1. **What will be the result of compiling and running the following program**?

**public class** Polymorphism {

**public static void** main(String[] args) {

A ref1 = new C();

B ref2 = (B) ref1;

System.out.println(ref2.f());

}

}

**class** A { **int** f() { **return** 0; } }

**class** B **extends** A { **int** f() { **return** 1; } }

**class** C **extends** B { **int** f() { **return** 2; } }

Select the one correct answer.

(a) The program will fail to compile.

(b) The program will compile, but will throw a ClassCastException at

runtime.

(c) The program will compile, and print 0 when run.

(d) The program will compile, and print 1 when run.

(e) The program will compile, and print 2 when run.

1. **What will be the result of compiling and running the following program?**

**public class** Polymorphism2 {

**public static void** main(String[] args) {

A ref1 = **new** C();

B ref2 = (B) ref1;

System.out.println(ref2.g());

}

}

**class** A {

**private** **int** f() { **return** 0; }

**public int** g() { **return** 3; }

}

**class** B **extends** A {

**private int** f() { **return** 1; }

**public int** g() { **return** f(); }

}

**class** C **extends** B {

**public int** f() { **return** 2; }

}

Select the one correct answer.

(a) The program will fail to compile.

(b) The program will compile, and print 0 when run.

(c) The program will compile, and print 1 when run.

(d) The program will compile, and print 2 when run.

(e) The program will compile, and print 3 when run.

1. **What is the return type of the hashCode() method in the Object class?**

Select the one correct answer.

(a) String

(b) int

(c) long

(d) Object

(e) Class

1. **Which of the following statements is true?**

Select the one correct answer.

1. If the references x and y denote two different objects, the expression x.equals(y) is always false.
2. If the references x and y denote two different objects, the expression (x.hashCode() == y.hashCode()) is always false.
3. The hashCode() method in the Object class is declared as final.
4. The equals() method in the Object class is declared as final.
5. All arrays have a method named clone.
6. **Which exception can the clone() method of the Object class throw?**

Select the one correct answer.

(a) CloneNotSupportedException

(b) NotCloneableException

(c) IllegalCloneException

(d) NoClonesAllowedException

1. **Which of the following are wrapper classes?**

Select the three correct answers.

(a) java.lang.Void

(b) java.lang.Int

(c) java.lang.Boolean

(d) java.lang.Long

(e) java.lang.String

1. **Which of the following classes do not extend the java.lang.Number class?**

Select the two correct answers.

(a) java.lang.Float

(b) java.lang.Byte

(c) java.lang.Character

(d) java.lang.Boolean

(e) java.lang.Short

1. **Which of these classes define immutable objects?**

Select the three correct answers.

(a) java.lang.Character

(b) java.lang.Byte

(c) java.lang.Number

(d) java.lang.Short

(e) java.lang.Object

1. **Which of these classes have a single-parameter constructor taking a string?**

Select the two correct answers.

(a) java.lang.Void

(b) java.lang.Integer

(c) java.lang.Boolean

(d) java.lang.Character

(e) java.lang.Object

1. **Which of the wrapper classes have a booleanValue() method?**

Select the one correct answer

(a) All wrapper classes

(b) All wrapper classes except Void

(c) All wrapper classes that also implement the compareTo() method

(d) All wrapper classes extending Number

(e) Only the class Boolean

1. **Which statements are true about wrapper classes?**

Select the two correct answers.

(a) String is a wrapper class.

(b) Double has a compareTo() method.

(c) Character has an intValue() method.

(d) Byte extends Number.

1. **What will the following program print when compiled and run?**

**public class** RQ200A70 {

**public static void** main(String[] args) {

Integer i = **new** Integer(-10);

Integer j = **new** Integer(-10);

Integer k = -10;

System.out.print((i==j) + “|”);

System.out.print(i.equals(j) + “|”);

System.out.print((i==k) + “|”);

System.out.print(i.equals(k));

}

}

Select the one correct answer.

(a) false|true|false|true

(b) true|true|true|true

(c) false|true|true|true

(d) true|true|false|true

(e) None of the above.

1. **Which of the following operators cannot have an operand of type String?**

Select the two correct answers.

(a) +

(b) -

(c) +=

(d) .

(e) &

1. **Which of the following statements are true?**

Select the two correct answers.

(a) String objects are immutable.

(b) Subclasses of the String class can be mutable.

(c) All wrapper classes are declared as final.

(d) All objects have a public method named clone.

(e) The expression ((**new** char[] {'o', 'k'}) **instanceof** String) is always true.