

ELT BCC: Core Java SDK Ver 1.5 & 1.6

1 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. Runtime Error "IllegalThreadStateException"
- ☐ b. The code compiles and runs 3 non ending non daemon threads
- ☒ c. The code compiles but runs only 1 non ending, non daemon thread
- ☐ d. Compilation error "ut2.run() is never reached"

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

3

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

4

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. Serializable interface
☐ b. Readable interface
☐ c. Writable interface
☐ d. Cloneable interface
☐ e. ObjectSerializable interface

5

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

6

Which of the following options is true about multiple 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

7

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 */ }
}
- ☐ b. public class Circle implements Shape {
 private int radius;
}
- ☐ c. public class Circle extends Shape {

```
private int radius;  
public void draw();  
}
```

- ☒ d.

```
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 */ }  
}
```
- ☒ e.

```
public abstract class Circle extends Shape {  
    private int radius;  
}
```

8

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

9

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

10

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. None of the listed options
- ☐ d. Run-time error
- ☐ e. Prints: 13

11

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

12

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. TreeSet

☐ b. ArrayList

☐ c. List

☐ d. Set

☒ e. SortedSet

13

Consider the following program:

```
class UserDefinedException extends Error { }

public class Tastelt {
    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. Runtime Error
- ☐ b. This is not the output
- ☐ c. Compile-time error
- ☒ d. This is the output
- ☐ e. This is the required output

14

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

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

15

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

16

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

Answer: ☐ a. private

- ☐ b. protected
- ☒ c. public
- ☒ d. final
- ☒ e. synchronized

17

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

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

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

19 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: 12.3
- ☐ b. Prints: 10.3
- ☐ c. Prints: -2.0

20

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. Compilation error
- ☐ d. Size: 66

21

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. Exception handled successfully

☐ b. File not found exception caught
Exception handled successfully

☒ c. Compile time error. Since exceptions should be caught in reversed hierarchy order

☐ d. File not found exception caught

☐ e. Runtime error

22

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. false false
- ☐ b. false true
- ☐ c. Runtime error
- ☐ d. true true
- ☒ e. true false

23

The purpose of Weak Reference Type object is _____.

- Answer: ☐ a. to keep objects alive provided there is enough memory
- ☐ b. to delete objects from a container if the clients are no longer referencing them and memory is tight
- ☐ c. to allow clean up after finalization but before the space is

reclaimed



d. to keep objects alive only while they are in use (reachable) by clients

24

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(B b) { b.getValue(); }`

☐

b. `public void add(C c) { c.getValue(); }`

☒

c. `public void add(A a, B b) { a.getValue(); }`

☐

d. `public void add(C c1, C c2) { c1.getValue(); }`

☒

e. `public void add(A a) { a.getValue(); }`

25

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

Answer: ☐

a. It improves performance

☐

b. it is a 32 bit numeric digest key

- ☒ c. hashCode() is defined in String class
- ☒ d. hashCode() value cannot be a zero-value
- ☐ e. the numeric key is unique

26

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: Chocolate
Objects: Fruit Chocolates, Rum Chocolates, Milk Chocolates

☐ c. Class: Choclote
Objects: Milk Chocolates

☐ d. Class: Fruit Chocolates
Objects: Rum Chocolates

27

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: ☐ a. System.out.println(iOther);
- ☐ b. System.out.println(s);
- ☒ c. System.out.println(iArgs);
- ☒ d. System.out.println(iam);

28

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 false
- ☐ b. Statement A is true and Statement B is false
- ☐ c. Both Statement A and B are true
- ☒ d. Statement A is false and Statement B is true

29

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. 1 2 3 4 5
- ☐ c. 0 1 2 3 4 5
- ☐ d. Indefinite Loop
- ☐ e. 0 1 2 3 4 0 1 2 3 4

30

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

- Answer: ☒ a. PreparedStatement
- ☐ b. ResultSet
- ☐ c. Statement
- ☐ d. Connection

☐ e. CallableStatement

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

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

32 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: 8

☐ b. lines: 6, 8

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

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

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

- Answer: ☒ a. HashSet

- ☐ b. TreeSet
- ☐ c. Hashtable
- ☐ d. LinkedHashSet
- ☐ e. SortedSet

35

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. true

☐ b. false

☐ c. Runtime Error

☒ d. Compile-time error

☐ e. NO

36

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

37

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 Comparable interface.
- ☐ c. The Student class should implement Externalizable interface
- ☐ d. The Student class should implement Cloneable interface
- ☐ e. The Student class should implement Serializable interface

Answer: ☒ a. Type IV driver

☐ b. Type I driver

☐ c. Type III driver

☐ d. Type II driver

39

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 super.equals(a);

☐ b. return this.name.hashCode() == a.name.hashCode();

☒ c. return this.name.equalsIgnoreCase(a.name);

- ☐ d. return this.name == a.name;
- ☐ e. return this.name.equals(a.name);

40

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

41

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

- Answer: ☒ a. Methods to retrieve disk usage information

- ☒ b. Methods to set or query file permissions
- ☐ c. Methods to encrypt the file with password
- ☐ d. No new methods are introduced in JDK 1.6
- ☐ e. Methods to attach the file to an email

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

Answer: ☐ a. @Override

- ☒ b. @Retention
- ☐ c. @Deprecated
- ☐ d. @SuppressWarnings
- ☒ e. @Target

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

- Answer: ☒ a. StringBuffer is threadsafe
- ☐ b. 'capacity' property indicates the maximum number of characters that a StringBuffer can have
 - ☒ c. StringBuffer is extended from String class
 - ☐ d. Buffer space in StringBuffer can be shared
 - ☒ e. StringBuffer implements CharSequence interface

44

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