

Exam A

QUESTION 1

A programmer is designing a class to encapsulate the information about an inventory item. A JavaBeans component is needed to do this. The InventoryItem class has private instance variables to store the item information:

```
10. private int itemId;  
11. private String name;  
12. private String description;
```

Which method signature follows the JavaBeans naming standards for modifying the itemId instance variable?

- A. itemID(int itemId)
- B. update(int itemId)
- C. setItemId(int itemId)
- D. mutaterItemId(int itemId)
- E. updateltemID(int itemId)

Correct Answer: C

QUESTION 2

A JavaBeans component has the following field:

```
11. private boolean enabled;
```

Which two pairs of method declarations follow the JavaBeans standard for accessing this field? (Choose two.)

- A. public void setEnabled(boolean enabled)
public boolean getEnabled()
- B. public void setEnabled(boolean enabled)
public void isEnabled()
- C. public void setEnabled(boolean enabled)
public boolean isEnabled()
- D. public boolean setEnabled(boolean enabled)
public boolean getEnabled()

Correct Answer: AC

QUESTION 3

Given:

```
20. public class CreditCard {  
21.  
22.     private String cardID;  
23.     private int limit;  
24.     public String ownerName;  
25.  
26.     public void setCardInformation(String cardID, String ownerName,  
                                     int limit) {  
27.         this.cardID = cardID;  
28.         this.ownerName = ownerName;  
29.         this.limit = limit;  
30.     }  
31. }
```

Which is true?

- A. The class is fully encapsulated.
- B. The code demonstrates polymorphism

- C. The ownerName variable breaks encapsulation.
- D. The cardID and limit variables break polymorphism
- E. The setCardInformation method breaks encapsulation

Correct Answer: C

QUESTION 4

What is the result?

```
11. public class Person {
12.     String name = "No name";
13.     public Person(String nm) { name = nm; }
14. }
15.
16. public class Employee extends Person {
17.     String empID = "0000";
18.     public Employee(String id) { empID = id; }
19. }
20.
21. public class EmployeeTest {
22.     public static void main(String[] args){
23.         Employee e = new Employee("4321");
24.         System.out.println(e.empID);
25.     }
26. }
```

- A. 4321
- B. 0000
- C. An exception is thrown at runtime.
- D. Compilation fails because of an error in line 18.

Correct Answer: D

QUESTION 5

Given:

```
1. public class Plant {
2.     private String name;
3.
4.     public Plant(String name) {
5.         this.name = name;
6.     }
7.
8.     public String getName() {
9.         return name;
10.    }
11.}

1. public class Tree extends Plant {
2.     public void growFruit() {
3.     }
4.
5.     public void dropLeaves() {
6.     }
7. }
```

Which statement is true?

- A. The code will compile without changes.
- B. The code will compile if public Tree() { Plant(); } is added to the Tree class.
- C. The code will compile if public Plant() { Tree(); } is added to the Plant class.

- D. The code will compile if `public Plant() { this("fern"); }` is added to the Plant class.
E. The code will compile if `public Plant() { Plant("fern"); }` is added to the Plant class.

Correct Answer: D

QUESTION 6

Given:

```
class Employee {
    String name;
    double baseSalary;

    Employee(String name, double baseSalary) {
        this.name = name;
        this.baseSalary = baseSalary;
    }
}

09. public class SalesPerson extends Employee {
10.     double commission;
11.
12.     public SalesPerson(String name, double baseSalary, double commission) {
13.         // insert code here
14.     }
15. }
```

Which two code fragments, inserted independently at line 13, will compile? (Choose two.)

- A. `super(name, baseSalary);`
B. `this.commission = commission;`
C. `super(); this.commission = commission;`
D. `this.commission = commission; super();`
E. `super(name, baseSalary); this.commission = commission;`
F. `this.commission = commission; super(name, baseSalary);`
G. `super(name, baseSalary, commission);`

Correct Answer: AE

QUESTION 7

Given:

```
class Atom {
    Atom() { System.out.print("atom "); }
}

class Rock extends Atom {
    Rock(String type) { System.out.print(type); }
}

public class Mountain extends Rock {
    Mountain() {
        super("granite ");
        new Rock("granite ");
    }
    public static void main(String[] a) { new Mountain(); }
}
```

What is the result?

- A. Compilation fails.
B. `atom granite`
C. `granite granite`

- D. atom granite granite
- E. An exception is thrown at runtime.
- F. atom granite atom granite

Correct Answer: F

QUESTION 8

Given:

```
01. class Super {
02.     private int a;
03.     protected Super(int a) { this.a = a; }
04. }

11. class Sub extends Super {
12.     public Sub(int a) { super(a); }
13.     public Sub() { this.a = 5; }
14. }
```

Which two, independently, will allow Sub to compile? (Choose two.)

- A. Change line 2 to:
public int a;
- B. Change line 2 to:
protected int a;
- C. Change line 13 to:
public Sub() { this(5); }
- D. Change line 13 to:
public Sub() { super(5); }
- E. Change line 13 to:
public Sub() { super(a); }

Correct Answer: CD

QUESTION 9

Given:

```
class ClassA {
    public int numberOfInstances;

    protected ClassA(int numberOfInstances) {
        this.numberOfInstances = numberOfInstances;
    }
}

public class ExtendedA extends ClassA {
    private ExtendedA(int numberOfInstances) {
        super(numberOfInstances);
    }

    public static void main(String[] args) {
        ExtendedA ext = new ExtendedA(420);
        System.out.print(ext.numberOfInstances);
    }
}
```

Which statement is true?

- A. 420 is the output.
- B. An exception is thrown at runtime.
- C. All constructors must be declared public.
- D. Constructors CANNOT use the private modifier.

E. Constructors CANNOT use the protected modifier.

Correct Answer: A

QUESTION 10

Given:

```
1. class X {
2.     X() { System.out.print(1); }
3.
4.     X(int x) {
5.         this(); System.out.print(2);
6.     }
7. }
8.
9. public class Y extends X {
10.     Y() { super(6); System.out.print(3); }
11.
12.     Y(int y) {
13.         this(); System.out.println(4);
14.     }
15.
16.     public static void main(String[] a) { new Y(5); }
17. }
```

What is the result?

- A. 13
- B. 134
- C. 1234
- D. 2134
- E. 2143
- F. 4321

Correct Answer: C

QUESTION 11

Given:

```
public class Hello {
    String title;
    int value;

    public Hello() {
        title += " World";
    }

    public Hello(int value) {
        this.value = value;
        title = "Hello";
        Hello();
    }
}
```

and:

```
Hello c = new Hello(5);
System.out.println(c.title);
```

What is the result?

- A. Hello

- B. Hello World
- C. Compilation fails.
- D. Hello World 5
- E. The code runs with no output.
- F. An exception is thrown at runtime.

Correct Answer: C

QUESTION 12

Given:

```
class C1 {  
    public C1() { System.out.print(1); }  
}  
class C2 extends C1 {  
    public C2() { System.out.print(2); }  
}  
class C3 extends C2 {  
    public C3() { System.out.println(3); }  
}  
public class Ctest {  
    public static void main(String[] a) { new C3(); }  
}
```

What is the result?

- A. 3
- B. 23
- C. 32
- D. 123
- E. 321
- F. Compilation fails.
- G. An exception is thrown at runtime.

Correct Answer: D

QUESTION 13

View this code:

```
1. public class Car {  
2.     private int wheelCount;  
3.     private String vin;  
4.     public Car(String vin){  
5.         this.vin = vin;  
6.         this.wheelCount = 4;  
7.     }  
8.     public String drive(){  
9.         return "zoom-zoom";  
10.    }  
11.    public String getInfo() {  
12.        return "VIN: " + vin + " wheels: " + wheelCount;  
13.    }  
14. }
```

And

```
1. public class MeGo extends Car {  
2.     public MeGo(String vin) {  
3.         this.wheelCount = 3;  
4.     }
```

5. }

What two must the programmer do to correct the compilation errors? (Choose two.)

- A. insert a call to this() in the Car constructor
- B. insert a call to this() in the MeGo constructor
- C. insert a call to super() in the MeGo constructor
- D. insert a call to super(vin) in the MeGo constructor
- E. change the wheelCount variable in Car to protected
- F. change line 3 in the MeGo class to super.wheelCount = 3;

Correct Answer: DE

QUESTION 14

Given:

```
public class A{
    private int counter = 0;

    public static int getInstanceCount() {
        return counter;
    }

    public A() {
        counter++;
    }
}
```

Given this code from Class B:

```
25. A a1 = new A();
26. A a2 = new A();
27. A a3 = new A();
28. System.out.println(A.getInstanceCount());
```

What is the result?

- A. Compilation of class A fails.
- B. Line 28 prints the value 3 to System.out.
- C. Line 28 prints the value 1 to System.out.
- D. A runtime error occurs when line 25 executes.
- E. Compilation fails because of an error on line 28.

Correct Answer: A

QUESTION 15

Given

```
class Foo {
    static void alpha() {
        /* more code here */
    }

    void beta() {
        /* more code here */
    }
}
```

Which two statements are true? (Choose two.)

- A. Foo.beta() is a valid invocation of beta().
- B. Foo.alpha() is a valid invocation of alpha()

- C. Method beta() can directly call method alpha().
- D. Method alpha() can directly call method beta().

Correct Answer: BC

QUESTION 16

Given:

```
package test;

class Target {
    public String name = "hello";
}
```

What can directly access and change the value of the variable name?

- A. any class
- B. only the Target class
- C. any class in the test package
- D. any class that extends Target

Correct Answer: C

QUESTION 17

Given:

```
public class Pass {
    public static void main(String [] args) {
        int x = 5;
        Pass p = new Pass();
        p.doStuff(x);
        System.out.print(" main x = " + x);
    }

    void doStuff(int x) {
        System.out.print(" doStuff x = " + x++);
    }
}
```

What is the result?

- A. Compilation fails.
- B. An exception is thrown at runtime.
- C. doStuff x = 6 main x = 6
- D. doStuff x = 5 main x = 5
- E. doStuff x = 5 main x = 6
- F. doStuff x = 6 main x = 5

Correct Answer: D

QUESTION 18

Given:

```
10. public class ClassA {
11.     public void count(int i) {
12.         count(++i);
13.     }
14. }
```

and:

```
20. ClassA a = new ClassA();
21. a.count(3);
```

Which exception or error should be thrown by the virtual machine?

- A. StackOverflowError
- B. NullPointerException
- C. NumberFormatException
- D. IllegalArgumentException
- E. ExceptionInInitializerError

Correct Answer: A

QUESTION 19

Given:

```
class ClassA {}  
class ClassB extends ClassA {}  
class ClassC extends ClassA {}
```

and:

```
ClassA p0 = new ClassA();  
ClassB p1 = new ClassB();  
ClassC p2 = new ClassC();  
ClassA p3 = new ClassB();  
ClassA p4 = new ClassC();
```

Which three are valid? (Choose three.)

- A. p0 = p1;
- B. p1 = p2;
- C. p2 = p4;
- D. p2 = (ClassC)p1;
- E. p1 = (ClassB)p3;
- F. p2 = (ClassC)p4;

Correct Answer: AEF

QUESTION 20

Given:

```
05. class Building { }  
06. public class Barn extends Building {  
07.     public static void main(String[] args) {  
08.         Building build1 = new Building();  
09.         Barn barn1 = new Barn();  
10.         Barn barn2 = (Barn) build1;  
11.         Object obj1 = (Object) build1;  
12.         String str1 = (String) build1;  
13.         Building build2 = (Building) barn1;  
14.     }  
15. }
```

Which is true?

- A. If line 10 is removed, the compilation succeeds.
- B. If line 11 is removed, the compilation succeeds.
- C. If line 12 is removed, the compilation succeeds.
- D. If line 13 is removed, the compilation succeeds.
- E. More than one line must be removed for compilation to succeed.

Correct Answer: C

QUESTION 21

Given two files, GrizzlyBear.java and Salmon.java:

```
01. package animals.mammals;
02.
03. public class GrizzlyBear extends Bear {
04.     void hunt() {
05.         Salmon s = findSalmon();
06.         s.consume();
07.     }
08. }

01. package animals.fish;
02.
03. public class Salmon extends Fish {
04.     public void consume() { /* do stuff */ }
05. }
```

If both classes are in the correct directories for their packages, and the Mammal class correctly defines the findSalmon() method, which change allows this code to compile?

- A. add import animals.mammals.*; at line 2 in Salmon.java
- B. add import animals.fish.*; at line 2 in GrizzlyBear.java
- C. add import animals.fish.Salmon.*; at line 2 in GrizzlyBear.java
- D. add import animals.mammals.GrizzlyBear.*; at line 2 in Salmon.java

Correct Answer: B