



FCIS – Ain Shams University
Subject: Object Oriented Programming
Exam: (Midterm) 07/12/2020
Year: (1st term) 2nd undergraduate

Examiner: Mohamed Mabrouk
Program: Credit Hours Program
Academic year: 2020-2021
Duration: 45 minutes

Answer the following ... questions:

(Total points: 100)

1st Question
marks: 50

Choose the best answer:

- 1- The two forms of polymorphism are _____
a. Inheritance and overloading
b. **Overriding and overloading**
c. Overriding and casting
d. Inheritance and overriding
- 2- The default access specifier for data members without any specifier in Java is _____
a. Private
b. **Package local**
c. Protected
d. Public
- 3- For method overloading, the following can be used to change method signature _____
a. Return type or number of parameters
b. **Number of parameters or parameter types**
c. Return type only
d. Parameter types only
- 4- Static methods can NOT be declared abstract. State True or False.?
a. **True**
b. False
c. May be
d. Can't say
- 5- Strings are immutable. State True or False.?
a. **True**
b. False
c. May be
d. Can't say

2nd Question
marks: 50

What is the expected output of the following program?

```
class Animal{
    void message(){System.out.println("I'm an animal");}
}
class Dog extends Animal{
    void message(){System.out.println("I'm a dog");}
}
```



```
class Cat extends Animal {
    void message() {
        super.message();
        System.out.println("I'm a cat");
    }

    public static void main(String args[]) {
        Animal[] animals = new Animal[3];
        animals[0]=new Cat();
        animals[1]=new Dog();
        animals[2]=new Animal();
        for(Animal anim: animals) {
            anim.message();
        }
    }
}
```

**I'm an animal
I'm a cat
I'm a dog
I'm an animal**

With My Best Regards,

Mohamed Mabrouk