

1. _____ is the first step in solving the problem

<input type="checkbox"/>	Gather data and identify required results
<input type="checkbox"/>	Analyse the problem
<input checked="" type="checkbox"/>	Understand and define the problem
<input type="checkbox"/>	Reach an appropriate solution using problem solving techniques

2. Matrix multiplication can be achieved using which of the following algorithms ?

<input type="checkbox"/>	Dynamic programming
<input type="checkbox"/>	Recursion
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	All of the above

3. When a problem is solved by combining optimal solutions to non-overlapping sub-problems, the strategy is called

<input type="checkbox"/>	Dynamic programming
<input type="checkbox"/>	Greedy Algorithm
<input checked="" type="checkbox"/>	Divide and Conquer
<input type="checkbox"/>	Brute Force

4. Which is True of a dynamic programming problem?

<input type="checkbox"/>	Substructure is optimal
<input type="checkbox"/>	Overlapping sub-Problems
<input type="checkbox"/>	Disjoint sub-problems
<input checked="" type="checkbox"/>	Overlapping sub-Problems and Optimal substructure

5. An Algorithm must always have a finite number of steps.

<input checked="" type="checkbox"/>	TRUE
<input type="checkbox"/>	FALSE

6. Which of the following is not a type of instruction

<input type="checkbox"/>	Iterative
<input checked="" type="checkbox"/>	Heuristic
<input type="checkbox"/>	Conditional
<input type="checkbox"/>	Sequential

7. Match the following criteria that comes into play for Problem solving and Algorithms

(a) Completeness (i) How long it takes to find a solution

(b) Time complexity (ii) Memory needed to perform the search

(c) Space complexity (iii) Whether the solution works for all given inputs

<input checked="" type="checkbox"/>	a-iii, b-i, c-ii
<input type="checkbox"/>	a-i, b-iii, c-ii
<input type="checkbox"/>	a-ii, b-i, c-iii
<input type="checkbox"/>	None of the Above

8. True or False : When solving a problem, the Process is an Optional step

<input type="checkbox"/>	TRUE
<input checked="" type="checkbox"/>	FALSE

9. _____ is the first step in solving the problem

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<input type="checkbox"/>	Analyse the problem
<input checked="" type="checkbox"/>	Understand and define the problem
<input type="checkbox"/>	Reach an appropriate solution using problem solving techniques

10. When computing the bill amount for a dinner at a restaurant, what are the inputs to the process ?

<input type="checkbox"/>	List of Items ordered
<input type="checkbox"/>	Quantity of Items ordered
<input type="checkbox"/>	Price of each Item

<input checked="" type="radio"/>	All of the Above
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11. Matrix multiplication can be achieved using which of the following algorithms ?

<input type="radio"/>	Dynamic programming
<input type="radio"/>	Recursion
<input type="radio"/>	Brute Force
<input checked="" type="radio"/>	All of the Above

12. In an iterative algorithm the steps branch into one or more of the provided options depending on a condition

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

1. Which data structure would result in the data being sorted soon after being inserted

<input type="radio"/>	Queues
<input type="radio"/>	Stack
<input type="radio"/>	Circular queue
<input checked="" type="radio"/>	Priority Queues

2. A normal queue, if implemented using an array of size MAX_SIZE, gets full when

<input checked="" type="radio"/>	Rear=MAX_SIZE-1
<input type="radio"/>	Front=(rear+1)mod MAX_SIZE
<input type="radio"/>	Front=rear+1
<input type="radio"/>	Rear=front

3. If the elements “A”, “B”, “C” and “D” are placed in a queue one after the other and are deleted one at a time, in what order will they be removed?

<input checked="" type="radio"/>	ABCD
<input type="radio"/>	DCBA

	DCAB
	ABDC

4. Binary search is used for searching an unordered list

	TRUE
<input checked="" type="radio"/>	FALSE

5. When working with Queue, initial values for front and rare should be

	0 and 1
<input checked="" type="radio"/>	0 and -1
	1 and 0
	0 and 0

6. Which of the following data structure is non linear type ?

	Strings
	Lists
	Stacks
<input checked="" type="radio"/>	Tree

7. In linked representation of stack _____ holds the elements of the stack.

<input checked="" type="radio"/>	Info field
	Top field
	Link field
	next field

8. _____ is not the operation that can be performed on stacks


	Push
	Pop
	Display

	Retrieve
---	-----------------

9. Consider the Pre-order traversal of a tree:

F O P Q R S T


Which is the root node of the tree

	Q
	T
	P
	F


10. Consider the Graph with 5 vertices, $V = \{A, B, C, D, E\}$ and Edges as

$\{(A, B), (A, C), (A, E), (B, C), (B, D), (B, E), (C, E)\}$


select the edges to be removed to make the graph a directed tree

	(A,C), (B,D) and (A,E)
	(B,C), (A,E), (C,E)
	(A,C), (A,E) and (B,D)
	(B,E), (A,E), (C,E)

11. The difference between an array and a structure is

	An array is suitable for homogeneous data and structures are used to store heterogeneous data
	In a structure there may not be a natural ordering in opposed to linear array.
	A structure form a hierarchical structure but a linear array does not
	All of above

12. Which of the following statement is false

	Arrays are dense lists and static data structure
	data elements in linked list need not be stored in adjacent space in memory
	Linked lists are pointers storing the next data element of a list
	linked lists are collection of the nodes that contain information part and pointer to the next node in the

13. The term "push" and "pop" is related to

<input type="radio"/>	Arrays
<input type="radio"/>	Lists
<input checked="" type="radio"/>	Stacks
<input type="radio"/>	Queues

14. A data structure where elements can be added or removed at either end but not in the middle

<input type="radio"/>	Linked Lists
<input type="radio"/>	Stacks
<input checked="" type="radio"/>	Deque
<input type="radio"/>	Arrays

15. A tree is a

<input type="radio"/>	Directed graph
<input type="radio"/>	Cyclic Graph
<input checked="" type="radio"/>	Directed and Acyclic Graph
<input type="radio"/>	Acyclic Graph

1. What is the worst case time complexity of the below equation?

$$T(n) = 2n^2 + 5n + 3$$

<input type="radio"/>	$O(n)$
<input type="radio"/>	$O(\log n)$
<input checked="" type="radio"/>	$O(n^2)$
<input type="radio"/>	$O(1)$

2. For an Algorithm with a sequence of steps, three steps have individual complexities of $O(n)$, $O(n^2)$ and $O(1)$ respectively. The overall complexity of the algorithm will be

<input checked="" type="radio"/>	$O(n^2)$
<input type="radio"/>	$O(n)$

	cannot be determined
	$O(n^3)$

3. For an algorithm, if we want to express the "running is at least...", then we use

	Big O Notation
	Theta Θ Notation
<input checked="" type="radio"/>	Omega Ω Notation
	None of the Above

4. The Average case Analysis of an Algorithm is represented by

	Big O Notation
<input checked="" type="radio"/>	Theta Θ Notation
	Omega Ω Notation
	None of the Above

5. Size the function $(n+2)*(n-5)$ in big Oh notation

	$O(\log n)$
	$O(n)$
<input checked="" type="radio"/>	$O(n^2)$
	$O(n \log n)$

6. What is the time complexity of adding an element into a dynamic array that is already filled completely ?

	$O(n^2)$
<input checked="" type="radio"/>	$O(n)$
	$O(\log n)$
	$O(n \log n)$

7. Which of the following is less efficient than $O(n^2)$

	$15^2 * n + 10000$
	$n^{1.8}$
<input checked="" type="radio"/>	n^3 / \sqrt{n}
	$3^{20} * n$

8. In the function below, What is time complexity of foo()?

```
void foo(int n)
{
    int count = 0;
    for (int i = n; i > 0; i /= 2)
        for (int j = 0; j < i; j++)
            count++;
}
```

	$O(n^2)$
<input checked="" type="radio"/>	$O(n)$
	$O(\log n)$
	$O(n \log n)$

9. An Algorithm has two nested For loops wherein the innermost loop has six instructions and is executed 'm' times. The outer loop is executed 'n' times. So the time complexity of the Algorithm will be

	$O(n)$
<input checked="" type="radio"/>	$O(mn)$
	$O(mn^2)$
	$O(m \log n)$

10. Examples of $O(n^2)$ algorithms are


	Adding of two Matrices
	Initializing all elements of matrix by zero
<input checked="" type="radio"/>	Both A and B

	Neither A nor B
--	-----------------


11. Examples of $O(1)$ algorithms are

	Multiplying two numbers.
	assigning some value to a variable
	displaying some integer on console
	All of the above


12. Which of these factors are not part of the Space Complexity computation

	Instruction space
	Free hard disk space in the system
	Data space
	Environment stack space

13. For Algorithm analysis, the worst case scenario is usually considered because

	It is better to get an upper bound of the execution time
	It is easy to do this analysis
	Computers are slow and will always deliver the worst case scenario
	The Machine load and network latency can have an impact on performance

14. The concept of order Big Oh is useful for Algorithm analysis because

	It can be used to determine the most efficient algorithm for a given problem
	It determines the maximum size of a problem that can be solved in a given amount of time
	It is the lower bound of the growth rate of algorithm
	Both A and B

15. For searching an element in an array, what is the operation count estimate of time complexity?

	Initializing the array
--	------------------------

	Reading the array
<input checked="" type="radio"/>	Number of search operations
	Displaying whether the element is found or not

16. A Profiler is used to perform

	Security Scan
	A priori Analysis
<input checked="" type="radio"/>	A Posteriori analysis
	Binary Search of data in a dataset

17. It is preferable to always perform a posteriori analysis since it is easier and gives reliable results

	TRUE
<input checked="" type="radio"/>	FALSE

18. The worst-, average- and best-case analysis measurements are machine dependant and vary from one machine to another

	TRUE
<input checked="" type="radio"/>	FALSE

19. Analyzing the lower bound is preferred in most of the situations rather than specifying the upper bound

	TRUE
<input checked="" type="radio"/>	FALSE

20. The time Complexity when evaluating the efficiency of algorithm is measured by


	Counting microseconds
<input checked="" type="radio"/>	Counting the number of key operations
	Counting the number of statements
	Counting the kilobytes of algorithm

21. Compared to Step Count, Operation Count is a more accurate way of measuring Time Complexity


	TRUE
--	------

	FALSE
---	--------------


1. What happens when you push a new node onto a stack which is implemented using linked lists?

	The new node is placed at the front of the linked list
	The new node is placed at the back of the linked list
	The new node is placed at the selected position of the linked list
	Depends on the ordering of a list

2. Which of the following is true

	In linear search the search starts from the beginning of the list
	Binary search searches on sorted array
	Both the options
	None of the options

3. Which of the following is not a limitation of binary search algorithm?

	to have a sorted array
	requirement of sorted array is expensive when a lot of insertion and deletions are needed
	there must be a mechanism to access middle element directly
	There are no limitations of binary search algorithm

4. Which sorting technique requires movement of data elements

	Selection sort
	Bubble sort
	Insertion sort
	Quick sort

5. under what circumstances a linear search algorithm takes less execution time

	When the search element is at the middle of the array
--	---

<input type="checkbox"/>	When the search element is at the end of the array
<input checked="" type="checkbox"/>	When the search element is at the beginning of the array
<input type="checkbox"/>	When the array is sorted

6. under what circumstances a Binary search algorithm takes less execution time

<input checked="" type="checkbox"/>	When the search element is at the middle of the array
<input type="checkbox"/>	When the search element is at the end of the array
<input type="checkbox"/>	When the search element is at the beginning of the array
<input type="checkbox"/>	When the array is sorted

7. The last argument of the qsort library function

<input type="checkbox"/>	The no of elements to be sorted
<input type="checkbox"/>	The address of the array to be sorted
<input checked="" type="checkbox"/>	The pointer to the comparator function
<input type="checkbox"/>	Size of the elements to be sorted

8. The qsort library function takes the address of each element of the array to be sorted as an argument

<input type="checkbox"/>	TRUE
<input checked="" type="checkbox"/>	FALSE

9. Which of the following is not a limitation of binary search algorithm?

<input type="checkbox"/>	must use a sorted array
<input type="checkbox"/>	requirement of sorted array is expensive when a lot of insertion and deletions are needed
<input type="checkbox"/>	there must be a mechanism to access middle element directly
<input checked="" type="checkbox"/>	binary search algorithm is not efficient when the data elements more than 1500.

10. is putting an element in the appropriate place in a sorted list yields a larger sorted order list.

<input checked="" type="radio"/>	Insertion
<input type="radio"/>	Extraction
<input type="radio"/>	Selection
<input type="radio"/>	Distribution

11. is rearranging pairs of elements such that values are inter changed.

<input type="radio"/>	Insertion
<input checked="" type="radio"/>	Swapping
<input type="radio"/>	Selection
<input type="radio"/>	Distribution

12. is the method used by card sorter

<input type="radio"/>	Radix sort
<input checked="" type="radio"/>	Insertion
<input type="radio"/>	Heap
<input type="radio"/>	Quick

13. Which of the following sorting algorithm is of divide and conquer type?

<input type="radio"/>	Bubble sort
<input type="radio"/>	Insertion sort
<input checked="" type="radio"/>	Merge sort
<input type="radio"/>	Selection sort

14. sorting algorithm is frequently used when n is small where n is total number of elements.

<input type="radio"/>	Heap
<input checked="" type="radio"/>	Insertion
<input type="radio"/>	Bubble
<input type="radio"/>	

15. Partition and exchange sort is

A. QUICK SORT

1. What is the output of the given code?

```
int a = 10;  
int b = ++a + a++;  
System.out.println("a=" + a + ", b=" + b);
```

<input checked="" type="radio"/>	a=12, b=22
<input type="radio"/>	a=22, b=12
<input type="radio"/>	a=22, b=22
<input type="radio"/>	a=12, b=12

2. Which of the following is an invalid variable name in java?

<input type="radio"/>	\$var
<input type="radio"/>	variable
<input checked="" type="radio"/>	double
<input type="radio"/>	var123

3. What is the output of the following?


```
int arr[][]={{ 1,2,3},{4,5},{6}};  
System.out.println(arr[1][1]);
```

<input type="radio"/>	4
<input type="radio"/>	6
<input checked="" type="radio"/>	5
<input type="radio"/>	ArrayIndexOutOfBoundsException

4. Predict the output of the following?

```
public class HelloWorld {
public static void main( String[] argv ) {
```

```
    int a[]={1,3,5};
    for(int b:a)
    {
        System.out.print(++b);
    }
}
}
```

	Compilation Error
	9
	6
	246

5. Predict the output of the following?

```
public class HelloWorld {
public static void main( String[] argv ) {

int a=3;
int b=a<<2;
int c=b>>1;
System.out.println(c);
```

```

}
}

```

<input type="radio"/>	5
<input checked="" type="radio"/>	6
<input type="radio"/>	1
<input type="radio"/>	2

6. Which package do you need to import to use Scanner class?

<input type="radio"/>	java.io
<input type="radio"/>	java.lang
<input checked="" type="radio"/>	java.util
<input type="radio"/>	java.scanner

7. Which of the following is not a primitive data type?

<input type="radio"/>	char
<input checked="" type="radio"/>	String
<input type="radio"/>	boolean
<input type="radio"/>	double

8. Which of the following statement is true regarding array in java?

<input type="radio"/>	Array is a primitive data type in java
<input checked="" type="radio"/>	Array in java is represented as an object

	Array can contain only primitive values and not objects
	Java Arrays can be up to 3 dimensional and does not support bigger dimensions.

9. What is the output of the following?

```
public class HelloWorld {
    public static void main( String[] argv ) {
        int a=4%2*3-1/0;
        System.out.println(a);
    }
}
```

	2
	-1
	5
<input checked="" type="radio"/>	Arithmetic Exception

10. Which of the following is the ternary operator?

<input checked="" type="radio"/>	?:
	<>
	&&

11. _____ is a named memory location which can store a value and can change its contents

	data type
<input checked="" type="radio"/>	variable
	constant
	literal

12. What is the output of the following code?

```
boolean bool = true;
if(bool = false) {
```

```

System.out.println("a");
} else if (bool) {
    System.out.println("b");
} else if (!bool) {
    System.out.println("c");
} else {
    System.out.println("d");
}

```

	a
	b
<input checked="" type="radio"/>	c
	d

13. What is the output of the given code?

```

int a=3;
int b=8;

if(a<b && b<0)
    a=b;
else
    b=a++;

System.out.println("a="+a+"b="+b);

```

	a=3 b=4
	a=3 b=3
	a=4 b=4
<input checked="" type="radio"/>	a=4 b=3

14. What is the output of the following?

```

public class HelloWorld {
    public static void main( String[] argv ) {

```

```

int n = 10;
switch(n++){
    case 10:
        System.out.println("n="+ --n);
        break;
    case 11:
        System.out.println("n="+ ++n);
        break;
}
}
}

```

	n=11
	n=9
<input checked="" type="radio"/>	n=10
	n=0

15. Predict the output of the following?

```

public class HelloWorld {
    public static void main( String[] argv ) {
        int i = 1;
        for ( ; i <5; i += 2 ) {
            System.out.print(i + "");
        }
        System.out.println(i);
    }
}

```

	123
<input checked="" type="radio"/>	135

	256
	145

16. Predict the output of the following?

```
public class HelloWorld {
    static boolean printChar(char c) {
        System.out.print(c);
        return true;
    }
    public static void main( String[] argv ) {
        int i =0;
        for ( printChar('A'); printChar('B')&&(i<2); printChar('C')){
            i++ ;
            printChar('D');
        }
    }
}
```

<input checked="" type="radio"/>	ABDCBDCB
<input type="radio"/>	ABDCBDBC
<input type="radio"/>	BADCBD CB
<input type="radio"/>	ABDCCB

17. Predict the output of the following?

```
public class HelloWorld{
    public static void main(String args[])
    {

        int x = 1, y = 6;
        while (y--) {
            x++;
        }
    }
}
```


```

System.out.println("x =" + x + "y =" +y);

    }

}

```

	x=6 y=0
	x=7 y=0
	Compilation error
	x=6 y=-1

18. Predict the output of the following code.

```


public class HelloWorld{

    public static void main(String args[])
    {
        int i =1,j =10;
        do {
            if(i++ > --j) {
                continue;
            }
        } while (i <5);
        System.out.println("i = " +i+ "and j = "+j);

    }

}

```

	i = 5and j = 5
	i = 6and j = 6
	i = 5and j = 6
	i = 6and j = 5

19. Predict the output of the given code?


```
public class HelloWorld{

    public static void main(String []args){

int i = 1,j = 10;
do {
    if(i>j) {
        break;
    }
    j--;
} while (++i <5);
System.out.println("i =" +i+" and j = "+j);

    }

}
```

	i =6 and j = 5
	i =5 and j = 6
	i =5 and j = 5
	i =6 and j = 6

20. Predict the output of the following?

```
public class HelloWorld{

    public static void main(String []args){

        float f1[], f2[];
        f1 = new float[10];
        f2 = f1; //line 5
        System.out.println("f2[0]= " + f2[0]); //line 6

    }

}
```

```

    }
}

```

	f2[0]=10
	f2[0]= null
<input checked="" type="radio"/>	f2[0]= 0.0
	Compilation Error

1. Given:

```

class TestSuper {
    TestSuper(int i) { }
}

class TestSub extends TestSuper { }

class TestAll {
    public static void main (String [] args) {
        new TestSub();
    }
}

```

Which of the given options is true?

<input checked="" type="radio"/>	Compilation fails
	The code runs without exception
	An exception is thrown at line 7
	An exception is thrown at line 2

2. What will be the output of the program?

```

abstract class Vehicle {
    public int speed() {

```

```


        return 0; }
    }

    class Car extends Vehicle {
        public int speed() {
            return 150;
        }
    }

    class RaceCar extends Car {
        public int speed() {
            return 60;
        }
    }

    public class Test{
        public static void main(String[] args) {
            RaceCar racer = new RaceCar();
            Car car = new RaceCar();
            Vehicle vehicle = new RaceCar();
            System.out.println(racer.speed() + ", " + car.speed() + ", " + vehicle.speed());
        }
    }

```

	150, 150, 150
	60 ,150
	0 ,60, 150
	60,60,60 Feedback: All the three objects are of type RaceCar, hence the overridden method speed() of class RaceCar is called at runtime. (Runtime Polymorphism)

3. What is the output of the below code?


```

class Herbivore{
    void eat(){
        System.out.print("Eating");
    }
}

public class Goat extends Herbivore{
    void eat(String food){
        eat();
        System.out.print(food);
    }
}

public static void main(String[] args) {
    Goat g1 = new Goat();
    g1.eat("leaves");
}
}

```

<input type="radio"/>	Eating
<input checked="" type="radio"/>	Eatingleaves
<input type="radio"/>	leaves
<input type="radio"/>	Compilation fails due to improper overriding

4. What is the output of the below code?

```

class Address{
    String city;
    public Address(String city){ this.city = city; }
}


public class Customer {
    int cid;
    Address addr;

    public Customer( int cid ){ this.cid = cid; }
    public void setAddress(Address addr){ this.addr = addr;}

    public static void main(String[] args) {
        Address a1 = new Address("Bangalore");
        Customer c2 = new Customer(101);
        System.out.print(c2.cid + c2.addr.city);
    }
}

```


```
}
}
```

	101 Bangalore
	101 null
	101 0
	NullPointerException occurs
	In the constructor of Customer only the cid variable is set. Variable addr has the default value null. NullpointerException occurs when c2.addr.city is accessed

5. What is the output of below code?

```
package pack1;
public class One {
    protected int var = 10;
    public static int statVar = 30;
}

package pack2;
import pack1.One;
public class Two extends One{
    private int var = 20;
    public void calc(){
        System.out.println(statVar + var + super.var);
    }
    public static void main(String[] args) {
        One.statVar = 100;
        Two obj = new Two();
        obj.calc();
    }
}
```

	60
	110
	130
	Class Two doesn't compile

6. Given:

```
public class Test {  
    private static int a;  
    public static void main(String [] args) {  
        modify(a);  
        System.out.println(a);  
    }  
    public static void modify(int a) {  
        a++;  
    }  
}
```

What is the result?

<input checked="" type="radio"/>	0
<input type="radio"/>	1
<input type="radio"/>	Compilation fails
<input type="radio"/>	An exception is thrown at runtime

7. Given:

```
class Super {  
    public float getNum() { return 3.0f; }  
}  
  
public class Sub extends Super {  
}  
Which method, placed at line6, causes compilation to fail?
```

<input checked="" type="radio"/>	public void getNum() { }
<input type="radio"/>	public void getNum(double d) { }
<input type="radio"/>	public float getNum() { return 4.0f; }

	public double getNum(float d) { return 4.0d; }
--	--


8. Given:

```

class A {
    static void method1(){
        System.out.println("A.method1");
    }
}
class B extends A {
    static void method1(){
        System.out.println("B.method1");
    }
}
class Test {
    public static void main(String[]args){
        A a1 = new B();
        a1.method1();
    }
}

```

What is the result?

	Compilation error
	Runtime error
	Prints A.method1 Feedback: Even though there is a subclass for A and it overrides the method1, since the method1 was called through the reference of the super class, it will always invoke the static method present in the class of which the reference was created.
	Prints B.method1

9. Given:

```

interface A {
    static int n=0;
}
class B implements A {
    B(){
        ++n;
    }
}

```

```

}
}
class Test {
    public static void main(String[] args){
        new B();
        new B();
        new B();
        System.out.println("n=" + A.n);
    }
}

```

What will be the result?

	Prints n=0
	Prints n=3
<input checked="" type="radio"/>	Compilation fails
	Encounters runtime error

10. What will be the output of the given code?

```

abstract class A {
    static int n;
}
class B implements A {
    B(){
        ++n;
    }
}
class Test {
    public static void main(String[] args){
        new B();
        new B();
        new B();
        System.out.println("n=" + A.n);
    }
}

```

	Prints n=0
<input checked="" type="radio"/>	Prints n=3


	Compilation fails
	Encounters runtime error

11. What will be the output of the given code?

```

abstract class A {
    void f1(){
        f2();
    }
    abstract void f2();
}
class B extends A {
    void f2(){
        System.out.println("Hello");
    }
}
class Test {
    public static void main(String[] args){
        B b1 = new B();
        b1.f1();
    }
}

```

	Compilation fails
	Encounters an error at runtime
	Prints Hello Feedback: The super class method f1() calls f2() which has been overridden in the subclass to print the "Hello"
	Prints null

12. What is the result of the given code?

```

class A {
    void f1(){
        f2();
    }
    abstract void f2();
}
class B extends A {

```


```

void f2(){
    System.out.println("Hello");
}
}
class Test {
    public static void main(String[]args){
        A a1 = new A();
        a1.f1();
    }
}


```

	Compilation fails
	Encounters an error at runtime
	Prints Hello
	Prints null

13. Which of the following is incorrect with respect to java.lang.Object?

	The class java.lang.Object is the only class in Java API that does not have a super class
	Whenever a class is created, it automatically inherits from Object
	Every class must override the inherited methods equals and hashCode from java.lang.Object
	If a class has a different super class, the Object class is still inherited via multi-level inheritance

14. The default implementation in java.lang.Object, ensures the uniqueness of hashCode by

	returning the current timestamp in milliseconds
	converting the internal address of the object into an integer
	returning a combination of timestamp, and ip address
	returning a combination of timestamp, ip address and the thread id of the current thread

15. What will be the result of the given code?

```

interface A {
    void f1();
}

```

```

class B implements A{
    @Override
    void f1(){
        System.out.println("Hello");
    }
}

class Test {
    public static void main(String[]args){
        A a1 = new B();
        a1.f1();
    }
}

```

	Compilation fails
	Encounters an error at runtime
	Prints Hello
	Prints null

16. What is the output of the given code?

```

class Super {
    protected int n;
    Super(int n){
        this.n = n;
    }
    public void print(){
        System.out.println("n=" + n);
    }
}

class Sub {
    Sub(int m){
        super.n = m;
    }
}

class Test {
    public static void main(String[]){
        Sub s = new Sub(10);
        s.print();
    }
}

```



```
}
```

<input checked="" type="radio"/>	Compiler error
<input type="radio"/>	Prints n=0
<input type="radio"/>	Prints n=10
<input type="radio"/>	Runtime error

17. A class must have a default, no-argument constructor.

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

18. Given:

```
class A {  
    final public int method1(int a, int b) {return 0; }  
}  
class B extends A {  
    public int method1(int a, int b) { return 1; }  
}  
public class Test {  
    public static void main(String args[]) {  
        B b = new B();  
        System.out.println("x = " + b.method1(0, 1));  
    }  
}
```

What is the result?

<input type="radio"/>	x = 0
<input type="radio"/>	x = 1
<input checked="" type="radio"/>	Compilation fails
<input type="radio"/>	An exception is thrown at runtime

19. Which of the following is incorrect?

	An interface can extend multiple interfaces
	An abstract class need not have any abstract methods
	An abstract class can implement multiple interfaces
<input checked="" type="radio"/>	An abstract class must have atleast one abstract method

20. Which of the following is incorrect with respect to overriding?

	Signature must match
	Return type should not change
<input checked="" type="radio"/>	Access can be made narrower, but not wider
	Final methods cannot be overridden

21. An access modifier can not be applied on a _____.

	Class
	Field
<input checked="" type="radio"/>	Static block
	Constructor

22. Given:

```
public Object m() {
    Object o = new Float(3.14F);
    Object [] oa = new Object[1];
    oa[0] = o;
    o = null;
    return oa[0];
}
```

When is the Float object, created in the first line of the method m(), eligible for garbage collection?

	Just after - oa[0] = o;
	Just after - o = null;

<input checked="" type="radio"/>	Never in this method
<input type="radio"/>	Just after - return oa[0];

23. What organizes the classes into a family by placing the class files in appropriate folders?

<input type="radio"/>	A jar file
<input checked="" type="radio"/>	A package
<input type="radio"/>	A collection
<input type="radio"/>	An array

24. You want a class to have access to members of another class in the same package. Which is the most restrictive access that accomplishes this objective?

<input type="radio"/>	Public
<input type="radio"/>	Private
<input type="radio"/>	Protected
<input checked="" type="radio"/>	Default access

25. The package statement must be the first statement in the source code.

<input checked="" type="radio"/>	TRUE
	Feedback: The package statement must be the first statement in the source code apart from the code comments.
<input type="radio"/>	FALSE

26. Which of the statements is incorrect?


<input type="radio"/>	The default constructor has the same access as its class.
<input type="radio"/>	The default constructor invoked the no-arg constructor of the superclass.
<input checked="" type="radio"/>	If a class lacks a no-arg constructor, the compiler always creates a default constructor.
<input type="radio"/>	The compiler creates a default constructor only when there are no other constructors.

27. What is the result of the given program?

```

public class Test {
    public int aMethod() {
        static int i = 0;
        i++;
        return i;
    }
    public static void main (String args[]) {
        Test test = new Test();
        test.aMethod();
        int j = test.aMethod();
        System.out.println(j);
    }
}

```

	3
	1
	2
	Compilation fails


28. Given:

```

class A {
    protected int someMethod(int a, int b) {
        return 0;
    }
}

```

Which of the following is valid in a class that extends class A?

	private int someMethod(int a, int b) { return 0; }
	private int someMethod(int a, long b) { return 0; }
	public short someMethod(int a, int b) { return 0; }
	static protected int someMethod(int a, int b) { return 0; }

29. Given:

```

class Test {
    private int n = 10;
}


```

```

static {
    n = 11;
}
public Test(){
    n = 12;
}
public void print(){
    System.out.println("n="+n);
}
public static void main(String args[]){
    Test t = new Test();
    t.print();
}
}

```

What is the result?

	Prints n=10
	Prints n=11
	Prints n=12
	Compilation fails

30. What is the result of the given code?

```

class A {
    int a=0;
    B b;
    public String toString(){
        return "a=" + a + ", b.a=" + b.a;
    }
}


class B {
    int a=1;
}

```

```

class Test {
    public static void main(String[] args){
        A a1=new A();
        System.out.println(a1);
    }
}

```

	Prints a=0, b.a=1
	Prints a=0, b.a=null
	Compilation error
	Runtime error

31. What will be the output of the given program?

```

class A {
    B b;
    A(){
        b = new B();
        System.out.println("A()");
    }
}

class B {
    A a;
    B(){
        a = new A();
        System.out.println("B()");
    }
}

class Test {
    public static void main(String[] args){
        A a1=new A();
    }
}

```

	Prints A() B()
	Prints B() A()
	Compilation fails

	Encounters a runtime error
	Feedback: Both constructors call each other resulting in a recursion.


32. Given:

```


class Test {
}

```


How do you create an instance of the same?

	Test t1;
	Test t1 = new Test;
	Test t1 = new Test();
	Test t1 = new Test(100);

1. Cloud computing means you have to buy expensive hardware before you can use it.

	TRUE
	FALSE

2. SharedPool refers to shared storage, RAM and CPU.

	TRUE
	FALSE

3. Which of the following is not attribute of cloud computing?

	Rapid deployment
	Upfront cost
	On demand service
	All of the above

4. Cloud computing does not support elasticity.

	TRUE
--	------

<input checked="" type="radio"/>	FALSE
----------------------------------	--------------

1. The data stored in cloud is always on a single location.

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

2. A data center is nothing but a cloud.

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

3. Virtualization means

<input checked="" type="radio"/>	Installing multiple OS on single physical server
<input type="radio"/>	Installing one virtual machine on one physical machine
<input type="radio"/>	Hyper-visor
<input type="radio"/>	None of the above

4. In a cloud storage data is stored in logical pools .

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

5. Which of the following offers cloud storage service?

<input type="radio"/>	Amazon
<input type="radio"/>	Microsoft
<input checked="" type="radio"/>	Google & Amazon
<input type="radio"/>	Google

6. The cloud stores data on Internet.

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

1. There are three cloud service models.

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

2. SaaS offers applications as a service.

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

3. There are two type of cloud models.

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

4. PaaS offers OS as service .

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

5. IaaS offers hardware & software as service .

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

1. Facebook is built on Web 2.0.

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

2. SOA stands for

<input type="radio"/>	Standard Operating Architecture
<input checked="" type="radio"/>	Service Oriented Architecture
<input type="radio"/>	Service Oriented Applications
<input type="radio"/>	None of the above

3. Web services are platform neutral.

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

4. Application servers run the code in cloud.

<input checked="" type="radio"/>	TRUE
<input type="radio"/>	FALSE

1. Cloud management software installs cloud in a data center

<input type="radio"/>	TRUE
<input checked="" type="radio"/>	FALSE

2. According to recent survey which of the following is market leader in cloud computing?

<input type="radio"/>	Microsoft
<input type="radio"/>	RackSpace
<input checked="" type="radio"/>	Amazon
<input type="radio"/>	VmWare

3. Which of the following is market leader in virtualization technology?


<input type="radio"/>	REDHAT
<input type="radio"/>	RackSpace
<input type="radio"/>	Microsoft
<input checked="" type="radio"/>	VMWare

4. Which of the following is has the highest demand?


<input type="radio"/>	Private
<input checked="" type="radio"/>	Public
<input type="radio"/>	community

	None of the above
--	-------------------


1. Which of the following is the most feasible method of securing data in network?

	Encryption
	Firewall
	Anti-virus
	None of the above

2. Which of the following is susceptible to data theft?

	data in transit
	data at rest
	data in processing
	all of the above

3. Cloud security is not a big concern for enterprises.

	TRUE
	FALSE