JAVA Programming Language Homework V: Overall Review

ID: **Name:**

1. Given the following Java code: [5 points]

```
1.  public class SimpleCalc {
2.      public int value;
3.      public void calculate(){ value = value + 7; }
```

And:

```
1.  public class MultiCalc extends SimpleCalc{
2.      public void calculate() { value =value – 3;}
3.      public void calculate( int multiplier) {
4.          calculate();
5.          super.calculate();
6.          value = value* multiplier;
7.      }
8.      public static void main(String[] args){
9.          MultiCalc calculator = new MultiCalc();
10.         calculator. Calculate(2);
11.         System.out.println("Value is: " + calculator.value);
12.     }
13. }
```

What is the result?

(A) Value is: 8

(B) Compilation fails

(C) Value is: 12

(D) Value is: -12

(E) The code runs with no output

ANS:__ _

2. Given the following Java code: [10 points]

```
1. class Animal { public String noise () { return "peep"} }
2.    class Dog extends Animal {
3.       public String noise () { return "back"; }
4. }
5. class Cat extends Animal {
```

```
6.      public String noise () { return “move”; }
7.  }
8.  . . .
9.  Animal animal = new Dog();
10. Cat cat = ( Cat ) animal;
11. System.out.printIn( cat.noise() ) ;
```

What is the result?

A. peep

B. back

C. move

D. Compilation fails.

E. An exception is thrown at runtime

ANS:__ __

3. Given the following Java code: [5 points]

```
1.          public class Bootchy {
2.                  int botch;
3.                  String snootch;
4.
5.                  public Bootchy() {
6.                          this(“snootchy”);
7.                          System.out.print(“first ”);
8.                  }
9.                  public Bootchy(String snootch) {
10.                         this(420, “snootchy”);
11.                         System.out.print(“second ”);
12.                 }
13.                 public Bootchy(int bootch, String snootch) {
14.                         this.bootch=botch;
15.                         this.snootch = snootch;
16.                         System.out.print(“third ”);
17.                 }
18.                 public static void main(String[] args){
19.                         Bootchy b = new Bootchy();
20.                         System.out.print(b.snootch +” “+ b.bootch);
```

```
21.                     }
22.         }
```

What is the result?

(A) snootchy 420 third second first

(B) snootchy 420 first second third

(C) first second third snootchy 420

(D) third second first snootchy 420

(E) third first second snootchy 420

ANS:___ __

4. Given the following Java code: [10 points]

```
1.          class Test {
2.                  static void alpha() { /* more code here */ }
3.                  void beta(){ /* more code here */ }
4.          }
```

Which two statements are true? (Choose two)

(A) Test.beta() is a valid invocation of beta()

(B) Test.alpha()is a valid invocation of alpha()

(C) Method beta() can directly call method alpha()

(D) Method alpha()can directly call method beta()

ANS:__ __

5. Given the following Java code: [10 points]

```
1.          public abstract class shape {
2.                  private int x;
3.                  private int y;
4.                  public abstract void draw();
5.                  public void setAnchor(int x, int y) {
6.                          this.x=x ;
7.                          this.y=y ;
8.                  }
9.          }
```

Which two classes use the Shape class correctly (choose two)

(A)
```
public class Circle implements Shape {
        private int radius;
}
```

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

(C)
```
public class Circle extends Shape {
        private int radius;
        public void draw();
}
```

(D)
```
public abstract class Circle implements Shape {
        private int radius;
        public void draw();
}
```

(E)
```
public class Circle extends Shape {
        private int radius;
        public void draw() { /* code here*/ }
}
```

ANS:__ __

6. Given the following Java code: [5 points]

```
1.  class Pizza {
2.      java.util.ArrayList toppings;
3.      public final void addTopping(String topping) {
4.          toppings.add(topping);
5.      }
6.  }
7.  public class PepperoniPizza extends Pizza {
8.      public void addTopping(String topping) {
9.          System.out.println("Cannot and Uoppings");
10.     }
11.     public static void main(String[] args) {
12.         Pizza pizza = new PepperoniPizza();
13.         Pizza.addTopping("Mushrooms");
```

```
14.          }
15.      }
```

What is the result ?

A. Compilation fails

B. Cannot and Uoppings

C. The code runs with no output

D. A NullPointerException is thrown in Line 4

ANS:

7. Given the following Java code: [5 points]

```
1.      class One {
2.          void foo() {}
3.      }
4.      class Two extends One {
5.          // insert method here
6.      }
```

Which three methods, inserted individually at line 5 will correctly class Two?

A. int foo(){/*more code here */}

B. void foo(){/*more code here */}

C. public void foo(){/*more code here*/}

D. private void foo(){/*more code here*/}

E. protected void foo(){/*more code here*/}

ANS:

8. Given the following Java code: [10 points]

```
class SomeException:
1.          public class SomeException {
2.          }

class A:
1.          public class A {
2.              public void doSomething() {}
```

```
3.          }

class B:
1.          public vlass B extends A {
2.              public void soSomething() throws SomeException {}
3.          }
```

Which statement is true about the two classes?

A. Compilation of both classes will fail.

B. Compilation of both classes will succeed.

C. Compilation of class A will fail, Compilation of class B will succeed.

D. Compilation of class B will fail, Compilation of class A will succeed.

ANS:___ __

9. Given the following Java code: [10 points]

```
1.    interface Foo {}
2.    class Alpha implements Foo {}
3.    class Beta extends Alpha {}
4.    class Delta extends Beta {
5.        public static void main(String[] args) {
6.            Beta x = new Beta ();
7.            // insert code here
8.        }
9.    }
```

Which code, inserted at line 7 will cause a java.lang.ClassCastException?

A. Alpha a = x;

B. Foo f = (Delta)x;

C. Foo f = (Alpha)x;

D. Beta b = (Beta)(Alpha)x;

ANS:__ __

10. 請在底下的選項找出一個適合的配對上面的描述 [30 points]

【問題】

(1) 定義類別的共同標準規範
(2) 物件導向語言的特質中物件間互相溝通是是藉由什麼
(3) 一種將變數型態與程序包裝在一起的集合體
(4) 根據引數的個數或型態，呼叫到對應的函式
(5) 方法在不同的類別中調用卻可以實現的不同結果
(6) 物件的藍圖
(7) 資料和方法的實作程式碼都包裹隱藏起來
(8) 該函式一次只能被一個執行緒所存取
(9) 資料抽象化後所建立的自訂資料型態
(10) 在子類別中改寫繼承自父類別的方法

【選項】

(A) Message	(B) State	(C) OOD	(D) Override
(E) Interface	(F) Overloading	(G) Inheritance	
(H) Identity	(I) Process	(J) this, super	(K) Composition
(L) Associations	(M) Class	(N) Object	(O) Module
(P) OOA	(Q) Behavior	(R) Encapsulation	(S) View
(T) Aggregation	(U) Dependency	(V) Polymorphism	(W) Instance
(X) Abstract Data Type		(Y) Model	(Z) Synchronized

ANS: