1 Consider the following code:

```
class One {
public One() {
System.out.print(1);
}
}
class Two extends One {
public Two() {
System.out.print(2);
}
}
class Three extends Two {
public Three() {
System.out.print(3);
}
}
public class Numbers {
public static void main(String[] argv) {
new Three();
}
}
```

Which of the following will be the output for the above program?

Answer:
- a. 123
- b. 321
- c. 3
- d. No output
- e. 32

2 Consider the following code:

```
public class ExampleSeven {
public static void main(String [] args) {
String[] y = new String[1];
```

```
String x = "hello";
y[0] = x;

// Code here
System.out.println("match");
} else {
System.out.println("no match");
}
}
}
```

Which of the following code snippet when substituted at the commented line (// Code here) in the above code will make the program to print "no match"?

Answer:

- a. if (x.equals(y[0])) {
- b. if (x != y[0].toString()) {
- c. if (x & y[0]) {
- d. if (!x.equals(y[0])) {

3

Consider the following code snippet:

String deepak = "Did Deepak see bees? Deepak did.";

Which of the following method calls would refer to the letter b in the string referred by the variable deepak?

Answer:

- a. charAt(16)
- b. charAt(15)
- c. charAt(12)
- d. charAt(13)

e. charAt(14)

4 Consider the following code:

```
class ExceptionOne extends Exception { }

class ExceptionOneOne extends ExceptionOne { }

class ExceptionOneTwo extends ExceptionOne { }

class TestExp {
public static void main(String args[]) {
throwExceptions();
}

public static void throwExceptions() throws Exception {
// Insert Code
}
}
```

Which of the following code snippets when substituted to the commented line (// Insert Code) in the above program will make the program to compile and run properly? (Choose 3)

Answer:

- [ ] a. throw new Error();
- [ ] b. throw new Throwable();
- [x] c. throw new ExceptionOneOne();
- [x] d. throw new Exception();
- [x] e. throw new ExceptionOneTwo();

5 Consider the following code:

```
public class ManTin {
public static void main(String [] args) {
int j = 2, y = 3, z = 10;
for (;j < 6;j++) {
y = (++y + z++);
System.out.println(y+z);
}
}
}
```

Which of the following gives the valid output for the above code?

Answer:

- a. 25
  38
  52
  67
- b. 25
  39
  54
  70
- c. 26
  40
  55
  71
- d. 27
  41
  56
  72

6 Consider the following code:

```
1. public class EqualsTest {
2. public static void main( String args[] ) {
3. float A = 1.0F / 3.0F;
4. if( ( A * 3.0) == 1.0F ) System.out.println( "Equal" );
5. else System.out.println( "Not Equal" );
6. }
```

7. }

Which of the following will be the output of the above program?

Answer:
- a. The program compiles and prints "Not Equal".
- b. The program compiles and prints "Equal".
- c. The compiler objects to line 3.
- d. The compiler objects to using == with primitives in line 4.

7 Consider the following code snippet:

```
import java.util.*;

class TestString5 {
public static void main(String args[]) {
String s = "Get Entertained";
StringTokenizer st = new StringTokenizer(s, "t");
while(st.hasMoreElements())
System.out.print(st.nextToken());
}
}
```

What will be the output of the above code snippet?

Answer:
- a. Get Entertained
- b. EntertainedGet
- c. Entertained Get
- d. GetEntertained
- e. Ge Enerained

8 Consider the following code:

```
package com.java.test;
public class A {
public int x;
public static int y;
protected static int z;
}

package com.java.test1;
import com.java.test.A;
public class B {
public static void main(String[] args) {
A a = new A(), b = new A();
a.x++;
b.y++;
a.z++;
System.out.print(a.x + " " + a.y + " " + b.x + " " + b.y + " " a.z);
}
}
```

Which of the following gives the correct output for the above code?

Answer:

- a. Compilation Error 'a.z is not visible'
- b. Prints:1 0 0 1 0
- c. Prints: 0 0 0 0 0
- d. Prints: 1 1 0 1 1
- e. Runtime Error

9 Consider the following code:

```
interface Data { public void load(); }

abstract class Info { public abstract void load(); }
```

Which of the following implementation correctly uses the Data interface and Info class?

Answer:

a. public class Employee implements Info extends Data {
public void load(){ /*do something*/ }
public void Info.load(){ /*do something*/ }
}

b. public class Employee extends Info implements Data {
public void load() { /*do something*/ }
}

c. public class Employee implements Info extends Data {
public void Data.load(){ /*do something*/ }
public void load(){ /*do something*/ }
}

d. public class Employee implements Info extends Data {
public void load() { /*do something*/ }
}

e. public class Employee extends Info implements Data
public void load(){ /*do something*/ }
public void Info.load(){ /*do something*/ }
}

10 Which of the following gives the exact relationship between Annotation Type and Annotation?

Answer:

a. Classes and their Objects.

b. Declaration methods and classes.

c. Classes and interfaces.

d. Only declaration elements in class.

e. Classes and comments.

11 Consider the following code:

```
1.  public class Circle1 {
2.    private String string = "String1";
3.    void work() {
4.       String x = "String2";
5.       class Circle2 {
6.          public void peepOut() {
7.             System.out.println(string);
8.             System.out.println(x);
9.          }
10.      }
11.      new Circle2().peepOut();
12.   }
13.
14.   public static void main(String args[]) {
15.      Circle1 c1 = new Circle1();
16.      c1.work();
17.   }
18. }
```

Which of the following changes made to the above code will make the code to compile and execute properly and gives the following output?

String1
String2

Answer:

- a. The object for the inner class Circle2 should be created in main() method
- b. The variable at line 2 should be declared as final
- c. The variable at line 4 should be declared as final
- d. The inner class Circle 2 should be an abstract class
- e. The method at line 6 should be defined as final method

12 Consider the following code:

```
interface InterfaceFirst {
int ID = 10;
void show();
}

interface InterfaceSecond extends InterfaceFirst {
int ID = 20;
void show();
}

class Implementation implements InterfaceSecond {
public void show() {
System.out.println("ID:" + ID);
}
}

public class TestImplementation {
public static void main(String args[]) {
InterfaceSecond i2 = new Implementation();
i2.show();
InterfaceFirst i1 = i2;
i1.show();
}
}
```

Which of the following will be the output for the above code snippet?

Answer:

- a. 10
  10
- b. Compilation Error. Duplicate identifer ID found
- c. 20
  20
- d. 10
  20
- e. 20

10

13 Which of the following are true? (Choose 2)

Answer:
- [x] a. One thread cannot tell another thread to sleep
- [ ] b. If a threads priority is explicitly set, it is set to 1
- [x] c. The join() method joins the current thread to wait list of current object
- [x] d. No locks are released when a thread goes to sleep
- [ ] e. yield() changes the priority of a thread

14 Consider the following code:

```
import java.io.IOException;

public class ExceptQuest {
public ExceptQuest() throws IOException {
     throw new IOException();
  }
}
```

Assume that the definition of ExtendedExceptQuest begins with the line

```
public class ExtendedExceptQuest extends ExceptQuest
```

It is required that none of the constructors of ExtendedExceptQuest should throw any checked exception

Which of the following can give a solution for the above scenario?

Answer:
- ( ) a. It can be achieved by avoiding explicit calls to the base class constructor

b. It can be achieved by placing the call to the superclass with a super keyword, which is placed in a try block with a catch block to handle the IOException thrown by the super class

c. It can be achieved by catching the Exception objects thrown by the super class constructors, using its parent class Exception

d. It cannot be done with the above definition of the base class

15 Which of the following options are true? (Choose 3)

Answer:

a. Subclasses of Exceptions can be caught using try-catch

b. Error type objects can be handled only by JVM

c. Error is the subclass of Exception

d. Subclasses of Error are unchecked

e. Subclasses of Throwable can be caught using try-catch

16 Consider the following scenario:
In a word processor program, there are two threads, one to read a file and the other to write to a file. The thread to read a file waits for the thread to write before performing its operation. _____ arises when the thread to read a file, reads the file, before the thread to write to a file performs its operation. Choose the correct answer from the following to fill in the blank.

Answer:

a. Race condition

b. Lock starvation condition

c. Deadlock condition

d. Lock release condition

17 Which of the following options gives the difference between == operator and equals() method?

Answer:
- a. if equals() is true then == is also true
- b. Equals compares hash value and == compares character sequence
- c. No difference;they are essentially the same
- d. ==compares object's memory address but equals character sequence
- e. == works on numbers equals() works on characters

18 Both TYPE_SCROLL_SENSITIVE and TYPE_SCROLL_INSENSITIVE types ResultSets will make changes visible if they are closed and then reopened. State True or False.

Answer: True False

19 Consider the following scenario:

A company maintains its employees details in the following format using text file 'employees.txt':

EmployeeID <tab> EmployeeName <tab> BasicSalary <tab> Address <tab> PhoneNumber

Provided EmployeeID is int, BasicSalary is double, EmployeeName, Address and PhoneNumber are String type.

Which of the following options gives the correct combination of Input-Output Stream classes that can be used to manipulate the 'employees.txt' file?

Answer:
- a. FilterInputStream and FilterOutputStream
- b. FileReader, BufferedReader, FileWriter and BufferedWriter
- c. ObjectInputStream, ObjectOutputStream
- d. InputStream, OuptutStream

20 In an Object Oriented system, if class A inherits its properties from class B, class A and B are known as _____ and _____ class, respectively.

Answer:
- a. parent, base
- b. derived, base
- c. base, derived
- d. super, base

21 Which of the following are true about Annotations?(Choose 3)

Answer:
- [ ] a. Annotations cannot have user-defined types as members.
- [x] b. Annotations improve the program performance.
- [x] c. Annotations can be declared without members.
- [x] d. Annotations reduces the memory usage.
- [x] e. Annotation members can have default values.

22 Consider the following code snippet:

```
import java.util.*;

public class TestCol4 {
public static void main(String[] args) {
Set h = new HashSet();
h.add("One");
h.add("Two");
h.add("Three");
h.add("Four");
h.add("One");
h.add("Four");

List l = new ArrayList();

l.add("One");
l.add("Two");
l.add("Three");

h.retainAll(l);

System.out.println("Size:" + l.size() + h.size());
}
}
```

What will be the output of the above code snippet?

Answer:

- a. Size: 33
- b. Size: 36
- c. Size: 63
- d. Size: 66
- e. Compilation error

23 Which of the following interfaces is used to get the number of columns, names of columns and its types in a table?

Answer:

- a. DBMetaData
- b. MetaData
- c. DatabaseMetaData
- d. ResultSetMetaData
- e. SchemaMetaData

24 Consider the following listing of the Widget class:

```
1. class Widget extends Thingee {
2. static private int widgetCount = 0;
3. public String wName;
4. int wNumber;
5.
6. private static synchronized int addWidget(){
7. return ++widgetCount;
8. }
9. public Widget(){
10. wNumber = addWidget();
11. }
12. }
```

What happens when the class is compiled and use multiple Widget objects in a program that uses multiple Threads to create Widget objects?

Answer:

- a. The class compiles, and each Widget will get a unique wNumber reflecting the order in which the Widgets were created.
- b. The class compiles and each Widget will get a wNumber, but we cannot guarantee that the number will be unique.
- c. The compiler objects to the addWidget call of a static method in line 10.

d. A runtime error occurs in the addWidget method.

25 Which of the following statements are True about polymorphism? (Choose 2)

Answer:
- [ ] a. Static methods are extremely polymorphic
- [ ] b. Use of final keyword is a way to achieve polymorphism
- [x] c. The reference variable type determines which methods to be called
- [x] d. Polymorphic method invocations apply only to overridden instance methods
- [x] e. Only member methods can be polymorphic not attributes

26 Consider the following code:

```
public class Code5 {
private int second = getFirst();
private int first = 6000;

private int getFirst() {
return first;
}

public static void main(String args[]) {
System.out.println(new Code5().second);
}
}
```

Which of the following will be the output for the above code?

Answer:
- a. Compiler complains about private memebers is not accessible from main() method

b. Throws a Runtime error 'Illegal forward reference'

c. 6000

d. Compiler complains about forward referencing of member variables first and second

27 Which of the following code and their comments are true? (Choose 2)

Answer:

a. private void main(String a[]) { }
// Compiles successfully and on running displays the message 'Main method not public'

b. public static void main(String a[]) { }
// Compiles and runs successfully

c. static void main(String a[]) { }
// Compiles and runs successfully

d. public static void Main(String args[]) { }
// Compiles and runs successfully

e. public void main(String a[]) { }
// Compiles successfully and on running displays the message 'Main method not static'

28 Consider the following code snippet:

```
class GC7 {
public static void main(String args[]) {
ArrayList a = new ArrayList();
HashSet h = new HashSet();

a.add(new String("One"));
a.add(new String("Two"));
a.add(new String("Three"));
a.add(new String("Four"));
```

```
h.add(new String("Four"));
h.add(new String("Five"));
h.add(new String("Six"));
h.add(new String("Seven"));

h.addAll(a);

a = null;
}
}
```

How many objects are eligible for Garbage Collection?

Answer:

- a. two
- b. no objects are eligible
- c. four
- d. one
- e. three

29 Consider the following code:

```
public class Trial {
public static void main(String argc[]) {
Trial tr = new Trial();
tr.amethod(tr);
}

public void amethod(Trial tr) {
int i=99;
multi(tr);
System.out.println(i);
}
```

```
public void multi(Trial tr) {
tr.i = tr.i*2;
}
}
```

Which of the following gives the valid output for the above given code?

Answer:
- a. Prints 198
- b. Runtime Error
- c. Prints 99
- d. Compilation Error 'tr.i is not a valid field'.

30 Which of the following are interfaces in JDBC API?(choose 3)

Answer:
- [x] a. DriverManager
- [x] b. CallableStatement
- [x] c. Connection
- [ ] d. Statement
- [ ] e. SQLWarning

31 Which of the following statements are valid 3 dimensional character array creations?(Choose 2)

Answer:
- [x] a. char[][][] charArray = new char[2][2][];
- [ ] b. char[][][] charArray = {{'a', 'b'}, {'c', 'd'}, {'e', 'f'}};
- [ ] c. char[][][] charArray = {{'a', 'b'}, {'c', 'd'}, {'e'}};

- [x] d. char[][][] charArray = {{{'a', 'b'}, {'c', 'd'}, {'e', 'f'}}};
- [ ] e. char[2][2][] charArray = {'a', 'b'};

32 Consider the following scenario:

A company keeps a record of all its employees. Every month, an employee will be chosen at random from these records to receive a free gift.

Which of the following core interfaces is best-suited for implementing the above scenario?

Answer:
- ( ) a. Queue
- (•) b. Map
- ( ) c. List
- ( ) d. Set

33 Which of the following options define an entrySet in the Map interface?(Choose 2)

Answer:
- [x] a. the Set of key-value pairs contained in the Map
- [ ] b. The Collection of values contained in the Map
- [ ] c. It is an inner interface inside Map interface
- [x] d. the Set of keys contained in the Map

34 Consider the following scenario:

In a text editor application written in Java, two threads t1 and t2 are running to perform a particular task as follows:

Thread t1 - for reading the text from keyboard and filling it in a character array, and
Thread t2 - for saving the text to a file by reading it from the same array.

The array object is synchronized among these two threads t1 and t2.

Which of the following options gives the correct combination of stream classes and the corresponding threads that uses them?

Answer:
- a. t1 uses CharArrayReader, t2 uses CharArrayWriter and FileReader
- b. t1 uses Reader, t2 uses Writer and Reader
- c. t1 uses ArrayReader, t2 uses ArrayWriter and FileReader
- d. t1 uses CharArrayWriter, t2 uses CharArrayReader and FileWriter
- e. Threads cannot be used for reading and writing arrays

35 Which of the following options gives the relationship between a Pilot class and Plane class?

Answer:
- a. Polymorphism
- b. Association
- c. Persistence
- d. Inheritance
- e. Aggregation

36 Which of the following statements are True about instantiating an inner class? (Choose 2)

Answer:

- [x] a. A non-static inner class should be instantiated, using the instance of the outer class
- [ ] b. A static inner class can be instantiated without instantiating the outer class
- [ ] c. On instantiating an outer class will instantiate its inner class also
- [x] d. A class defined inside a method can be instantiated anywhere from the class
- [ ] e. An inner class defined as a member of a class cannot be instantiated within the same class

37 Consider the following code:

```
import java.util.*;

class Student implements // Code 1
{
   String studentName;
   Student() { }
   Student(String studentName) {
      this.studentName = studentName;
   }

   public String toString() {
      return this.studentName;
   }

   // Code 2

}

public class TestCol7 {
   public static void main(String args[]){
      ArrayList students = new ArrayList();
      students.add(new Student("Olive"));
```

```
        students.add(new Student("Veni"));
        students.add(new Student("Krishna"));
        students.add(new Student("Daniel"));
        students.add(new Student("Elavarasan"));
        students.add(new Student("Praveen"));

        Collections.sort(students); // Line 1

        System.out.println(students);
    }
}
```

Running the above code, throws Runtime exception at // Line 1

Which one of the following code snippets when substituted to the above code at the comment lines
(//Code 1 and //Code 2) will make the code run properly and print the names in alphabetical order?

Answer:

a. Code 1: implements Comparable
Code 2: public int compareTo(Object o) {
Student s = (Student) o;
return
this.studentName.compareTo(s.studentName);
}

b. Code 1: implements Comparator
Code 2: public int compareTo(Object o) {
Student s = (Student) o;
return this.studentName.compareTo(s.studentName);
}

c. Code 1: implements Comparator
Code 2: public int compare(Object o1, Object o2) {
Student s1 = (Student) o1;
Student s2 = (Student) o2;
return s1.studentName.compareTo(s2.studentName);
}

d. Code 1: implements Comparable
Code 2: public boolean equals(Object o) {
Student s = (Student) o;
return

```
this.studentName.equals(s.studentName);
}
```

38 For which of the following scenarios, the enhanced for-each can be used? (Choose 2)

Answer:
- [x] a. Traversing collection class implementations
- [ ] b. Traversing SQL ResultSets
- [ ] c. Incrementing or decrementing counter variable of a for loop
- [ ] d. Traverse through all the variables declared inside a method
- [x] e. Traversing array objects

39 Which of the following statements is true about NavigableMap interface?

Answer:
- ( ) a. a new class implementation of Set which can navigate the ResultSet object
- ( ) b. a SortedMap extended with navigation methods for Lists.
- (•) c. a SortedMap extended with navigation methods reporting closest matches for given search targets.
- ( ) d. a SortedMap extended with navigation methods for Sets.

40 Which of the following are features of SDE?(Choose 3)

Answer:
- [x] a. tools to convert the project to native executables
- [x] b. integrated Debugging tools

- [x] c. effective memory management through Garbage Collection
- [x] d. automatic compilation and Build
- [ ] e. automatic Code Generation

41 The purpose of Weak Reference Type object is _____.

Answer:
- ( ) a. to keep objects alive only while they are in use (reachable) by clients
- ( ) b. to allow clean up after finalization but before the space is reclaimed
- (•) c. to delete objects from a container if the clients are no longer referencing them and memory is tight
- ( ) d. to keep objects alive provided there is enough memory

42 Consider the following program:

```
import java.io.*;

public class SteppedTryCatch {
public static void main(String[] args) {
try {
try {
try {
// Line 1
} catch(Exception e3) {
System.out.println("Exception 1");
// Line 2
}
} catch(IOException e2) {
System.out.println("Exception 2");
// Line 3
}
```

```
} catch(FileNotFoundException e1) {
System.out.println("Exception 3");
}
}
}
```

You need to make the above program to print the output as
Exception 1
Exception 2
Exception 3

Which of the following when substituted in place of commented lines (// Line 1, Line 2 and Line 3) produce the desired output?

Answer:

a. Line 1 : throw new FileNotFoundException();
Line 2 : throw new IOException();
Line 3 : throw new Exception();

b. Line 1 : throw new Exception();
Line 2 : throw new IOException();
Line 3 : throw new FileNotFoundException();

c. The code is wrong. Exceptions should be caught in reversed hierarchy order.

d. Line 1 : throw new IOException();
Line 2 : throw new IOException();
Line 3 : throw new IOException();

e. Line 1 : throw new IOException();
Line 2 : throw new FileNotFoundException();
Line 3 : throw new Exception();

43 Consider the following program:

```
class A extends Thread {
public void run() {System.out.print("A");}
}

class B {
```

```
public static void main (String[] args) {
A a = new A();
a.start();
try {
a.join();
} catch (InterruptedException ie) {
ie.printStackTrace();
}
a.start();
}
}
```

What will be the output of the above program?

Answer:

- (●) a. An IllegalThreadStateException is thrown at run-time
- ( ) b. The program compiles and runs without error
- ( ) c. None of the listed options
- ( ) d. Compile-time error

44 Consider the following code:

```
class ArrayTest {
public static void main(String[] args) {
int[][] a1 = {{1,2,3},{4,5,6},{7,8,9,10}};
System.out.print(a1[0][2]+","+a1[1][0]+","+a1[2][1]);
}}
```

Which of the following gives the output of the above code?

Answer:

- (●) a. Prints: 3, 4, 8
- ( ) b. Prints: 7, 2, 6
- ( ) c. None of the listed options

d. Run-time error

e. Compile-time error

45 Consider the following program:

```
public class TestStart implements Runnable {
boolean stoper = true;
public void run() {
System.out.println ("Run method Executed");
}

public static void main (String[] argv) {
TestStart objInt = new TestStart();
Thread threadX = new Thread(objInt);
threadX.start();
threadX.start();
}
}
```

What will be the output of the above program?

Answer:

a. Compiles and executes successfully
Prints "Run method executed"

b. Compilation Error

c. Compiles and on execution
Prints "Run method executed" then
throws Runtime exception

d. Compiles and on execution
Prints "Run method executed"