

Course Title: Programming II
Date: / / 2015
No. of Questions: 3 Questions
Time: 120 minutes
Using Calculator (No)

University of Palestine



Final Exam
2014-2015
Total Grade: 50

Instructor Name: Eng.EmanAlajrami
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

First Question	No. of Branches (1)	20 Marks
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Choose the correct answer:

1. A subclass inherits _____ from its superclasses.

- a. private data b. protected data c. public data d. a and c e. b and c

2. When you implement an instance method that is defined in a superclass, you _____ the original method.

- a. overload b. override c. copy d. call

3. public class Test {

```
public static void main(String[] args) {  
    int n = 2;  
    xMethod(n);  
    System.out.println("n is " + n);  
}
```

```
void xMethod(int n) {  
    n++;  
}  
}  
}
```

- A. The code has a compile error because xMethod does not return a value.
B. The code has a compile error because xMethod is not declared static.
C. The code prints n is 1.
D. The code prints n is 2.
E. The code prints n is 3.

4. To prevent a class from being instantiated, _____

- A. don't use any modifiers on the constructor.
B. use the public modifier on the constructor.
C. use the private modifier on the constructor.
D. use the static modifier on the constructor.

5. Given the declaration `Circle[] x = new Circle[10]`, which of the following statement is most accurate?

- A. x contains an array of ten int values.
B. x contains an array of ten objects of the Circle type.
C. x contains a reference to an array and each element in the array can hold a reference to a Circle object.
D. x contains a reference to an array and each element in the array can hold a Circle object.

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6. What is the output of running the class C.

```
public class C {
    public static void main(String[] args) {
        Object[] o = {new A(), new B()};
        System.out.print(o[0]);
        System.out.print(o[1]);
    }
}
class A extends B {
    public String toString() {
        return "A";
    }
}

class B {
    public String toString() {
        return "B";
    }
}
```

- a. AB b. BA c. AA d. BB e. None of above

7. Interfaces can be used to declare constants which are implicitly

- a. public b. static c. final d. all of the above

8. What is the output of the following code?

```
public class Test1 {
    public static void main(String[] args) {
        ChildClass c = new ChildClass();
        c.print();
    }
}
class ParentClass {
    int id = 1;
    void print() {
        System.out.println(id);
    }
}
class ChildClass extends ParentClass {
    int id = 2;
}
```

- A. 0
B. 1
C. 2
D. Nothing

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9. Which of the following are Java keywords?

- A. instanceof
- B. instanceof
- C. cast
- D. casting

10. Analyze the following code where Cylinder extends Circle:

```
Cylinder cy = new Cylinder(1, 1);  
Circle c = cy;
```

- A. The code has a compile error.
- B. The code has a runtime error.
- C. The code is fine.

11. Given the following code:

```
class C1 { }  
class C2 extends C1 { }  
class C3 extends C2 { }  
class C4 extends C1 { }
```

```
C1 c1 = new C1();  
C2 c2 = new C2();  
C3 c3 = new C3();  
C4 c4 = new C4();
```

Which of the following expressions evaluates to false?

- A. c1 instanceof C1
- B. c2 instanceof C1
- C. c3 instanceof C1
- D. c4 instanceof C2

12. What modifier should you use on the members of a class so that they are not accessible to another class in a different package, but are accessible to any subclasses in any package?

- A. public
- B. private
- C. protected
- D. Use the default modifier.

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13. Which statements are most accurate regarding the following classes?

```
class A {
    private int i;
    protected int j;
    public int getI() {
        return i;
    }
    public int getJ() {
        return j;
    }
}
class B extends A {
    private int k;
    protected int m;

    public int getK() {
        return k;
    }
    public int getM() {
        return m;
    }
}
```

- A. An object of B contains data fields i, j, k, m.
- B. An object of B contains data fields j, k, m.
- C. An object of B contains data fields j, m.
- D. An object of B contains data fields k, m.

14. Which of the following classes cannot be extended?

- A. class A { }
- B. class A { private A();}
- C. final class A { }
- D. class A { protected A();}

15. Inheritance means _____.

- A. that data fields should be declared private.
- B. that a class can extend another class.
- C. that a variable of supertype can refer to a subtype object.
- D. that a class can contain another class.

16. Composition means _____.

- A. that data fields should be declared private.
- B. that a class extends another class.
- C. that a variable of supertype refers to a subtype object.
- D. that a class contains a data field that references another object.

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17. Which of the following class definitions defines a legal abstract class?

- A. class A { abstract void unfinished() { } }
- B. class A { abstract void unfinished(); }
- C. abstract class A { abstract void unfinished(); }
- D. public class abstract A { abstract void unfinished(); }

18. Which of the following is a correct interface?

- A. interface A { void print() { }; }
- B. abstract interface A { print(); }
- C. abstract interface A { abstract void print() { }; }
- D. interface A { void print(); }

19. The relationship between an interface and the class that implements it is

- A. Composition
- B. Aggregation
- C. Inheritance
- D. None

20. What is the output of running class C?

```
class A {
    public A() {
        System.out.println(
            "The default constructor of A is invoked");
    }
}

class B extends A {
    public B() {
        System.out.println(
            "The default constructor of B is invoked");
    }
}

public class C {
    public static void main(String[] args) {
        B b = new B();
    }
}
```

- A. Nothing displayed
- B. "The default constructor of B is invoked"
- C. "The default constructor of A is invoked""The default constructor of B is invoked"
- D. "The default constructor of B is invoked""The default constructor of A is invoked"

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Second Question

No. Of Branches (3)

25 Marks

1. Find the output of the following programs:

Program 1:

```

public class Faculty extends Employee {
    public static void main(String[] args) {
        new Faculty();
    }
    public Faculty() {
        System.out.println("(4) Performs Faculty's tasks");
    }
}
class Employee extends Person{
    public Employee() {
        this("(2) Invoke Employee's overloaded constructor");
        System.out.println("(3) Performs Employee's tasks ");
    }
    public Employee(String s) {
        System.out.println(s);
    }
}
class Person {
    public Person() {
        System.out.println("(1) Performs Person's tasks");
    }
}

```

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Program 2:

```

class Base {
    public void method(int i) {
        System.out.print("Value is " + i);
    }
}

public class MainClass extends Base {
    public void method(int j) {
        System.out.print("This value is " + j);
    }

    public void method(String s) {
        System.out.print("I was passed " + s);
    }

    public static void main(String args[]) {
        Base b1 = new Base();
        MainClass b2 = new MainClass();
        b1.method(5);
        b2.method(6);
    }
}

```

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A series of horizontal dotted lines for writing the answers.

