1. Which declaration initializes a boolean variable?

a) boolean m = null

b) Boolean j = (1<5)

c) boolean k = 0

d) boolean h = 1

2. What is the DTO pattern used for?

a) To Exchange data between processes

b) To implement the data Access layer

c) To implement the presentation layer

3. What value should replace kk in line 18 to cause jj = 5 to be output?

```
public class MyFive {
public static void main(String[] args) {
//short kk = ?;
short ii;
short jj = 0;
for (ii = kk; ii > 6; ii-=1) {
jj++;
}
System.out.println("jj = " + jj);
}
}
```

a) -1
b) 1
c) 5
d) 8
e) 11

4. ¿Cuál será el resultado?

```
public class SampleClass {
public static void main(String[] args) {
SampleClass sc, scA, scB;
sc = new SampleClass();
scA = new SampleClassA();
scB = new SampleClassB();
System.out.println(“Hash is: “ + sc.getHash() +
“, “ + scA.getHash() + “, “ + scB.getHash());
}
public int getHash() {
return 111111;
}
```

```
}
class SampleClassA extends SampleClass {
public int getHash() {
return 44444444;
}
}
class SampleClassB extends SampleClass {
public int getHash() {
return 999999999;
}
}
```

a) Compilation fails
b) An exception is thrown at runtime
c) There is no result because this is not correct way to determine the hash code
d) Hash is: 111111, 44444444, 999999999.

5. ¿Cuál sería el resultado?

```
public classDoCompare4 {
public static void main(String[] args) {
String[] table = {“aa”, “bb”, “cc”};
int ii = 0;
do {
while (ii < table.length) {
System.out.println(ii++);
}
} while (ii < table.length);
}
}
```

a) 0
b) 0 1 2
c) 0 1 2 0 1 2 0 1 2
d) Compilation fails

6. ¿Cuál sería el resultado?

```
public class DoCompare1 {
        public static void main(String[] args) {
                String[] table = {"aa", "bb", "cc"};
                for (String ss : table) {
                        int ii = 0;
                        while (ii < table.length) {
                                System.out.println(ss + ", " + ii);
                                ii++;
                        }
```

```
            }
        }
}
```

a) Zero.
b) Once.
c) Twice
d) Thrice
e) Compilation fails

7. What code should be inserted?

```
4       public class Bark {
5               // Insert code here - Line 5
6                       public abstract void bark();
7       }
8.
9               // Insert code here - Line 9
10                      public void bark() {
11                              System.out.println("woof"):
12                      }
13              }
14      }
```

a) 5. class Dog { 9. public class Poodle extends Dog {
b) 5. abstract Dog { 9. public class Poodle extends Dog {
c) 5. abstract class Dog { 9. public class Poodle extends Dog {
d) 5. abstract Dog { 9. public class Poodle implements Dog {
e) 5. abstract Dog { 9. public class Poodle implements Dog {
f) 5. abstract class Dog { 9. public class Poodle implements Dog {

8. Which statement initializes a stringBuilder to a capacity of 128?

a) StringBuilder sb = new String(“128”);
b) StringBuilder sb = StringBuilder.setCapacity(128);
c) StringBuilder sb = StringBuilder.getInstance(128);
d) StringBuilder sb = new StringBuilder (128);

9. What is the result?

```
public class Calculator {

        int num = 100;

        public void calc(int num) {

                this.num = num * 10;

        }
```

```
        public void printNum(){
                System.out.println(num):
        }
        public static void main(String[] args) {
                Calculator obj = new Calculator ();
                obj.calc(2);
                obj.printNum();
}
}
```

a) 20
b) 100
c) 1000
d) 2

10. What three modifications, made independently, made to class Greet, enable the code to compile and run?

```
package handy.dandy;
public class KeyStroke {
        public void typeExclamation() {
                System.out.println("!");
}
```

And

```
01. package handy;
02.
03.
04. public class Greet {
05.     public static void main(String[] args) {
06.             String greeting = "Hello";
07.             System.out.print(greeting);
08.             KeyStroke stroke = new KeyStroke();
09.             stroke.typeExclamation();
10.     }
11. }
```

a) Line 8 replaced with handy.dandy.KeyStroke stroke = new KeyStroke();
b) Line 8 replaced with handy.*.KeyStroke stroke = new KeyStroke();
c) Line 8 replaced with handy.dandy.KeyStroke stroke = new handy.dandy.KeyStroke();
d) import handy.*; added before line 1.
e) import handy.dandy.*; added after line 1.
f) import handy.dandy.KeyStroke; added after line 1.
g) import handy.dandy.KeyStroke.typeExclamation(); added after line 1.

11. Consider the following Java code snippet:

```
public int divide (int a, int b) {
        int c= 1;
        try{
                c = a/b;
        catch (Exception e) {
                System.err.print ("Exception ") ;
        }
        finally{
                System. err. println ("Finally ") ;
        return c;
}
```

What will our code print when we call divide (4,0)?

a) Exception Finally
b) Finally Exception
c) Exception

12. The feature which allows different methods to have the same name and arguments type, but the different implementation is called?

a) Overloading(SobreCarga)
b) Overriding (SobreEscritura @Override)
c) Java does not permit methods with same and type signature
d) None of the above

13. What is the following for loop output?

```
for (int i=10, j=1; i>j; -- i, ++j)
System.out.print(j % i);
```

a) 12321
b) 12345
c) 11111
d) 00000

14. We perform the following sequence of actions:

1. Insert the following elements into a set: 1,2,9,1,2,3,1,4,1,5,7.

2. Convert the set into a list and sort it in ascending order.

Which option denotes the sorted list?

a) {1, 2, 3, 4, 5, 7, 9}
b) {9, 7, 5, 4, 3, 2, 1}
c) {1, 1, 1, 1, 2, 2, 3, 4, 5, 7, 9}
d) None of the above

15. What is the output for the below Java code?

```
public class Test{

        public static void main (String [] args)

        {

                int i = 010;

                int j = 07;

                System.out.println (i);

                System.out.println (j) ;

        }

}
```

a) 8 7
b) 10 7
c) Compilation fails with an error at line 3
d) Compilation fails with an error at line 5

16. A public data member with the same name is provided in both base as well as derived classes. Which of the following is true?

a) It is a compiler error to provide a field with the same name in both base and derived class
b) The program will compile and this feature is called overloading
c) The program will compile and this feature is called overriding
d) The program will compile and this feature is called as hiding or shadowing

17. Which statement is true?

a) Non-static member classes must have either default or public accessibility
b) All nested classes can declare static member classes
c) Methods in all nested classes can be declared static
d) Static member classes can contain non-static methods

18. A constructor is called whenever

a) An object is declared
b) An object is used
c) A class is declared
d) A class is used

19. Which of the following data types in Java are primitive?

a) String
b) Struct
c) Boolean

d) Char

20. Which of the following are true for Java Classes?

a) The Void class extends the Class class
b) The Float class extends the Double class
c) The System class extends the Runtime class
d) The Integer class extends the Number class

21. The following code snippet is a demonstration of a particular design pattern. Which design pattern is it?

```
public class Mystery{
        private static Mystery instance = null;
        protected Mystery() {
                public static Mystery getInstance () {
                        if (instance == null) {
                                instance = new Mystery () ;
                        }
                        return instance;
                }
        }
}
```

a) Factory Design Pattern
b) Strategy Pattern
c) Singleton
d) Facade Design Pattern

22. Which of the following Java declarations of the String array is correct?

a) String temp [] = new String {“j”, “a”, “z”};
b) String temp [] = {“j” “b” “c”};
c) String temp = {“a”, “b”, “c”};
d) String temp [] = { “ a” , “b”, “c”} ;

23. Which is true of the following program?

```
package exam. java;
public class TestFirstApp {
        static void doIt(int x, int y, int m) {
                if(x == 5) m=y;
                        else m=x;
        }
public static void main(String[] args) {
        int i=6, j=4, k=9;
        TestFirstApp.doIt(i, j, k);
                System.out.println(k);
        }
```

}

a) Doesn't matter what the values of *i* and *j* are, the output will always be *5*.
b) Doesn't matter what the values of *k* and *j* are, the output will always be *5*.
c) Doesn't matter what the values of *i* and *j* are, the output will always be *9*.
d) Doesn' t matter what the values of *k* and *j* are, the output will always be *9*.

24. Which of the following statements are correct. Select the correct answer.

a) Each Java file must have exactly one package statement to specify where the class is stored.
b) If a java file has both import and package statement, the import statement must come before package statement.
c) A java file has at least one class defined
d) If a java file has a package statement, it must be the first statement (except comments).

25. Given the following code, what is the most likely result?

```
import java.util .*;
public class Compares {
public static void main (String [] args) {
String [] cities= ("Bangalore", "Pune", "San Francisco", "New York City");
MySort ms= new MySort () ;
Arrays. sort (cities, ms) ;
System. out.println (Arrays.binarySearch (cities, "New York City" ));
}
static class MySort implements Comparator{
public int compare (String a, String b) {
return b.compareTo.(a) ;
}
}
}
```

a) -1
b) 1
c) 2
d) Compilation fails

26. To delete all pairs of keys and values in a given HashMap, which of the following methods should be used?

a) clearAll()
b) empty()
c) remove()
d) clear()

27. Which pattern do you see in the code below:

```
java.util.Calendar.getInstance();
```

a) Singleton Pattern
b) Factory Pattern
c) Facade Pattern
d) Adaptor Pattern

28. What is the output of the following program:

```
interface BaseI { void method (); {

class BaseC

}

public void method();

{

System.out.println( “Inside  BaseC::method”);

}

}

class ImplC extends BaseC implements BaseI

{

public static void main (String []s)

{

(new ImplC()).method();

}

}
```

a) Null
b) Complicatio fails
c) Inside BaseC::method
d) None of the above

29. Consider the following three classes:

```
class A {}
class B extends A {}
class C extends B {}
```

Consider n object of class B is instantiated, i.e.,
B b = new B();

Which of the following Boolean expressions evaluates to true:

a) (b instanceof B)

b) (b instanceof B) && (!(b instanceof A))
c) (b instanceof B) && (!(b instanceof C))
d) None of the above

30. What is the output of the following program:

```
class Constructor
        {

        static String str;

        public void Constructor(){

                System.out.println( “In constructor” );
                str = “ Hello World” ;

        }

        public static void main (String [] args){
                Constructor C = new Constructor ();
                System.out.println(str);
        }

}
```

a) In Constructor
b) Null
c) Compilation fails
d) None of the above