1 Consider the following scenario:

Real Chocos Private Limited deals in manufacturing variety of chocolates. This organization manufactures three varieties of chocolates.

1. Fruit Chocolates
2. Rum Chocolates
3. Milk Chocolates

A software system needs to be built.

Which of the following options identifies the Classes and Objects?

Answer:

- a. Class: Real Chocos Private Limited
  Objects: Chocolate
- b. Class: Fruit Chocolates
  Objects: Rum Chocolates
- c. Class: Chocolate
  Objects: Fruit Chocolates, Rum Chocolates, Milk Chocolates
- d. Class: Choclate
  Objects: Milk Chocolates

2 Consider the following code:

```
class Planet { }

class Earth extends Planet { }

public class WelcomePlanet {
  public static void welcomePlanet(Planet planet) {
    if (planet instanceof Earth) {
      System.out.println("Welcome!");
    } else if (planet instanceof Planet) {
```

```
    System.out.println("Planet!");
   } else {
    System.exit(0);
   }
  }

  public static void main(String args[]) {
   WelcomePlanet wp = new WelcomePlanet();
   Planet planet = new Earth();
   welcomePlanet(planet);
  }
}
```

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

Answer:

- a. Compilation fails
- b. The code runs with no output
- c. Welcome!
- d. An exception is thrown at runtime
- e. Planet!

3 Consider the following program:

```
public class TThread implements Runnable {
public void run() {
try {
Thread.sleep(100000);
} catch (Exception objE) {
System.out.println ("Exception Handler");
}
System.out.println ("Run method ends here");
}

public static void main (String[] argv) {
Thread thread = new Thread(new TThread ());
```

```
thread.start();

thread.interrupt();
System.out.println ("Main method ends here");
}
}
```

What will be the output of the above program?

Answer:

- a. Exception Handler
  Run method ends here
  Main method ends here
- b. None of the listed options
- c. Main method ends here
  Run method ends here
  Exception Handler
- d. Main method ends here
  Exception Handler
  Run method ends here
- e. Run method ends here
  Exception Handler
  Main method ends here

4 Consider the following program:

```
1. class CheckedException extends RuntimeException { }
2. class UncheckedException extends Exception { }
3. public class Check {
4. public static void main(String args[]) {
5. generateException1();
6. generateException2();
7. }
8.
9. private static void generateException1() {
10. throw new CheckedException();
11. }
```

```
12.
13. private static void generateException2() {
14. throw new UncheckedException();
15. }
16. }
```

Which of the following is true regarding the above given program?

Answer:

- a. Compilation error at line 6
- b. Compilation error at line 10
- c. Compilation error at line 14
- d. Compilation error at line 5
- e. No compilation error but throws RuntimeException on running the code

5 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 keep objects alive provided there is enough memory
- d. to delete objects from a container if the clients are no longer referencing them and memory is tight

6 An Annotation Type _____.

Answer:

- a. defines the structure of an Application

- b. defines the structure of an Annotation
- c. defines the structure of an interface
- d. is a meta-tag used to pass message between the code and JVM.
- e. defines the structure of an Object

7 Which of the following annotations are defined in java.lang.annotation package? (Choose 2)

Answer:

- [x] a. @Retention
- [x] b. @Target
- [ ] c. @Override
- [ ] d. @SuppressWarnings
- [ ] e. @Deprecated

8 Consider the following program:

```
class UserDefinedException extends Error { }

public class TasteIt {
public static void main(String args[]) {
try {
try {
throw new Error();
}
catch(UserDefinedException u1) {
throw u1;
}
catch(Exception e1) {
```

```
System.out.println("This is the required output");
}
finally {
throw new UserDefinedException();
}
}
catch(UserDefinedException u2) {
System.out.println("This is not the output");
}
catch(Error e2) {
System.out.println("This is the output");
}
}
}
```

What will be the output for the above program?

Answer:

- a. This is the output
- b. Compile-time error
- c. Runtime Error
- d. This is the required output
- e. This is not the output

9 Which of the following types of driver provides maximum decoupling between database and Java application?

Answer:

- a. Type II driver
- b. Type I driver
- c. Type IV driver
- d. Type III driver

10 Consider the following code snippet:

```
import java.util.*;
class Student {
String studentName;
Student() { }
Student(String studentName) {
this.studentName = studentName;
}

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

public class TestCol7 {
public static void main(String args[]){
TreeSet students = new TreeSet();
students.add(new Student("Raju"));
students.add(new Student("Krishna"));
students.add(new Student("Vijay"));

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

Running the above code, throws Runtime exception.

Which of the following options will make the code run properly?

Answer:

- a. The Student class should implement Comparator interface.
- b. The Student class should implement Externalizable interface
- c. The Student class should implement Serializable interface

d. The Student class should implement Cloneable interface

e. The Student class should implement Comparable interface.

11 Consider the following code:

```
public class LabeledBreak2 {
public static void main(String args[]) {
loop:
for(int j=0; j<2; j++) {
for(int i=0; i<10; i++) {
if(i == 5) break loop;
System.out.print(i + " ");
}
}
}
}
```

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

Answer:

a. 0 1 2 3 4

b. Indefinite Loop

c. 1 2 3 4 5

d. 0 1 2 3 4 0 1 2 3 4

e. 0 1 2 3 4 5

12 Consider the following partial code:

```
class Bean {
interface I {
```

```
void beanInterface();
}
class BeanI extends Bean implements I { }
}

public class BeanImpl {
public static void main(String args[]) {
Bean bean = new Bean();
Bean.BeanI beanI = bean. new BeanI();
beanI.beanInterface();
}
}
```

Which of the following changes made to the class Bean without changing the class BeanImpl, will make the above code to compile properly?

Answer:

- a. Add the following method to Bean class
  public void beanInterface() { }
- b. The inner interface I should be removed and kept outside the Bean class
- c. The outer class Bean should be declared as abstract
- d. The inner class should be removed and kept outside the Bean class
- e. The inner class BeanI should be declared as abstract

13 Consider the following code:

```
1. public class DagRag {
2. public static void main(String [] args) {
3.
4. int [][] x = new int[2][4];
5.
6. for(int y = 0; y < 2; y++) {
7. for(int z = 0; z < 4; z++) {
8. x[y][z] = z;
```

```
9. }
10. }
11.
12. dg: for(int g = 0; g < 2; g++) {
13. rg: for(int h = 0; h < 4; h++) {
14. System.out.println(x[g][h]);
15.
16. }
17. System.out.println("The end.");
18.
19. }
20.
21. }
22. }
```

Which of the following code snippet when inserted at lines 15 and 18 respectively, will make the above program to generate the below output?

```
0
1
2
3
The end.
```

Answer:

- a. if(h > 3) break dg; if(g > 0) break rg;
- b. if(h==3) break rg; if(g==0) break dg;
- c. if(g==3) break rg; if(h==0) break dg;
- d. if(h > 3) break dg; if(g > 0) break dg;

14 Consider the following code:

```
1. class Test {
2. public static void main(String args[]) {
```

```
3. double d = 12.3;
4. Dec dec = new Dec();
5. dec.dec(d);
6. System.out.println(d);
7. }
8. }
9. class Dec{
10. public void dec(double d) { d = d - 2.0d; }
11. }
```

Which of the following gives the correct value printed at line 6?

Answer:
- a. Prints: 10.3
- b. Prints: 0.0
- c. Prints: -2.0
- d. Prints: 12.3

15 Which are all platform independent among the following? (Choose 3)

Answer:
- [x] a. Java Class Files
- [x] b. JAR Files
- [x] c. Java Source Files
- [ ] d. Java Development Kit (JDK)
- [ ] e. Java Virtual Machine (JVM)

16 Consider the following code snippet:

```
1. class Garbage { }
2. class GC1 {
```

```
3. public static void main(String a[]) {
4. Garbage s = new Garbage();
5. {
6. s = new Garbage();
7. }
8. s = new Garbage();
9. }
10. }
```

Which of the following options gives the correct combination of lines that makes objects eligible for garbage Collection?

Answer:

- a. lines: 4, 6, 8
- b. lines: 8
- c. lines: 6, 8
- d. lines: 4, 6
- e. None of the object is eligible for Garbage Collection

17 Consider the following code snippet:

```
class Animal {
String name;
public boolean equals(Object o) {
Animal a = (Animal) o;
// Code Here
}
}

class TestAnimal {
public static void main(String args[]) {
Animal a = new Animal();
a.name = "Dog";
Animal b = new Animal();
b.name = "dog";
```

System.out.println(a.equals(b));
}
}

Which of the following code snippets should be replaced for the comment line (//Code Here) in the above given code, to get the output as true?

Answer:
- a. return this.name.hashCode() == a.name.hashCode();
- b. return super.equals(a);
- c. return this.name == a.name;
- d. return this.name.equalsIgnoreCase(a.name);
- e. return this.name.equals(a.name);

18 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. Writable interface
- b. Serializable interface
- c. Readable interface
- d. ObjectSerializable interface
- e. Cloneable interface

19 Consider the following code:

```
class UT1 {
  static byte m1() {
    final char c = 'u0001';
    return c;
  }

  static byte m3(final char c) {return c;}

  public static void main(String[] args) {
    char c = 'u0003';
    System.out.print(""+m1()+m3(c));
  }
}
```

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

Answer:
- a. Prints: 4
- b. Compile-time error
- c. Run-time error
- d. Prints: 13
- e. None of the listed options

20 Which of the following are correct regarding HashCode?(Choose 2)

Answer:
- [ ] a. the numeric key is unique
- [ ] b. hashCode() value cannot be a zero-value
- [x] c. it is a 32 bit numeric digest key
- [ ] d. hashCode() is defined in String class
- [x] e. It improves performance

21 Consider the following code snippet:

```
public class TestString9 {
public static void main(String st[]){
String s1 = "java";
String s2 = "java";
String s3 = "JAVA";
s2.toUpperCase();
s3.toUpperCase();
boolean b1 = s1==s2;
boolean b2 = s1==s3;
System.out.print(b1);
System.out.print(" "+b2);
}
}
```

What will be the output of the above code snippet?

Answer:
- a. true true
- b. true false
- c. Runtime error
- d. false false
- e. false true

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

Answer:
- a. protected
- b. public
- c. final

☑ d. synchronized

☑ e. private

23 Consider the following code:

```
public class UnwiseThreads implements Runnable {
public void run() {
  while(true) { }
   }

  public static void main(String args[]) {
    UnwiseThreads ut1 = new UnwiseThreads();
      UnwiseThreads ut2 = new UnwiseThreads();
      UnwiseThreads ut3 = new UnwiseThreads();
      ut1.run();
      ut2.run();
ut3.run();
   }
}
```

Which of the following is correct for the above given program?

Answer:

○ a. The code compiles and runs 3 non ending non daemon threads

○ b. Runtime Error "IllegalThreadStateException"

◉ c. Compilation error "ut2.run() is never reached"

○ d. The code compiles but runs only 1 non ending, non daemon thread

24 Consider the following program:

```
import java.io.*;
```

```
public class CrypticCatch {
public static void main(String[] args) throws Exception {
try {
try {
try {
throw new FileNotFoundException();
} catch(Exception e3) {
throw e3;
}
} catch(IOException e2) {
throw e2;
}
} catch(FileNotFoundException e1) {
System.out.println("File not found exception caught");
}
System.out.println("Exception handled successfully");
}
}
```

What will be the output of the above program?

Answer:

- a. File not found exception caught
- b. Runtime error
- c. File not found exception caught
  Exception handled successfully
- d. Compile time error. Since exceptions should be caught in reversed hierarchy order
- e. Exception handled successfully

25 Which of the following options is true about multiple inheritance?

Answer:

- a. Inheriting from more than one super class

b. Inheriting from two super classes

c. Inheriting from a class which is already in an inheritance hierarchy

d. Inheriting from a single class

26 Consider the following Statements:
Statement A:The threads are scheduled using fixed priority scheduling.
Statement B:Thread priority can be set after it is created using the public int setPriority() method declared in the Thread class.
Which of the following statements is correct?

Answer:
a. Both Statement A and B are true

b. Statement A is true and Statement B is false

c. Both Statement A and B are false

d. Statement A is false and Statement B is true

27 What are the new updations to java.io.File class in JDK 1.6?(Choose 2)

Answer:
a. No new methods are introduced in JDK 1.6

b. Methods to retrieve disk usage information

c. Methods to encrypt the file with password

d. Methods to attach the file to an email

e. Methods to set or query file permissions

28 Consider the following code:

```
class A { }
class B extends A { }
public class Code2 {
public void method(A a) {
System.out.println("A");
}
public void method(B b) {
System.out.println("B");
}
public static void main(String args[]) {
new Code2().method(new Object());
}
}
```

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

Answer:

- a. Prints: A
- b. Compilation Error 'Cannot find the symbol'
- c. Prints: B
- d. Throws ClassCastException at runtime

29 Which of the following options are true for StringBuffer class?(choose 3)

Answer:

- [x] a. 'capacity' property indicates the maximum number of characters that a StringBuffer can have
- [ ] b. Buffer space in StringBuffer can be shared
- [ ] c. StringBuffer is extended from String class
- [x] d. StringBuffer is threadsafe
- [x] e. StringBuffer implements Charsequence interface

30 Consider the following partial code:

```
public class CreditCard {
private String cardID;
private Integer limit;
public String ownerName;

public void setCardInformation(String cardID, String ownerName, Integer limit) {
this.cardID = cardID;
this.ownerName = ownerName;
this.limit = limit;
}
}
```

Which of the following statement is True regarding the above given code?

Answer:
- a. The cardID and limit variables break polymorphism
- b. The setCardInformation method breaks encapsulation
- c. The class is fully encapsulated
- d. The ownerName variable breaks encapsulation
- e. The code demonstrates polymorphism

31 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: 36
- b. Size: 63
- c. Size: 66
- d. Compilation error
- e. Size: 33

32 Given the following object hierarchy and code for the upgrade method:

```
java.lang.Object
+----mypkg.BaseWidget
|
+----TypeAWidget

// the following is a method in the BaseWidget class
1. public TypeAWidget upgrade( ){
2. TypeAWidget A = (TypeAWidget) this;
3. return A;
4. }
```

Which of the following will be the result of the below statements?

5. BaseWidget B = new BaseWidget();
6. TypeAWidget A = B.upgrade();

Answer:
- a. The compiler would object to line 2.
- b. A runtime ClassCastException would be generated in line 2.
- c. As this referes to the BaseWidget, a parent can accept its child
- d. After line 6 executes, the object referred to as A will in fact be a TypeAWidget.

33 Which of the following are true about ResultSet? (Choose 2)

Answer:
- a. Not all ResultSets are updatable
- b. Atleast one record should be there in the ResultSet on opening a query (or) table
- c. All ResultSet, are Scrollable
- d. The ResultSet object contains null, if there are no records in the table
- e. It is possible to delete records through ResultSet

34 Which of the following is the best-performing implementation of Set interface?

Answer:
- a. SortedSet
- b. Hashtable

c. LinkedHashSet

d. HashSet

e. TreeSet

35 Which of the following options are true? (Choose 2)

Answer:

- [x] a. The catch block can have another try-catch-finally block
- [x] b. The finally block can have another try-catch-finally block nested inside
- [ ] c. In a try-catch-finally structure, finally block and catch block can be placed in any order
- [ ] d. On using nested try-catch blocks, only the outer most try-catch block can have the finally block

36 Consider the following code:

```
import java.util.*;

public class Code10 {
{
final Vector v;
v=new Vector();
}

public Code10() { }

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

public static void main(String args[]) {
new Code10().codeMethod();
```

```
}
}
```

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

Answer:

- (●) a. Compilation error: cannot find the symbol
- ( ) b. Prints: false
- ( ) c. Compilation error: v is not initialised inside the constructor
- ( ) d. Runtime error: NullPointerException
- ( ) e. Prints: true

37 Consider the following partial code:

```
interface A { public int getValue(); }

class B implements A {
public int getValue() { return 1; }
}

class C extends B {
// insert code here
}
```

Which of the following code fragments, when inserted individually at the commented line (// insert code here), makes use of polymorphism? (Choose 3)

Answer:

- [ ] a. public void add(C c1, C c2) { c1.getValue(); }
- [ ] b. public void add(C c) { c.getValue(); }
- [x] c. public void add(A a) { a.getValue(); }
- [x] d. public void add(A a, B b) { a.getValue(); }

☑ e. public void add(B b) { b.getValue(); }

38 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. NO
- b. Runtime Error
- ◉ c. Compile-time error
- d. false
- e. true

39 Consider the following program:

```
public class ThreadJoin extends Thread{
public static void main(String[] args) {
Thread t1 = new Thread("T1");
```

```
Thread t2 = new Thread("T2");
try {
t1.join();
t2.join();
} catch (InterruptedException e) {
System.out.println("Main Thread interrupted.");
}
}

public void run(){
System.out.println("Run executed");
}
}
```

What will be the output of the above program?

Answer:

- a. Program ends without printing anything
- b. Compile-time error
- c. Prints "Main Thread interrupted."
- d. Prints "Run executed" twice
- e. Run-time error

40 Consider the following class definition:

```
class InOut{
String s= new String("Between");
public void amethod(final int iArgs){
int iam;
class Bicycle{
public void sayHello(){
...Line 1
}
}//End of bicycle class
}//End of amethod
```

```
public void another(){
int iOther;
}
}
```

Which of the following statements would be correct to be coded at ...Line 1? (Choose 2)

Answer:

- [x] a. System.out.println(iArgs);
- [x] b. System.out.println(s);
- [ ] c. System.out.println(iam);
- [ ] d. System.out.println(iOther);

41 Which of the following options give the names of data structures that can be used for elements that have ordering, but no duplicates? (Choose 2)

Answer:

- [ ] a. Set
- [ ] b. ArrayList
- [ ] c. List
- [x] d. SortedSet
- [x] e. TreeSet

42 Consider the following code:

```
public abstract class Shape {
private int x;
private int y;
```

```
public abstract void draw();

public void setAnchor(int x, int y) {
this.x = x;
this.y = y;
}
}
```

Which of the following implementations use the Shape class correctly? (Choose 2)

Answer:

- [ ] a.
```
public class Circle extends Shape {
public int radius;
private void draw() {/* code here */}
}
```

- [x] b.
```
public class Circle extends Shape {
private int radius;
public void setRadius(int radius) { this.radius = radius; }
public int getRadius() { return radius; }
public void draw() {/* code here */}
}
```

- [ ] c.
```
public class Circle implements Shape {
private int radius;
}
```

- [ ] d.
```
public class Circle extends Shape {
private int radius;
public void draw();
}
```

- [x] e.
```
public abstract class Circle extends Shape {
private int radius;
}
```

43 Consider the following code snippet:

```
import java.io.*;
```

```
public class IOCode2 {
public static void main(String args[]) throws FileNotFoundException {
// Insert Code here
System.out.println("Welcome to File Programming");
}
}
```

Which of the following code snippets when substituted to the comment line (// Insert Code here), will redirect the output generated by the System.out.println() methods, in the above code?

Answer:

- a. System.out.redirectOutput(new PrintStream("C:/Data"));
- b. System.redirectOutput(new PrintStream("C:/Data"));
- c. System.out.setOut(new PrintStream("C:/Data"));
- d. System.setOut(new PrintStream("C:/Data"));
- e. System.setOut(new FileWriter("C:/Data"));

44 Which of the following is the immediate super interface of CallableStatement?

Answer:

- a. Statement
- b. CallableStatement
- c. PreparedStatement
- d. ResultSet
- e. Connection

45 Consider the following code:

```
public class Code13 {
```

```
public static void main(String... args) {
for(String s:args)
System.out.print(s + ", ");
System.out.println(args.length);
}
}
```

Which of the following will be the output if the above code is attempted to compile and execute?

Answer:

- a. Runtime Error: NoSuchMethodError
- b. Program compiles successfully and prints the passed arguments as comma separated values and finally prints the length of the arguments-list
- c. Compilation Error: var-args cannot be used as arguments for main() method
- d. variable arguments cannot be used with enhanced for-loop