1 Consider the following code snippet:

```
interface Equalizer {
boolean equals(Object o1, Object o2);
}

public class EqualIt {
String name;
public EqualIt(String name) {
this.name = name;
}

public void TestIt() {
System.out.println(
new Equalizer() {
public boolean equals(Object o1, Object o2) {
return o1.equals(o2);
}
}.equals(this, this)
);
}
public static void main(String[] args) {
new EqualIt("Welcome Planet").TestIt();
}
}
```

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

Answer:

- a. true
- b. Welcome Planet
- c. Compile-time error
- d. false
- e. Runtime error

2 Which of the following are the valid ways of creating wrapper type objects? (Choose 3)

Answer:
- [ ] a. Integer integer = new Integer("false");
- [ ] b. Byte bite = new Byte("-128");
- [ ] c. Boolean b = new Boolean("23.9");
- [ ] d. Character c = new Character("a");
- [ ] e. Float f = new Float("45.67d");

3 Under which of the following scenarios a checked exception is thrown? (Choose 2)

Answer:
- [ ] a. Given username and password is checked with database and found invalid
- [ ] b. 5th element of an array is accessed, whose size is 3
- [ ] c. length() method is called on a String object, that is assigned to null
- [ ] d. A file that actually does not exist, is opened for reading
- [ ] e. An attempt to connect to the database is made but failed.

4 Which of the following annotations are defined in java.lang package? (Choose 3)

Answer:
- [ ] a. @Deprecated
- [ ] b. @Retention
- [ ] c. @Target

- [ ] d. @Override
- [ ] e. @SuppressWarnings

5 Consider the following code:

```
public class ObParam{
public int b = 20;

public static void main(String argv[]){
ObParam o = new ObParam();
methodA(o);
}

public static void methodA(ObParam a) {
a.b++;
System.out.println(a.b);
methodB(a);
System.out.println(a.b);
}

public void methodB(ObParam b) {
b.b--;
}
}
```

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

Answer:

- ( ) a. Prints: 21 21
- ( ) b. Prints: 20 20
- (•) c. Compilation Error: Non-static method methodB() cannot be referenced from static context methodA()
- ( ) d. Prints: 21 20

e. Prints: 20 21

6 Consider the following code:

```
public class Test1 {
public static void main(String[] args) {
xMethod(new double[]{3, 3});
xMethod(new double[5]);
xMethod(new double[3]{1, 2, 3});
}

public static void xMethod(double[] a) {
System.out.println(a.length);
}
}
```

Which of the following statement is true regarding the above code?

Answer:

a. The program has a syntax error because xMethod(new double[5]) is incorrect.

b. The program has a runtime error because a is null.

c. The program has a syntax error because xMethod(new double[]{3, 3}) is incorrect.

d. The program has a syntax error because xMethod(new double[3]{1, 2, 3}) is incorrect.

7 Consider the following code:

```
public class GoTest {
  public static void main(String[] args) {
    One Xone= new One(); one.talk();
    Two two = new Two(); two.talk();
    Talkable talkable = new Three();
    talkable.talk();
```

```
  }
}

class One {
  public void talk() {
    System.out.println("one");
  }
}

class Two extends One {
  public void talk() {
    System.out.println("two");
  }
}

class Three extends Two implements Talkable { }

interface Talkable {
  void talk();
}
```

Which of the following option will be the output of the above given code?

Answer:

- a. Runtime error
- b.
  one
  two
  two
- c.
  one
  one
  two
- d. Compilation error
- e.
  one
  two
  one

8 Consider the following scenario:

A window is splitted into four parts and each part is updated independently by four concurrent threads.

Which of the following is true regarding the above scenario?

Answer:
- a. The window object need to be synchronized among the four thread objects
- b. All the four thread objects need to be synchronized
- c. The window object need not be synchronized
- d. All the four threads keeps running even after updating the window

9 Consider the following code snippet:

```
abstract class BaseTest extends Object implements Runnable {
public void run() { }
}

class AdvancedTest extends BaseTest { }

public class TestIt {
public boolean checkTest( Object obj ) {
return ( obj instanceof BaseTest ) & ( obj instanceof Runnable );
}

public static void main(String args[]) {
System.out.println(new TestIt().checkTest(new AdvancedTest()));
System.out.println(new TestIt().checkTest(new Thread()));
}
}
```

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

Answer:

a. Compile-time error

b. false
false

c. true
false

d. true
true

e. false
true

10 Consider the following program:

```
interface I {
void m1() throws Exception;
}

class A implements I {
// Line 1
{
System.out.println("A: m1");
}
}

class B implements I {
// Line 2
{
System.out.println("B: m1");
}
}

class C implements I {
// Line 3
{
System.out.println("C: m1");
}
```

```
}

public class UseABC {
public static void main(String args[]) throws Exception {
I i[] = { new A(), new B(), new C() };
for(I c : i) c.m1();
}
}
```

Which of the following set of code snippets when replaced to the commented Lines (Line 1, Line 2 and Line 3) will make the program compile properly and produce the following output? (Choose 3)
A: m1
B: m1
C: m1

Answer:

- [ ] a. Line 1: public void m1() throws IOException
  Line 2: public void m1() throws FileNotFoundException
  Line 3: public void m1() throws Exception
- [ ] b. Line 1: public void m1() throws Error
  Line 2: public void m1() throws Exception
  Line 3: public void m1() throws Throwable
- [ ] c. Line 1: public void m1() throws NoClassDefFoundError
  Line 2: public void m1() throws Error
  Line 3: public void m1()
- [ ] d. Line 1: public void m1() throws NullPointerException
  Line 2: public void m1() throws RuntimeException
  Line 3: public void m1()
- [ ] e. Line 1: public void m1()
  Line 2: public void m1()
  Line 3: public void m1()

11 Consider the following scenario:

Mr.Vijay is working for a Software Company. He needs to save and reload objects from a Java application. He needs to write a module to accomplish the

same.

Which of the following options can be used to accomplish the above requirement?

Answer:
- a. Cloneable interface
- b. Writable interface
- c. Readable interface
- d. Serializable interface
- e. ObjectSerializable interface

12 Consider the following code:

```
public class Example {
public static void main(String[] args) {
Byte b = 10;
Short s = Short.valueOf( (b + 1) );
Integer i = s + 1;
Long l = Long.valueOf( (i + 1) );
System.out.println(l);
}
}
```

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

Answer:
- a. Compile-time error
- b. Runtime error
- c. Prints: 12
- d. Prints: 13

13 Which of the following modifiers cannot be used with the abstract modifier in a method declaration?(Choose 3)

Answer:
- [ ] a. protected
- [ ] b. public
- [x] c. synchronized
- [x] d. final
- [x] e. private

14 Which of the following options gives the relationship between a Spreadsheet Object and Cell Objects?

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

15 Consider the following code snippet:

```
public class TestString10{
public void print() {
String s = "Hello";
StringBuffer sb = new StringBuffer("Hello");
concatinateStrings(s, sb);
System.out.println(s+" "+sb);
}
```

```
public void concatinateStrings(String str, StringBuffer strBuff){
StringBuffer sk = strBuff;
str = str + " world";
sk.append(" world");
}

public static void main (String[] args) {
TestString10 t = new TestString10();
t.print();
}
}
```

What will be the output of the above code snippet?

Answer:

- a. world Hello Hello
- b. Hello Hello Hello
- c. Hello world Hello
- d. Hello Hello world
- e. world world world

16 Which of the following are uses of Object class?(Choose 3)

Answer:

- a. to get the HashCode for an object
- b. to handle any Java Object in the name of Object
- c. to generate String representation of an object
- d. to achieve inheritance at user-defined class level
- e. to achieve polymorphism at user-defined class level

17 Consider the following code:

```
public class Key1 {
public boolean testAns( String ans, int n ) {
boolean rslt;

if (ans.equalsIgnoreCase("YES") & n > 5)
rslt = true;

return rslt;
}

public static void main(String args[]) {
System.out.println(new Key1().testAns("no", 5));
}
}
```

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

Answer:
- a. false
- b. NO
- c. Compile-time error
- d. true
- e. Runtime Error

18 Which of the following code snippets show valid inheritance? (Choose 3)

Answer:
- a. class A {

```
int v;

public String sayHello() {
return "Hello";
}
```

```
public class B extends A {

public int sayHello(int a) {
return 3 + a;
}
}
}
```

b.
```
class A {

int v;

public String sayHello() {
return "Hello";
}
}

class B {

A a;

public String sayHello() {
return "Hello from B";
}
}
```

c.
```
class A {

int v;

final String sayHello() {
return "Hello";
}
}

class B extends A {

public int sayHello(int a) {
return 3 + a;
}
```

}

☐ d. class A {

int a;

public String methodA(String s) {
String var = "My App" + s;
return var;
}
}

class B extends A {

public String methodA(String s) {
String bar = "Bar" + s;
return bar;
}
}

☑ e. interface MyInterface {

public void myMethod(String s);
}

class A implements MyInterface {

public void myMethod(String s) {
// Some Implementation
}
}

19 Which of the following is the type of driver for which Sun Microsystems provides the driver implementation?

Answer: ○ a. Type III driver

◉ b. Type I driver

c. Type II driver

d. Sun Microsystems provides only specification, and does not provide any implementation for any type of JDBC drivers

e. Type IV driver

20 Consider the following code:

```
import java.util.*;

public class Code11 {
  final Vector v;

  {
    v=new Vector();
  }

  public Code11() { }

  public void codeMethod() {
    System.out.println(v.isEmpty());
  }

  public static void main(String args[]) {
    new Code11().codeMethod();
  }
}
```

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

Answer:

a. Prints: false

b. Runtime error: NullPointerException

c. Compilation error: final members should be initialised inside constructor

d. Prints: true

e. Compilation error: final members should be initialised on declaration

21 Consider the following code:

```
public class ThrowsException {
static void throwMethod() {
   System.out.println("Inside throwMethod.");
      throw new IllegalAccessException("exception");
   }

   public static void main(String args[]) {
   try {
     throwMethod();
      }
      catch (IllegalAccessException e) {
         System.out.println("Caught " + e);
      }
 }
}
```

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

Answer:

a. Runtime Error

b. Inside showMethod. followed by caught: java.lang.IllegalAccessException: exception

c. Compiles successfully, nothing is printed

d. Compilation Error

22 Consider the following code snippet:

10.237.6.89

```
class Lock1 {
   Lock1() { }
   Lock1(Lock2 lock2) { this.lock2 = lock2; }
```

```
    Lock2 lock2;
}

class Lock2 {
    Lock2() { }
    Lock2(Lock1 lock1) { this.lock1 = lock1; }
    Lock1 lock1;
}

class GC6 {
    public static void main(String args[]) {
        Lock1 l1 = new Lock1();
        Lock2 l2 = new Lock2(l1);
        l1.lock2 = l2;
    }
}
```

Which of the objects are eligible for garbage collection in the above code?

Answer:
- a. lock2
- b. l1
- c. lock1
- d. l2
- e. None of the objects eligible

23 Which of the following gives the difference between Queue interface and List?(Choose 2)

Answer:
- a. Queue is strictly FIFO but List may not be
- b. Queue methods gives same results as List except when Queue is empty
- c. Queue does not allow duplicates whereas List allows

- [ ] d. Queue is essentially the same as List
- [ ] e. Queue implements all of List interface but not vice versa

24 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 compiler objects to line 3.
- ( ) b. The compiler objects to using == with primitives in line 4.
- (•) c. The program compiles and prints "Not Equal".
- ( ) d. The program compiles and prints "Equal".

25 Consider the following scenario:

Here is part of the hierarchy of exceptions that may be thrown during file IO operations:

```
Exception
  +-IOException
    +-File Not Found Exception
```

You have a method X that is supposed to open a file by name and read data from it.
Given that X does not have any try-catch statements, which of the following

option is true?

Answer:
- a. No special precautions need be taken
- b. Any method calling X must use try-catch, specifically catching FileNotFoundException
- c. The method X must be declared as throwing FileNotFoundException
- d. The method X must be declared as throwing IOException or Exception

26 Consider the following code:

```
class A {
public A getMe() {
return this;
}
}

class B extends A {
public static void main(String args[]) {
A a = new B() {
public A getMe() {
return this;
}
};
System.out.println(a.getClass().getSuperclass().getName());
}
}
```

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

Answer:
- a. Anonymous
- b. Runtime error

c. Object

d. B

e. A

27 What methods does the java.lang.Runtime class provide related to memory management?(Choose 3)

Answer:

- a. to query the total memory and free memory
- b. to create new memory locations
- c. to invoke Garbage collector
- d. to dump the objects to storage device
- e. to run finalize methods explicitly

28 Which of the following are valid return types of an annotation member? (Choose 3)

Answer:

- a. annotations
- b. Class
- c. ResultSet
- d. String
- e. StringBuffer

29 Consider the following code snippet:

```
import java.io.*;

class Test implements Serializable {
transient int a = 10;
int b;

public String toString() {
return "a = " + a + ", " + "b = " + b;
}
}

public class IOCode4 {
public static void main(String args[]) throws FileNotFoundException,
IOException, ClassNotFoundException {
ObjectOutputStream out = new ObjectOutputStream(new
FileOutputStream("C:/ObjectData"));
Test t1 = new Test();
t1.a = 20;
t1.b = 30;
out.writeObject(t1);
out.close();

ObjectInputStream in = new ObjectInputStream(new
FileInputStream("C:/ObjectData"));
Test t2 = (Test) in.readObject(); // Line 1
System.out.println(t2);
in.close();
}
}
```

What will be the output of the above code snippet?

Answer:

- a. a = 20, b = 30
- b. a = 10, b = 0
- c. throws TransientException at the commented line (// Line 1)
- d. a = 10, b = 30

e. a = 0, b = 30

30 What happens if a thread cannot get the lock on an object?

Answer:
- a. Thread receives the lock immediately
- b. Compilation error
- c. Object moves the thread to the wait pool
- d. Thread overrides the lock
- e. Runtime exception

31 Which of the following interfaces are newly added to the collection framework in JDK 1.6? (Choose 3)

Answer:
- a. Deqeue
- b. Queue
- c. Stack
- d. NavigableSet
- e. NavigableMap

32 Which of the following statements are true regarding variable arguments?(Choose 2)

Answer:
- a. When used in mixed with normal arguments, variable arguments type should be the last in the arguments list

- b. Variable argument type identifiers are internally treated as collections
- c. Only primitive data types can be used as variable arguments
- d. Variable argument type identifiers are internally treated as arrays
- e. When used in mixed with normal arguments, variable arguments type should be the first in the arguments list

33 Consider the following code:

```
public class Code16 {
static {
System.out.print("Planet ");
}
public static void main(String... args) {

}
static {
System.out.print("Welcome ");
}
}
```

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

Answer:
- a. Welcome Planet
- b. Planet Welcome
- c. Compilation Error
- d. Planet
- e. Compiles and Executes with no output

34 Consider the following code:

```
import java.util.*;

class Arrays2List {
public static void main(String args[]) {
String numbers[] = { "One", "Two", "Three", "Four", "Five" };

// Line 1
// Line 2

}
}
```

Which one of the following options when substituted to //Line 1 and Line 2 converts the String array into ArrayList of Strings?

Answer:

- a. Line 1: ArrayList<String> l;
  Line 2: l = Arrays.asArrayList(numbers);
- b. Line 1: ArrayList<String> l;
  Line 2: l = toArrayList(numbers);
- c. Line 1: ArrayList<String> l;
  Line 2: l = numbers.toArrayList();
- d. Line 1: List<String> l;
  Line 2: l = numbers.toList();
- e. Line 1: List<String> l;
  Line 2: l = Arrays.asList(numbers);

35 Which of the following are correct for Set interface?(Choose 2)

Answer:

- a. the elements are ordered
- b. the elements are sorted
- c. cannot contain NULLs

- [ ] d. the elements are NOT ordered
- [ ] e. Can contain Nulls

36 For any two objects a and b of same type, which of the following statements are true regarding the equals() and hashCode() methods? (Choose 3)

Answer:
- [ ] a. a.equals(b) returns true, and a.hashCode() may not be equal to b.hashCode()
- [ ] b. If a.hashCode() is not equal to b.hashCode() then a.equals(b) should return false
- [ ] c. a.hashCode() is equal to b.hashCode(), but a.equals(b) may return false
- [ ] d. Both hashCode() and equals() are called one-to-one internally to synchronize, the hashcode of two objects
- [ ] e. if a.equals(b) returns true then a.hashCode() should be equal to b.hashCode()

37 Consider the following code snippet:

```
String hi="Hi";
String mom="mom";
```

Which of the following are the valid ways to concatenate the above two Strings to get the String "Himom"?

Answer:
- [x] a. hi.concat(mom)
- [x] b. new String("Hi"+"mom")
- [ ] c. it cannot be done

- [x] d. hi + mom
- [ ] e. hi & mom

38 Which of the following methods is used to check whether ResultSet object contains records?

Answer:
- ( ) a. last()
- (•) b. next()
- ( ) c. hasRecords()
- ( ) d. first()
- ( ) e. previous()

39 Consider the following program:

```
class DataRunner implements Runnable {
  private int t;
  public DataRunner that;

  DataRunner() { }

  DataRunner(int t) { this.t = t; }

  public void run() {
    try {
      System.out.println("Locked");
      that.wait(3000);
      that.notify();
      System.out.println("Released");
    } catch(InterruptedException e) { }
  }
}

public class CryptThread {
```

```
  public static void main(String[] args) {
    DataRunner dr1 = new DataRunner(1);
    DataRunner dr2 = new DataRunner(2);
    dr1.that = dr2;
    dr2.that = dr1;
    new Thread(dr1).start();
    new Thread(dr2).start();
  }
}
```

Which of the following options suggests the valid changes to the above code, in order to the get the below output
Locked
Locked
(wait for 3 seconds)
Released
Released

Answer:

- a. The code inside the run() method in the DataRunner class should be kept inside the synchronized block by synchronizing current object using 'this'
- b. No changes required.
- c. The run() method inside the DataRunner class has to be declared as synchronized
- d. The code inside the run() method in the DataRunner class should be kept inside the synchronized block by synchronizing the instance object reference variable 'that'

40 Consider the following code snippet:

```
import java.util.*;

public class TestCol2 {
public static void main(String[] args) {
Vector col = new Vector();
col.add(new Integer(1));
col.add(new Integer("2"));
```

```
col.add(new Float(3.2d));
col.add(col.elementAt(1));
col.setElementAt(col.elementAt(2),0);
System.out.println(col);
}
}
```

What will be the output of the above code snippet?

Answer:
- a. [1,2,3.2,2]
- b. [3.2, 3.2, 2, 2]
- c. [3.2,2,3.2,2]
- d. Runtime error
- e. compilation error

41 Delimiters themselves be considered as tokens. State True or False.

Answer: True False

42 Consider the following code:

```
1. public class SprtOne {
2. public static void main(String [] args) {
3. int m = 25;
4. while(m > 10) {
5. if ((m / 2) > 10) {
6. System.out.println(m + " - Not there yet");
7. }
8. else {
9. System.out.println(m + " - it's there");
10. }
11. m--;
```

```
12. }
13. System.out.println(m + " Finished");
14. }
15. }
```

Which of the following option is a valid comment on the output of the above code?

Answer:
- (●) a. Last message printed is '10 - Finished'
- ( ) b. Last message printed is '11 - Finished'
- ( ) c. Last message printed is '9 - Finished'
- ( ) d. Last message printed is '12 - Finished'

43 Which of the following options is true about multi-level inheritance?

Answer:
- ( ) a. Inheriting from more than one super class
- ( ) b. Inheriting from a single class
- (●) c. Inheriting from a class which is already in an inheritance hierarchy
- ( ) d. Inheriting from two super classes

44 Consider the following code:

```
public class Sand implements Runnable {
Runnable t;
Sand() { }
Sand(Thread t) {
this.t = this;
}
public static void main(String[] args) {
```

```
new Thread(new Sand(new Thread(new Sand()))).start();

}

public void run() {
synchronized(this) {
System.out.println("Welcome");
new Thread(t).start();
System.out.println("Planet");
}
}
}
```

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

Answer:

- a. Prints: Welcome
  Planet
  Welcome
  Planet
- b. Prints the below output repeatedly without ending the program:
  Welcome
  Planet
- c. Prints: Welcome
  Welcome
- d. Runtime Error
- e. Compilation Error

45 It is possible to create a table using JDBC API. State True or False.

Answer: True False