Punjab
Asst. Prof.

Previous Year Paper
(Computer Science) 20 Nov, 2021

1. In C++ which is correct syntax to declare pure virtual function?
(a) s()=0; (b) virtual void s()=0; (c) pure virtual s(); (d) int s()=0;

2. Which binds attributes and methods together in C++?
(a) Overriding (b) Inheritance (c) Encapsulation (d) Polymorphism

3. In C++ by default all the data member and member functions of class are:
(a) Public (b) private (c) Protected (d) static

4. Which notation in used in C++ to define a destructor?
(a) & (b) * (c) ~ (d) #

5. In Web designing the SGML stands for:
(a) Standard Genetic Markup Language (b) Standard Generalized Markup Language
(c) Static Global Markup Language (d) Series Generator Markup Language

6. In computer graphics, the Liang–Barsky algorithm is a :
(a) hidden surface removal algorithm (b) Minimum Spanning Tree
(c) bspline curve generation (d) line clipping algorithm

7. In computer graphics _____ deals with changing the shape and size of the 2D object along x-axis and y-axis.
(a) rotation (b) Shearing (c) Scaling (d) Translation

8. The full form of a popular image file format TIFF is:
(a) Target Image File Format (b) Tag Image File Format
(c) Text Integrated Fixed Format (d) Text Insertion File Format

9. Tweens are a characteristic of which type of animation?
(a) Raster Scan Animation (b) Global Animation
(c) Vector Animation (d) Scalar Animation

10. In Computer Graphics the refresh rate is basically measured in?
(a) Mps (b) Hertz (c) Bps (d) Mips

11. How much memory is required to implement z-buffer algorithm for a 512 x 512 x 24 bit-plane image?
(a) 3.5 MB (b) 1 MB (c) 2.5 MB (d) 1.5 MB

12. Which of the following is at the highest level in the hierarchy of data organisation?
(a) Database (b) Data file (c) Data record (d) Data Bank

13. Which is not a type of key in DBMS?
(a) Candidate Key (b) Composite Key (c) Alter Key (d) Unique Key

14. Let R = (A, B, C, D, E, F) be a relation schema with the following dependencies C->F, E->A, EC->D, A->B. Which of the following is a key of R?
(a) EC (b) CD (c) AE (d) AC

15. In the context of Big Data the veracity tells about :
(a) quality of the data (b) how the size of data s
(c) structure of data (d) Quantity of data

16. To refer to a specific instance of a relation in relational model, the term used is known as
(a) Relation instance (b) Relation entity
(c) Relation tuple (d) Relation attribute

17. When an SQL statement is executed, SQL standard specifies start of a :
(a) Transaction (b) Data flow (c) Commitment (d) Data communication

18. In RDBMS to specify a normal join, using keyword inner is
(a) Mandatory (b) Optional (c) Independent (d) Free

19. In relational schema, each tuple divided in to field called _____.
(a) metadata (b) domains (c) query (d) relation

20. In Big Data the popular storage system HDFS stands for:
(a) Heap Data File System
(c) Hadoop Distributed File System
(b) Hyper Distributed File System
(d) High Density File System

21. In Computer Network the full form of WiMAX is :
(a) Wide Aerial Network for Microwave
(c) World intercept mobile access
(b) Worldwide Interoperability for Microwave Access
(d) Wide area mobile access

22. Which is the address range of class C in Computer Network?
(a) 10.10.1.1 to 0.0.254.255
(c) 192.0.1.1 to 223.255.254.254
(b) 128.1.0.1 to 191.255.255.254
(d) 224.0.0.0 to 239.255.255.255

23. Which layer of the OSI reference model performs error checking of data?
(a) Network (b) Data link (c) Presentation (d) Session

24. In Ethernet, MAC sub-layer uses access method
(a) ALOHA (b) Slotted CSMA (c) CSMA/CD (d) None

25. A certain population of ALOHA users manages to generate 70 request/sec. If the time is slotted in units of 50 msec, then channel load would be:
(a) 4.25 (b) 3.5 (c) 450 (d) 350

26. In which topology, if there are n devices in a network, each device has n-1 ports for cables?
(a) Ring (b) Mesh (c) Token Bus (d) Star

27. In which routing algorithm each router exchanges information about the entire network with neighbouring routers at regular intervals :
(a) Link state (b) Distance vector (c) Form state (d) Datagram link

28. Routing is a function of this layer in OSI reference model:
(a) Application layer (b) Transport layer (c) Data link layer (d) Network layer

29. Which interface your computer uses to talk to and exchange data with your modem and other serial devices?
(a) PC422 (b) HA232D (c) ISO (d) RS232C

30. If a class B network on the internet has a subnet mask of 255.255.248.0. What is the maximum number of hosts per subnet?
(a) 1046 (b) 255 (c) 256 (d) 2046

31. The decimal equivalent of binary number 0.0111 is
(a) 0.3756 (b) 0.4375 (c) 0.4365 (d) 0.4357

32. What is the binary equivalent of gray code 11100?
(a) 10010 (b) 10001 (c) 11111 (d) 10111

33. The Boolean expression AB + AB'+ A'C + AC is independent of the Boolean variable
(a) A (b) C (c) B (d) AB

34. Which is not an addressing mode of 8085 microprocessor?
(a) Immediate (b) Implied (c) Implicit (d) Direct

35. MOV [BX], AL type of data addressing is called?
(a) register indirect (b) register (c) register relative (d) stack addressing

36. The minimum number of D flip-flops needed to design a mod-258 counter is :
(a) 8 (b) 7 (c) 9 (d) 124

37. The register used as working area in CPU is
(a) Program counter (b) Accumulator
(c) Instruction register (d) Instruction counter

38. The process of fetching and executing instructions one at a time, in order of increasing addresses is called:
(a) Straight line sequencing (b) Instruction execution
(c) Instruction fetch (d) Random sequencing

39. The CPU of a computer takes instructions from the memory and executes them. This process is called
(a) Fetch-execute cycle (b) Load cycle (c) Clock cycle (d) Time sequence

40. The bus which is used to transfer data from main memory to peripheral device is:
(a) DMA bus (b) Data bus (c) Input bus (d) Output bus

41. How many 32x1 RAM chips are needed to provide a memory capacity of 256 k-bytes?
(a) 64 (b) 8 (c) 32 (d) 128

42. If the sequence of operations – push (1), push (3), pop, push (1), push (3), pop, pop, pop, push (3), pop are performed on a stack, the sequence of popped out values is:
(a) 3,3,1,1,3 (b) 3,3,1,3,3 (c) 3,1,3,3,1 (d) 3,1,3,3,3

43. The performance of pipelined processor suffers if
(a) The pipeline stages have different delays (b) Consecutive instructions are dependent on each other
(c) The pipeline stages share hardware resources (d) All of the above

44. A linear collection of data element where the linear node is given by mean of pointer is called _____
(a) Linked list (b) Primitive list (c) Graph (d) Tree

45. The average search time of hashing, with linear probing will be less if the load factor
(a) equals one (b) is far less than one
(c) is far greater than one (d) more than two

46. Stack is useful for implementing
(a) Radix (b) recursion (c) breadth first search (d) none of these

47. Given a block can hold either 3 records or 10 key pointers. A database contains n records, then how many blocks do we need to hold the data file and the dense index:
(a) n+10+3 (b) 10n+3 (c) 13n/30 (d) 3n+10

48. A complete binary tree with the property that the value at each node is at least as large as the values at its children is called :
(a) Binary search tree (b) AVL tree (c) Completely balanced tree (d) Heap

49. Which is not a type of agent environment in AI?
(a) Predicate (b) Discrete (c) Virtual (d) Continuous

50. Which one is not any search algorithm used in AI?
(a) Uniform Cost Search (b) Greedy Best First Search
(c) A* (d) Pathway Search

51. _____ is a computer vision technique that relies on image templates.
(a) blind corner vision (b) model-based vision
(c) Orthogonal shape vision (d) blind edge vision

52. In two-player zero-sum games, the minimax solution is the same as the _____.
(a) Nash equilibrium (b) Native coordination (c) Equivalent slash (d) Von-Hash solution

53. The fuzzy logic is different from conventional control method by:
(a) recursive approach (b) If and then approach
(c) do while approach (d) for approach

54. An ANN is based on a collection of connected units or nodes called _____.
(a) Super Sensitive Nodes (b) Artificial Neurons
(c) Hyper nodes (d) Artificial agents

55. The Hopfield network and _____ model of neural network have same properties.
(a) Vision stuff model (b) Glimpsy model
(c) Frisky model (d) Ising model

56. Which one is not a/an component of Artificial Neural Network?
(a) Sequencing queue (b) Learning Rate
(c) Connections and Weights (d) Propagation function

57. A Three-input neuron is trained to output a zero when the input is 110 and a one when the input is 111. After generalization, the output will be zero when and only when the input is?
(a) 100 or 111 or 101 or 001 (b) 000 or 110 or 011 or 101
(c) 010 or 100 or 110 or 101 (d) 000 or 010 or 110 or 100

58. Which is not a type of operating system?
(a) Distributed Operating system (b) MultiTime Operating System
(c) Network Operating System (d) Real Operating System

59. In an operating system which one is not any type of CPU scheduling?
(a) Multilevel Queue Scheduling (b) Multi-Target Queue Scheduling
(c) Multilevel Feedback Queue Scheduling (d) Priority Scheduling

60. In an operating system the Banker's Algorithm is used for :
(a) Minimise storage problem (b) Deadlock avoidance
(c) Process management (d) CPU scheduling

61. In an operating system the difference between memory allocated and required space or memory is called:
(a) Buffering (b) Spooling (c) Internal Fragmentation (d) Coherence

62. In an operating system when the system spends most of its time shuttling pages between the secondary memory and the main memory due to frequent page faults. This concept is known as:
(a) Virtualisation (b) Threading (c) Thrashing (d) Pipelining

63. A process execute the code:

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

The total number of child process created is:
(a) 7 (b) 3 (c) 6 (d) 4

64. At a particular time of computation the value of a counting semaphore is 7. Then 30 P operations and 15 V operations were completed on this semaphore. The resulting value of the semaphore is:
(a) 7 (b) 3 (c) 43 (d) 15

65. Which model reduces the cost of the development of software?
(a) Waterfall (b) Prototyping (c) Iterative (d) Descriptive

66. Which of the following cannot be applied with the software according to software Engineering layers?
(a) Process (b) Methods (c) Manufacturing (d) None of the above

67. Alpha and Beta Testing are forms of _____
(a) Acceptance testing (b) Integration testing
(c) System Testing (d) Unit Testing

68. A graph G is called a planar graph if it can be drawn in a plane without any _____.
(a) cycle form (b) vertices (c) edges crossed (d) connected graph

69. A connected graph with n vertices has at least _____ edges :
(a) n-1 (b) n/2 (c) n+1 (d) n*n

70. In graph theory, a directed graph or digraph is made up of a set of vertices connected by directed edges. These directed edges are often called as:
(a) pointers (b) arcs (c) nodes (d) corners

71. If a plane connected graph has v vertices, e edges and f faces then v + f − e = _____.
(a) 1 (b) 2 (c) 5 (d) Null

72. Which is not any law of set theory?
(a) De Morgan's Law (b) Commutative law
(c) Distributive law (d) Assignment Law

73. The cardinality of the set
S = {p/q | p, q ∈ N +, p, q, ≤ 10} is:
(a) 69 (b) 65 (c) 63 (d) 73

74. Let X = {α, 4} and Y = {a, 3}. Which is correct list of elements of X × Y ?
(a) {(α),(3),(a),(4)} (b) {(α),(α, 3),(4),(4, 3)}
(c) {(a, a),(α,α),(4, 4),(3, 3)}. (d) {(α, a),(α, 3),(4, a),(4, 3)}

75. If x → y is false, what is the truth value of ((¬x) ∧ y) ⟷ (x ∨ y)?
(a) not possible (b) true (c) false (d) 2

76. How many tuples are there in NFA state machine?
(a) 5 (b) 2 (c) 6 (d) 9

77. How many tuples are there in Turing machine?
(a) 6 (b) 1 (c) 10 (d) 7

78. The machine model which is an abstract machine used for the purposes of algorithm development and algorithm complexity is:
(a) RAPS (b) RASP (c) RARA (d) RASA

79. The recursive-descent parsing is also known as:
(a) Bottom-up Parsing (b) top-down parsing
(c) approachable parsing (d) loop based parsing

80. Machine independent optimization attempts is used to:
(a) resolve the ambiguity in target code (b) make a program from complex to intermediate state
(c) improve the intermediate code to get a better target code (d) resolve the object code to resolve ambiguity

81. Symbol Table which is maintained by the compiler is basically a/an _____.
(a) hash function routine (b) assembler routine (c) function table (d) data structure

82. In Compiler design the type checking is usually done during _____:
(a) error checking (b) syntax analysis
(c) syntax directed translation (d) lexical parsing

83. Consider a grammar G where LALR parser has n1 states and the SLR parser has n2 states, then what is the relation of n1 and n2?
(a) n2=&n1 (b) n1>*n2 (c) n1=&n2 (d) n1=n2

84. In Compiler design YACC stands for :
(a) Yet assembler compiler combine (b) Yet assignment compiler code
(c) Yet another compiler compiler (d) Yet analysis compiler code

85. A directed acyclic graph or DAG is a directed graph which has _____.
(a) no cycle (b) at least one cycle
(c) multiple cycles (d) only one cycle

86. Which is true about a multitree that also called as a strongly unambiguous graph?
(a) there is atleast twice the directed paths between the multiple vertices (b) there must be no directed path in the entire graph
(c) there is at most multi paths between one vertice (d) there is at most one directed path between any two vertices

87. A context-free grammar is in Greibach normal form, if all production rules are of the _____ form. Where letter A is a non terminal symbol and letter a is terminal symbol.
(a) $A \rightarrow aA_1aA_2aA_3\,aA_4$ ..... aA_{n+1} (b) $A \rightarrow aA_1A_2A_3\,A_4$ ..... A_n
(c) $A \rightarrow A_1\,A_2\,A_3\,A_4$ ..... A_n (d) $A \rightarrow a \rightarrow A_1 \rightarrow A_2\,A_3\,A_3$ ..... A_n

88. Which method is called before garbage is collected in java?
(a) collect () (b) collection () (c) finalize() (d) newmethod is called

89. What is a suitable return type of a method in java that does not return any value?
(a) int (b) float (c) void (d) char

90. In which of the following java package Exception class exist?
(a) java.lang (b) java.io (c) java.util (d) java.exp

91. In JAVA _____ variable shares same memory space
(a) global (b) virtual (c) final (d) static

92. Java supports multithreading because a thread in Java _____.
(a) can be used as an API (b) can be stored outside main memory
(c) use a shared memory space (d) can be used to link interface

93. In Java which is not a method of thread class?
(a) join() (b) getFirst() (c) isAlive() (d) activeCount()

94. Which is not a string handling function in C Language? Extra mark
(a) strncmp() (b) strstr() (c) strlwr() (d) strrep()

95. Which of the following is not a storage class in C language?
(a) extern (b) register (c) virtual (d) static

96. How much memory is required to store a value of type long double in C language?
(a) 2 bytes (b) 10 bytes (c) 4 bytes (d) 8 bytes

97. In C programming language _____ function can be used to display the text message associated with errno.
(a) cerror() (b) disperror() (c) derror() (d) perror()

98. Which is a correct statement in C language for dynamic memory allocation:
(a) ptr=malloc(100*char(sizeof)); (b) ptr = (int*) malloc(100 * sizeof(int));
(c) *ptr=int*malloc(sizeof(int)); (d) *ptr=malloc*100*(sizeof(int));

99. Which of the following is not valid file handling mode for opening a file in C language?
(a) r+ (b) wb (c) ro (d) w

100 Which of the following declaration is correct in C language?
(a) int&x=*t; (b) int&x=&t; (c) int x=&t; (d) int *x=&t;