT a useful indicators of software quality?**  
 a) Correctness    b) Code size    c) Maintainability    d) Integrity
- 27. Which one of the following is not a step of requirement engineering?**  
 a) elicitation    b) design    c) analysis    d) documentation
- 28. QFD stands for**  
 a) quality function design    b) quality function development    c) quality function deployment  
 d) none of the mentioned
- 29. Which model in system modelling depicts the dynamic behaviour of the system ?**  
 a) Context Model    b) Behavioral Model    c) Data Model    d) Object Model
- 30. A step by step instruction used to solve a problem is known as**  
 a) Sequential structure    b) A List    c) A plan    d) An Algorithm
- 31. Who designs and implement database structures.**  
 a) Programmers    b) Project managers    c) Technical writers    d) Database administrators

- 32. The importance of software design can be summarized in a single word which is:**  
 a) Efficiency                      b) Accuracy                      c) Quality                      d) Complexity
- 33. COTS stands for**  
 a) Commercial Off-The-Shelf systems    b) Commercial Off-The-Shelf states  
 c) Commercial Off-The-System state    d) None of the mentioned
- 34. What is Software ?**  
 a) Set of computer programs, procedures and possibly associated document concerned with the operation of data processing    b) A set of compiler instructions  
 c) A mathematical formula              d) None of above
- 35. Which of the following is not the characteristic of software?**  
 a) Software does not wear out              b) Software is flexible              c) Software is not manufactured              d) Software is always correct
- 36. During software development which factor is most crucial?**  
 a) People                      b) Process                      c) Product                      d) Project
- 37. In component design, elaboration requires which of the following elements to be described in detail?**  
 a) Source code                      b) Attributes                      c) Interfaces                      d) both b and c
- 38. Risk tables are sorted by**  
 a) probability and cost                      b) probability and impact                      c) probability and size  
 d) probability and exposure
- 39. Software engineering aims at developing?**  
 a) Reliable Software                      b) Cost Effective Software                      c) Reliable and cost-effective Software                      d) None of Above
- 40. Which of the following items are not measured by software project metrics?**  
 a) Input                      b) Markets                      c) Outputs                      d) Results
- 41. In object-oriented design of software, objects have.**  
 a) attributes and names only                      b) operations and names only                      c) attributes, name and operations                      d) None of above
- 42. Rapid Application Development Model is not appropriate when?**  
 a) Fast finding already done                      b) Technical risks are high                      c) Testing is not needed                      d) None of above
- 43. Software Requirement Specification is also known as specification of \_\_\_\_**  
 a) White Box Testing                      b) Acceptance Testing                      c) Integrated testing                      d) Black box Testing
- 44. If requirements are easily understandable and defined, then which model is best suited?**  
 a) Spiral Model                      b) Waterfall Model                      c) Prototyping Model                      d) None of the above
- 45. User requirements are expressed as \_\_\_\_\_ in Extreme Programming?**  
 a) implementation tasks    b) functionalities                      c) scenarios                      d) none of the mentioned
- 46. Find out Which phase is not available in SDLC?**  
 a) Coding                      b) Testing                      c) Maintenance                      d) Abstraction
- 47. First level of Prototype is evaluated by \_\_\_\_**  
 a) Developer    b) Tester                      c) User                      d) System Analyst

- 48. Which of the items listed below is not one of the software engineering layers?**  
 a) Process      b) Manufacturing      c) Methods      d) Tools
- 49. Design phase is followed by \_\_\_\_\_**  
 a) Coding      b) Testing      c) Maintenance      d) None of the above
- 50. The two dimensions of spiral model are**  
 a) Diagonal, angular      b) Radial, perpendicular      c) Radial Angular      d) Diagonal, Perpendicular
- 51. Compilers, come under which type of software?**  
 a) System Software      b) Application Software      c) Scientific Software      d) Packaged Software
- 52. Which coding element is generally omitted at the end of line?**  
 a) Naming conventions      b) Identifying      c) White Space      d) Operators
- 53. Which of the following activities of a Generic Process framework provides a feedback report?**  
 a) Communication      b) Planning      c) Modeling and construction      d) Deployment
- 54. Which is the first step in the software development life cycle?**  
 a) Analysis      b) Design      c) Problem Identification      d) Development
- 55. The conditions immediately outside a system is called \_\_\_\_\_**  
 a) Interface      b) Boundary      c) Environment      d) None of these

### Answers

- |       |       |       |
|-------|-------|-------|
| 1) c  | 21) b | 42) b |
| 2) d  | 22) c | 43) d |
| 3) d  | 23) d | 44) b |
| 4) d  | 24) d | 45) c |
| 5) a  | 25) a | 46) d |
| 6) c  | 26) b | 47) c |
| 7) a  | 27) b | 48) b |
| 8) d  | 28) c | 49) a |
| 9) d  | 29) b | 50) c |
| 10) c | 30) d | 51) a |
| 11) d | 31) d | 52) c |
| 12) d | 32) c | 53) d |
| 13) a | 33) a | 54) c |
| 14) d | 34) a | 55) c |
| 15) a | 35) d |       |
| 16) b | 36) a |       |
| 17) a | 37) d |       |
| 18) c | 38) b |       |
| 19) c | 39) c |       |
| 20) d | 40) b |       |
|       | 41) c |       |

## System Architecture & Assembly Language

1. To extend the connectivity of the processor bus we use \_\_\_\_\_
  - a) PCI bus
  - b) SCSI bus
  - c) Controllers
  - d) multiple bus
2. The bus used to connect the monitor to the CPU is \_\_\_\_\_
  - a) PCI bus
  - b) SCSI bus
  - c) Memory bus
  - d) Rambus
3. \_\_\_\_\_ register Connected to the Processor bus is a single-way transfer capable.
  - a) PC
  - b) IR
  - c) Temp
  - d) Z
4. The instruction, Add #45,R1 does \_\_\_\_\_
  - a) Adds the value of 45 to the address of R1 and stores 45 in that address
  - b) Adds 45 to the value of R1 and stores it in R1
  - c) Finds the memory location 45 and adds that content to that of R1
  - d) None of the mentioned
5. Add #45, when this instruction is executed the following happen/s \_\_\_\_\_
  - a) The processor raises an error and requests for one more operand
  - b) The value stored in memory location 45 is retrieved and one more operand is requested
  - c) The value 45 gets added to the value on the stack and is pushed onto the stack
  - d) None of the mentioned
6. The addressing mode/s, which uses the PC instead of a general purpose register is \_\_\_\_\_
  - a) Indexed with offset
  - b) Relative
  - c) direct
  - d) both Indexed with offset and direct
7. In the following indexed addressing mode instruction, MOV 5(R1),LOC the effective address is \_\_\_\_\_
  - a)  $EA = 5+R1$
  - b)  $EA = R1$
  - c)  $EA = [R1]$ .
  - d)  $EA = 5+[R1]$

8. In a system, which has 32 registers the register id is \_\_\_\_ long.

- a) 16 bit
- b) 8 bits
- c) 5 bits
- d) 6 bits

9. The two phases of executing an instruction are \_\_\_\_\_

- a) Instruction decoding and storage
- b) Instruction fetch and instruction execution
- c) Instruction execution and storage
- d) Instruction fetch and Instruction processing

10. The Instruction fetch phase ends with \_\_\_\_\_

- a) Placing the data from the address in MAR into MDR
- b) Placing the address of the data into MAR
- c) Completing the execution of the data and placing its storage address into MAR
- d) Decoding the data in MDR and placing it in IR

11. RTN stands for \_\_\_\_\_

- a) Register Transfer Notation
- b) Register Transmission Notation
- c) Regular Transmission Notation
- d) Regular Transfer Notation

12. Which method/s of representation of numbers occupies a large amount of memory than others?

- a) Sign-magnitude
- b) 1's complement
- c) 2's complement
- d) 1's & 2's compliment

13. Which representation is most efficient to perform arithmetic operations on the numbers?

- a) Sign-magnitude
- b) 1's complement
- c) 2'S complement
- d) None of the mentioned

14. Which method of representation has two representations for '0'?

- a) Sign-magnitude
- b) 1's complement
- c) 2's complement
- d) None of the mentioned

15. When we perform subtraction on -7 and 1 the answer in 2's complement form is \_\_\_\_\_

- a) 1010
- b) 1110
- c) 0110
- d) 1000

16. When we perform subtraction on -7 and -5 the answer in 2's complement form is \_\_\_\_\_

- a) 11110
- b) 1110
- c) 1010
- d) 0010

17. When we subtract -3 from 2 , the answer in 2's complement form is \_\_\_\_\_

- a) 0001
- b) 1101
- c) 0101
- d) 1001

18. The processor keeps track of the results of its operations using a flags called \_\_\_\_\_

- a) Conditional code flags
- b) Test output flags
- c) Type flags
- d) None of the mentioned

19. The register used to store the flags is called as \_\_\_\_\_

- a) Flag register
- b) Status register
- c) Test register
- d) Log register

20. For the addition of large integers, most of the systems make use of \_\_\_\_\_

- a) Fast adders
- b) Full adders
- c) Carry look-ahead adders
- d) none of the mentioned

21 The Flag 'V' is set to 1 indicates that,

- a) The operation is valid
- b) The operation is validated
- c) The operation has resulted in an overflow
- d) None of the mentioned

22. \_\_\_\_ converts the programs written in assembly language into machine instructions.

- a) Machine compiler
- b) Interpreter
- c) Assembler
- d) Converter

23. The instructions like MOV or ADD are called as \_\_\_\_\_
- a) OP-Code
  - b) Operators
  - c) Commands
  - d) None of the mentioned
24. Instructions which won't appear in the object program are called as \_\_\_\_\_
- a) Redundant instructions
  - b) Exceptions
  - c) Comments
  - d) Assembler Directives
25. The last statement of the source program should be \_\_\_\_\_
- a) Stop
  - b) Return
  - c) OP
  - d) End
26. The smallest entity of memory is called \_\_\_\_\_
- a) Cell
  - b) Block
  - c) Instance
  - d) Unit
27. A 24 bit address generates an address space of \_\_\_\_\_ locations.
- a) 1024
  - b) 4096
  - c)  $2^{48}$
  - d) 16,777,216
28. If a system is 64 bit machine, then the length of each word will be \_\_\_\_\_
- a) 4 bytes
  - b) 8 bytes
  - c) 16 bytes
  - d) 12 bytes
29. The type of memory assignment used in Intel processors is \_\_\_\_\_
- a) Little Endian
  - b) Big Endian
  - c) Medium Endian
  - d) None of the mentioned
30. When using the Big Endian assignment to store a number, the sign bit of the number is stored in \_\_\_\_\_
- a) The higher order byte of the word
  - b) The lower order byte of the word



- c) Can't say
- d) None of the mentioned

31. To get the physical address from the logical address generated by CPU we use \_\_\_\_\_

- a) MAR
- b) MMU
- c) Overlays
- d) TLB

32. The collection of the above mentioned entities where data is stored is called \_\_\_\_\_

- a) Block
- b) Set
- c) Word
- d) Byte

33. \_\_\_\_\_ method is used to map logical addresses of variable length onto physical memory.

- a) Paging
- b) Overlays
- c) Segmentation
- d) Paging with segmentation

34. During the transfer of data between the processor and memory we use \_\_\_\_\_

- a) Cache
- b) TLB
- c) Buffers
- d) Registers

35. Physical memory is divided into sets of finite size called as \_\_\_\_\_

- a) Frames
- b) Pages
- c) Blocks
- d) Vectors

36. If we want to perform memory or arithmetic operations on data in Hexa-decimal mode then we use \_\_\_\_ symbol before the operand.

- a) ~
- b) !
- c) \$
- d) \*

37. When generating physical addresses from a logical address the offset is stored in \_\_\_\_\_

- a) Translation look-aside buffer
- b) Relocation register
- c) Page table
- d) Shift register

38. The technique used to store programs larger than the memory is \_\_\_\_\_

- a) Overlays
- b) Extension registers
- c) Buffers
- d) Both Extension registers and Buffers

39. The unit which acts as an intermediate agent between memory and backing store to reduce process time is \_\_\_\_\_

- a) TLB's
- b) Registers
- c) Page tables
- d) Cache

40. The Load instruction does the following operation/s,

- a) Loads the contents of a disc onto a memory location
- b) Loads the contents of a location onto the accumulators
- c) Load the contents of the PCB onto the register
- d) None of the mentioned

41. The CISC stands for \_\_\_\_\_

- a) Computer Instruction Set Compliment
- b) Complete Instruction Set Compliment
- c) Computer Indexed Set Components
- d) Complex Instruction set computer

42. The computer architecture aimed at reducing the time of execution of instructions is \_\_\_\_\_

- a) CISC
- b) RISC
- c) ISA
- d) ANNA

43. The Sun micro systems processors usually follow \_\_\_\_\_ architecture.

- a) CISC
- b) ISA
- c) ULTRA SPARC
- d) RISC

44. The iconic feature of the RISC machine among the following is \_\_\_\_\_

- a) Reduced number of addressing modes
- b) Increased memory size
- c) Having a branch delay slot
- d) All of the mentioned

45. Both the CISC and RISC architectures have been developed to reduce the \_\_\_\_\_
- a) Cost
  - b) Time delay
  - c) Semantic gap
  - d) All of the mentioned
46. Out of the following which is not a CISC machine.
- a) IBM 370/168
  - b) VAX 11/780
  - c) Intel 80486
  - d) Motorola A567
47. Pipe-lining is a unique feature of \_\_\_\_\_
- a) RISC
  - b) CISC
  - c) ISA
  - d) IANA
48. In CISC architecture most of the complex instructions are stored in \_\_\_\_\_
- a) Register
  - b) Diodes
  - c) CMOS
  - d) Transistors
49. Which of the architecture is power efficient?
- a) CISC
  - b) RISC
  - c) ISA
  - d) IANA
50. The pipelining process is also called as \_\_\_\_\_
- a) Superscalar operation
  - b) Assembly line operation
  - c) Von Neumann cycle
  - d) None of the mentioned
51. The reserved memory or private space of the subroutine gets deallocated when \_\_\_\_\_
- a) The stop instruction is executed by the routine
  - b) The pointer reaches the end of the space
  - c) When the routine's return statement is executed
  - d) None of the mentioned
52. \_\_\_\_\_ the most suitable data structure used to store the return addresses in the case of nested subroutines.
- a) Heap
  - b) Stack

- c) Queue
- d) List

53. Which of the register/s of the processor is/are connected to Memory Bus?

- a) PC
- b) MAR
- c) IR
- d) Both PC and MAR

54. The internal Components of the processor are connected by \_\_\_\_\_

- a) Processor intra-connectivity circuitry
- b) Processor bus
- c) Memory bus
- d) Rambus

55. The registers, ALU and the interconnection between them are collectively called as \_\_\_\_\_

- a) process route
- b) information trail
- c) information path
- d) data path

**Answers:**

|       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1. a  | 2. b  | 3. d  | 4. b  | 5. b  | 6. b  | 7. d  | 8. c  | 9. b  | 10. d |
| 11. a | 12. a | 13. c | 14. a | 15. d | 16. b | 17. c | 18. a | 19. b | 20. c |
| 21. c | 22. c | 23. a | 24. d | 25. d | 26. a | 27. d | 28. b | 29. a | 30. a |
| 31. b | 32. c | 33. c | 34. d | 35. a | 36. c | 37. b | 38. a | 39. d | 40. b |
| 41. d | 42. b | 43. d | 44. c | 45. c | 46. d | 47. a | 48. d | 49. b | 50. b |
| 51. c | 52. b | 53. b | 54. b | 55. d |       |       |       |       |       |

## CS -710 Visual Programming

1. What access modifier provides the least access privilege
  - a. Public
  - b. Private
  - c. Protected
  - d. None of these
  
2. Methods having same name & parameters but different classes that are related by inheritance
  - a. Method overriding
  - b. Method overloading
  - c. Method doubling
  - d. None
  
3. One execution of a loop is known as a(n):
  - a. Cycle
  - b. Iteration
  - c. Duration
  - d. Spin
  
4. Which keyword indicates the starting point of a decision structure?
  - a. LOOP
  - b. IF FOR
  - c. ELSE
  - d. FOR
  
5. Which of the following returns True if A = 25 and B = 35:
  - a. A != B
  - b. A >= B
  - c. A + B
  - d. A = B

6. The parallelogram symbol in a flow chart indicates:
  - a. Input.
  - b. Output
  - c. Both a and b
  - d. None
  
7. The process of carefully observing the working of an algorithm to find out logical errors is called:
  - a. Desk Checking
  - b. Compiling
  - c. Debugging
  - d. Coding
  
8. The process of writing a program in programming language is called:
  - a. Flow chart
  - b. Coding
  - c. Desk Checking
  - d. None
  
9. The set of rules for writing a program in any programming language is called:
  - a. Syntax
  - b. Bug
  - c. Debug
  - d. None
  
10. The output of the compiler is called:
  - a. Error code
  - b. Source code
  - c. Linked code
  - d. Object code

11. A type of language in which instructions are written in binary form is called:
  - a. Machine language
  - b. Assembly language
  - c. High level language
  - d. None
  
12. Writing programs in machine language is:
  - a. Complex
  - b. Simple
  - c. Time-consuming
  - d. Both a and c
  
13. Which of the following is not a high level language?
  - a. Assembly language
  - b. Pascal
  - c. BASIC
  - d. FORTRAN
  
14. The lowest level of programming language is:
  - a. Java
  - b. Binary Language
  - c. Pascal
  - d. C++
  
15. Which is true about a variable when it has been declared?
  - a. Name cannot change, value can change
  - b. Name can change, value cannot
  - c. Name & value both can change
  - d. Name & value both cannot change

16. Visual Studio is an:
  - a. Object Oriented Program
  - b. Integrated Development Environment
  - c. Compiler
  - d. Software Design Environment
  
17. What access modifier provides the most relaxed access privilege
  - a. Public
  - b. Private
  - c. Protected
  - d. None of these
  
18. Which of the following is NOT a windows form application control:
  - a. Command Button
  - b. Forms
  - c. Variable
  - d. Text Box
  
19. Which control is used to display text or to accept user input?
  - a. Label
  - b. Text box
  - c. Button
  - d. None
  
20. All the following are examples of controls EXCEPT:
  - a. Label
  - b. Textbox
  - c. Property
  - d. Button



21. In Java keyword \_\_\_\_\_ is used to inherit a class.
- a. parent
  - b. own
  - c. extends
  - d. relate
22. A memory location with some data that cannot change is called:
- a. Constant.
  - b. Variable.
  - c. Named constant.
  - d. Symbolic constant.
23. Which is true about a variable when it has been declared?
- a. Name and value both can change
  - b. Name can change, value cannot
  - c. Name cannot change, value can change
  - d. Name and value both cannot change
24. Variable and constant names cannot contain
- a. Number
  - b. Underscore
  - c. Letter
  - d. Special Characters
25. Variable names cannot begin with
- a. Number.
  - b. Underscore
  - c. Upper-case letter
  - d. Lower-case letter

- 26: Which of the following is NOT valid variable name?
- a. ThisIsAValidVariableName
  - B. So0is0This
  - c. HOWABOUTTHIS?
  - c. IS\_THIS\_VALID\_ASWELL
27. Which term describes the kind of values that a variable can store?
- a. Variable Name
  - b. Datatype
  - c. Variabletype
  - d. Variablesize
28. Which statement is TRUE about a data type?
- a. A data type determines the kind of data a variable can store.
  - b. A data type has no effect on how data is stored in memory.
  - c. A data type has no impact on how fast your application will run.
  - d. A data type is always handled by the computer.
29. Which statement is TRUE about data types?
- a. Each data type has no memory requirements
  - b. Each data type has different memory requirements
  - c. Each data type has the same memory requirements
  - d. None of the above
30. What kinds of numbers are stored in Single and Double data types?
- a. Floating point numbers
  - b. Single and double numbers
  - c. Short integer numbers
  - d. Long integer numbers

31. Which of the following is required to declare a variable
- a. Name of datatype
  - b. Name of variable
  - c. Data type
  - d. All
32. A string literal must be enclosed in:
- a. Quotation marks (")
  - b. Single quotes (')
  - c. Pound signs (#)
  - d. Exclamation sign (!)
33. Comments are used to:
- a. Help others read & understand program
  - b. Make the program run faster
  - c. Make program compile easier
  - d. Increase the size of executable program
34. Which of the following can be used to get input from user on a form?
- a. Format
  - b. Text box
  - c. MessageBox
  - d. None
35. An expression consists of:
- a. Operators
  - b. Operand
  - c. Both a and b
  - d. None

36. An expression can be a:
- a. Constant.
  - b. Variable.
  - c. Combination of constants, variables, and arithmetic operators
  - d. All of the above
37. All of the following are valid mathematical expression EXCEPT:
- a. Sales — Revenues
  - b. Mpg, Gallons
  - c.  $\text{Pi} * \text{Radius}$
  - d.  $M/n$
38. Which of the following is NOT arithmetic operators:
- a. +
  - b. -
  - c. %
  - d. &&
39. The % operator is used for:
- a. Exponentiation
  - b. Multiplication
  - c. Division
  - d. Integer remainder
40. The expression  $10 \% 3$  has a value equal to:
- a. 1
  - b. 3
  - c. 8
  - d. None

41. Which of the following operators is used to assign a value to a variable?

- a. >
- b. +
- c. =
- d. None

42. Which of the following is valid assignment statement?

- a.  $x = 100$
- b.  $x = a + b$
- c.  $x = c - d + 10$
- d. All of these

43. What is the value of x after the following statements?

```
int x, y, z; y = 10, z = 3; x = y * z + 3;
```

- a. 12
- b. 60
- c. 30
- d. 33

44. What is the value of x after the following statements?

```
int x = 0;
```

```
x += 30;
```

- a. 0
- b. 30
- c. 33
- d. none

45. \_\_\_\_\_ loop executes at least once.
- a. For
  - b. Do While
  - c. While
  - d. foreach
46. For the expression  $X = 2 * 102542 * 6.3 * 2.9 * 12564846598745652$ . What is the data type of X
- a. int
  - b. double
  - c. long
  - d. bool
47. Which value is returned if "11 % 3" is executed?
- a. 2.666
  - b. 2
  - c. 2/3
  - d. 3
48. Which of the following is NOT a valid variable data type?
- a. Integer
  - b. Real
  - c. float
  - d. String
49. The statement to declare a local variable called Index that will store integer numbers is:
- a. let whllIndex as whole
  - b. String strindex
  - c. Dim Integer as intIndex
  - d. int Index

50. Which of the following statements is NOT true about variables?
- a. They can be set only once during your program's execution
  - b. Their names have a limit of 255 characters
  - c. The first character of their name must be a letter
  - d. They may contain either numeric or string data
51. Which of the following is a valid variable declaration statement?
- a. ZIPCODE 7 64323
  - b. String DiskSpace = "30 Gigabytes"
  - c. Dim \$BankBalance As String = 10
  - d. Dimension YourAge As Integer
52. Which is the valid way to declare constant in C# ?
- a. Const double pi = 3.141592
  - b. Const pi as double
  - c. Const pi=3.141592
  - d. None
53. To display a message \_\_\_\_\_ is used.
- a. Inputbox
  - b. MessageBox
  - c. MsgBox
  - d. None
54. Which of the following is a correct name of variable?
- a. Vari'Name
  - b. 100bye
  - c. VariableName
  - d. All

55. Methods with same name in same class but different parameters are
- a. Method overriding
  - b. Method overloading
  - c. Method doubling
  - d. None

### Answers

- 1- B
- 2- A
- 3- B
- 4- B
- 5- A
- 6- C
- 7- C
- 8- B
- 9- A
- 10- D
- 11- A
- 12- D
- 13- A
- 14- B
- 15- A
- 16- B
- 17- A
- 18- C
- 19- B
- 20- C
- 21- C
- 22- A
- 23- C
- 24- D
- 25- A
- 26- C
- 27- B
- 28- A
- 29- B



30- A  
31- D  
32- A  
33- A  
34- B  
35- C  
36- C  
37- B  
38- D  
39- D  
40- A  
41- C  
42- D  
43- D  
44- B  
45- B  
46- B  
47- B  
48- B  
49- D  
50- A  
51- B  
52- A  
53- C  
54- C  
55- B