

	Question Bank BCA 1403 – Data Structure (OLD)	A N S
1)	Which is the logical or mathematical model of particular organization of data? A. Structures B. Variables C. Data Structures D. Function	C
2)	Which of the following is not a primitive data structure? A. Boolean B. Integer C. Arrays D. Character	C
3)	Circular Queue is also known as _____ A. Ring Buffer B. Square Buffer C. Rectangle Buffer D. Curve Buffer	A
4)	To represents hierarchical relationship between elements, which data structure is suitable? A. Tree B. Stack C .Array D. None of this above	A

5)	Which of the following data structure store the homogenous data elements? A. Lists B. Pointers C. Records D. Arrays	D
6)	Which of the following is the collection of records of the entities in a given entity set? A. Filed B. File C. Records D. Entity	B
7)	Linear arrays are also called..... A. One-dimensional array B. Vertical Array C. Horizontal Array D. All of the above	A
8)	In linked lists there are no NULL links in: A. Single linked list B. Linear Doubly linked list C. Circular Linked List D. None of the above	C
9)	----- is a step-by-step procedure for calculations A. Program B. Algorithm C. Greedy Method D. Problem	B

10)	Representation of data structure in memory is known as: A. Storage Structure B. File Structure C. Abstract Data type D. None of the above	C
11)	Which of the following is false about a doubly linked list? A. We can navigate in both the directions B. It requires more space than a singly linked list C. The insertion and deletion of a node take a bit longer D. Implementing a doubly linked list is easier than singly linked list	D
12)	What does 'stack overflow' refer to? A. Accessing item from an undefined stack B. Adding items to a full stack C. Removing items from an empty stack D. Index out of bounds exception	B
13)	-----is the term used to delete an element from the stack? A. Push B. Pull C. Pop D. All of the above	C
14)	Which of the following data structure is non-linear type? A. Strings B. List C. Stack D. None of the above	D

15)	<p>The postfix form of the expression $(A + B) * (C * D - E) * F / G$ is?</p> <p>A. $AB + CD * E - FG / **$</p> <p>B. $AB + CD * E - F **G /$</p> <p>C. $AB + CD * E - *F *G /$</p> <p>D. $AB + CDE * - * F *G /$</p>	A
16)	<p>Which of the following is also called first in the first out FIFO system?</p> <p>A. Tree</p> <p>B. Stack</p> <p>C. Queue</p> <p>D. Graph</p>	C
17)	<p>Which of the following operations combined record into different sorted files into a single sorted file?</p> <p>A. Sorting</p> <p>B. Merging</p> <p>C. Searching</p> <p>D. Inserting</p>	B
18)	<p>Which of the following is something that has certain attributes or properties which may be in assigned values?</p> <p>A. Field</p> <p>B. File</p> <p>C. Records</p> <p>D. Entity</p>	D
19)	<p>Which of the following is a non-linear data structure?</p> <p>A. Array</p> <p>B. Linked List</p> <p>C. Stack</p> <p>D. Graph</p>	D

20)	Expand ADT_____.	C
	A. Access Data Type. B. Automatic Data Transaction. C. Abstract Data Type. D. Abstract Data Transmission	
21)	_____ Is A Solution To A Problem Independent Of Programming Language.	D
	A. Efficient. B. Linked List. C. Data Structure. D. Algorithm.	
22)	Base address is the address of _____.	B
	A. Last Element. B. First Element. C. Middle Element. D. Pivot Element.	
23)	A data structure in which elements can be inserted or deleted at/from both the ends but not in the middle is?	C
	A. Queue B. Circular queue C. Dequeue D. Priority queue	
24)	What data structure is used for depth first traversal of a graph?	B
	A.Queue B.Stack C.List D. None of the above	

25)	Which of the following is non-linear data structure? A. Trees B. Stacks C. Strings D. All of the above	A
26)	Which data structure allows deleting data elements from front and inserting at rear? A. Stacks B. Queues C. Deques D. Binary tree	B
27)	The prefix form of $A-B / (C * D \wedge E)$ is? A. $-/*\wedge ACBDE$ B. $-ABCD*\wedge DE$ C. $-A/B*C\wedge DE$ D. $-A/BC*\wedge DE$	C
28)	What is the result of the following operation $Top (Push (S, X))$ A.X B. Null C. S D. None	A
29)	The dummy header in linked list contain A. First record of the actual data B. Last record of the actual data C. Pointer to the last record D. None of the above	A

30)	Which method of traversal does not use stack to hold nodes that are waiting to be processed? A. Depth First B. D-Search C. Breadth first D. Back-tracking	C
31)	What is a full binary tree? A. Each node has exactly zero or two children B. Each node has exactly two children C. All the leaves are at the same level D. Each node has exactly one or two children	A
32)	Which of the following is also called last in first out LIFO system? A. Queue B. Stack C. Graph D. Tree	A
33)	The complexity of linear search algorithm is A.O(n) B.O(log n) C.O(n ²) D.O(n log n)	A
34)	Prefix notation is also known as A. Reverse Polish Notation B. Reverse Notation C. Polish Reverse Notation D. Polish Notation	C

35)	What are the minimum number of queues needed to implement the priority queue? A. One B. Two C. Three D. Four	B
36)	What is the number of edges present in a complete graph having n vertices? A. $(n*(n+1))/2$ B. $(n*(n-1))/2$ C. n D. Information given is insufficient	B
37)is linear list in which all the operations restricted from one end. A. Stack B. Array C. Pop D. Pointer	A
38)	The complexity of merge sort algorithm is A.O(n) B.O(log n) C.O(n ²) D.O(n log n)	D
39)	Which sorting method is slowest A. Quick sort B. Heap sort C.Shell sort D. Bubble sort	D

40)	When stack is empty its size can be..... A. 1 B. -1 C. 0 D. Null	B
41)	A graph with all vertices having equal degree is known as a A. Multi Graph B. Regular Graph C. Simple Graph D. Complete Graph	B
42)	Before inserting into stack one must check the condition----- A. Overflow B. Underflow C. Maximum elements D. Existing elements	A
43)	Identify the data structure which allows deletions at both ends of the list but insertion at only one end. A. Input-restricted Deque B. Output-restricted Deque C. Priority queues D. None of above	A
44)	Which of the following data structures are indexed structures? A. Stack B. Linked lists C. Linear arrays D. None of the above	C

45)	The value of Rear is increased by 1 when..... A. An element is merged in a queue B. An element is added in a queue C. An element is traversed in a queue D. An element is deleted in a queue	B
46)	-----is the term used to insert an element from the stack? A. Push B. Pull C. Pop D. All of the above	A
47)	Which data structure is needed to convert infix notation to postfix notation? A. Branch B. Tree C. Queue D. Stack	D
48)	The complexity of Binary search algorithm is A.O(n) B.O(log n) C.O(n ²) D.O(n log n)	B
49)	Finding the location of the element with a given value is: A. Traversal B. Search C. Sort D. None of above	B

50)	What data structure would you mostly likely see in a non-recursive implementation of a recursive algorithm? A. Link List B. Stack C. Queue D. Tree	B
51)	Which of the following is not the type of queue? A. Ordinary queue B. Single ended queue C. Circular queue D. Priority queue	B
52)	Which of the following data structures can be used for parentheses matching? A. N-array tree B. Queue C. Priority queue D. Stack	D
53)	The Θ notation in asymptotic evaluation represents – A.NULL case B. Base case C. Average case D. Worst case	A
54)	An algorithm that calls itself directly or indirectly is known as A. Sub algorithm B. Recursion C. Polish notation D. Traversal algorithm	B

55)	An algorithm is A. a piece of code to be executed. B. a loosely written code to make final code. C. a step by step procedure to solve problem. D. all of the above.	C
56)	Which of the following application generally use a stack? A. Parenthesis Balancing Program B. Syntax Analyzer In Compiler C. Keeping Track Of Local Variables At Run Time D. All of the above	D
57)	In a graph if $e=[u, v]$, Then u and v are called A. endpoints of e B. adjacent nodes C. neighbours D. all of above	D
58)	The complexity of linear search algorithm is A. $O(n)$ B. $O(\log n)$ C. $O(n^2)$ D. $O(n \log n)$	A
59)	Which of the following case does not exist in complexity theory A. Best case B. Worst case C. Average case D. Null case	D

60)	The type of expression in which operator succeeds its operands is? A. Infix Expression B. Pre Fix Expression C. Postfix Expression D. None	C
61)	Generally collection of Nodes is called as _____ A. Heap B. Stack C. Pointer D. Linked list	D
62)	Merge sort uses A. Divide and conquer strategy B. Backtracking approach C. Heuristic search D. Greedy approach	A
63)	Entries in a stack are “ordered”. What is the meaning of this statement? A. A collection of stacks is sortable B. Stack entries may be compared with the ‘<’ operation C. The entries are stored in a linked list D. There is a Sequential entry that is one by one	D
64)	What is the value of the postfix expression 6 3 2 4 + - *? A. 1 B. 40 C. 74 D. -18	D

65)	<p>Arrays are best data structures</p> <p>A. for relatively permanent collections of data</p> <p>B. for the size of the structure and the data in the structure are constantly changing</p> <p>C. for both of above situation</p> <p>D. for none of above situation</p>	A
66)	<p>Each array declaration need not give, implicitly or explicitly, the information about</p> <p>A. the name of array</p> <p>B. the data type of array</p> <p>C. the first data from the set to be stored</p> <p>D. the index set of the array</p>	C
67)	<p>A connected graph T without any cycles is called</p> <p>A. a tree graph</p> <p>B. free tree</p> <p>C. a tree</p> <p>D. All of above</p>	D
68)	<p>In linear search algorithm the Worst case occurs when</p> <p>A. The item is somewhere in the middle of the array</p> <p>B. The item is not in the array at all</p> <p>C. The item is the last element in the array</p> <p>D. The item is the last element in the array or is not there at all</p>	D
69)	<p>Which of the following applications may use a stack?</p> <p>A. A parentheses balancing program</p> <p>B. Tracking of local variables at run time</p> <p>C. Compiler Syntax Analyzer</p> <p>D. Data Transfer between two asynchronous process</p>	D

70)	A procedure that calls itself is called A. illegal call B. reverse polish C. recursive D. none of the above	C
71)	Process of removing an element from stack is called _____ A. Create B. Push C. Evaluation D. Pop	D
72)	The operation of processing each element in the list is known as A. Sorting B. Merging C. Inserting D. Traversal	D
73)	Which of the following data structure is not linear data structure? A. Arrays B. Linked lists C. Both of above D. None of above	D
74)	Pushing an element into stack already having five elements and stack size of 5, then stack becomes A. Overflow B. Crash C. Underflow D. User flow	A

75)	If every node u in G is adjacent to every other node v in G , A graph is said to be A. isolated B. complete C. finite D. strongly connected	B
76)	When determining the efficiency of algorithm the time factor is measured by A. Counting microseconds B. Counting the number of key operations C. Counting the number of statements D. Counting the kilobytes of algorithm	B
77)	The in order traversal of tree will yield a sorted listing of elements of tree in A. Binary trees B. Binary search trees C. Heaps D. None of above	B
78)	A queue data-structure can be used for – A. expression parsing B. recursion C. resource allocation D. all of the above	C
79)	Which data structure allows deleting data elements from front and inserting at rear? A. Stacks B. Queues C. Deques D. Binary search tree	B

80)	In a stack, if a user tries to remove an element from empty stack it is called _____ A. Underflow B. Empty collection C. Overflow D. Garbage Collection	A
81) is not the component of data structure. A. Operations B. Storage Structures C. Algorithms D. None of the above	D
82)	In what kind of storage we can easily insert, delete, concatenate and rearrange substrings? A. Queue B. Linked List C. Stack D. Array	B
83)	ADT is called as Abstract because A. It is completely independent data type B. It is collection of different data types C. Implementation Details are hidden D. None of these	C
84)	Which of the following is non-linear data structure? A. Stacks B. List C. Strings D. Trees	D

85)	<p>Arrays are best data structures</p> <p>A. for relatively permanent collections of data</p> <p>B. for the size of the structure and the data in the structure are constantly changing</p> <p>C. for both of above situation</p> <p>D. for none of above situation</p>	A
86)	<p>Which of the following data structure is linear type?</p> <p>A. Graph</p> <p>B. Trees</p> <p>C. Binary tree</p> <p>D. Stack</p>	D
87)	<p>_____ defines a set of primitive elements which do not involves any other element as its sub-part.</p> <p>A. Non Linear Data Structure</p> <p>B. Linear Data Structure</p> <p>C. Non-Primitive Data Structure</p> <p>D. Primitive Data Structure</p>	D
88)	<p>Efficiency of an algorithm is measured by</p> <p>A. Absolute analysis</p> <p>B. Cost analysis</p> <p>C. Relative analysis</p> <p>D. Asymptotic analysis</p>	D
89)	<p>Which of the following is not the part of ADT description?</p> <p>A. Data</p> <p>B. Operations</p> <p>C.Both of the above</p> <p>D. None of the above</p>	D

90)	In a binary tree, certain null entries are replaced by special pointers which point to nodes higher in the tree for efficiency. These special pointers are called A. Leaf B. branch C. path D. thread	D
91)	Implementation of operations associated with an ADT is done by a A.Member function B.Member type C.Member object D.Member data-type	A
92)	A data structure requires a certain amount of space for each A. Data process B. Data movement C. Data item D. Data action	C
93)	A simple type whose values contain no subparts, is called A. Integer type B. String type C. Boolean type D. Aggregate type	A
94)	Space requirement of a data item, defined by its variables are referred to as A. Data structure B. Data process C. Data object D. Data member	D

95)	A function or a mapping of inputs to outputs is called A. Process B. Program C. Algorithm D. Problem	D
96)	In mathematical means, problems can be viewed as A. Operations B. Functions C. Mechanism D. Design pattern	B
97)	Which of the following data structure is linear data structure? A. Trees B. Graphs C. Arrays D. None of above	C
98)	Two main measures for the efficiency of an algorithm are A. Processor and memory B. Complexity and capacity C. Time and space D. Data and space	C
99)	A growth rate of n , is referred to as A. Absolute growth rate B. Linear growth rate C. Exponential growth rate D. Quadratic growth rate	B

100	<p>If elements of the data structure forms a sequence of list then it is called as _____.</p> <p>A. Linear data structure</p> <p>B. Non-primitive data structure</p> <p>C. Primitive data structure</p> <p>D. None of these</p>	A
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