Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
200 level 1st Semester Examination – Sept. / Oct. 2015
CST 221-2 Object Oriented Programming

Uva Wellassa University

Part B

Instructions to candidates
Duration: One (01) hour
Number of questions: Two (02)
Mark allocation: 60

1.

a. Explain the complete lifecycle of a Java program including **Java Source code, Java Bytecode, compiler/interpreter, Java Virtual Machine (JVM)** and **Platform Independency**.

(5 mark)

b. Briefly explain the process of **Garbage In Garbage Out** in Java considering the **Object-lifecycle**.

(3 mark)

c. Consider the following sample code;

```
public class Myclass
{
    public static void main(String[] args)
    {
     System.out.print("Hello world");
    }
}
```

i. Technically explain **public, static, void, main(String[] args)** and **print()**.

(5 mark)

ii. Why Java main method is static?

(2 mark)

d. Describe primitive data types in Java.

(4 mark)

e. Describe **Class - Object** relationship, **State** and **Behavior** characteristics using an example.

(5 mark)

f. What is an exception in Java and explain the difference between error and exception?

(3 mark)

g. How to handle exceptions in Java using exception-handling keywords?

(3 mark)

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2.

a. What is meant by **Method Signature**?

(2 mark)

b. What is **Polymorphism** and its importance in Java?

(2 mark)

c.

i. Explain the two techniques of **Static Binding** using examples.

(4 mark)

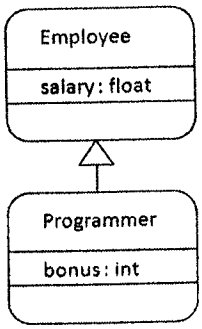
ii. Explain the **Dynamic Binding** using an example.

(2 mark)

d. State the difference between **Static** and **Dynamic Bindings**.

(4 mark)

e. Consider the figure given below.



i. Assuming that the salary is Rs. 60 000 and the bonus is Rs. 40 000, implement the appropriate classes and the main method for the above class diagram.

(4 mark)

f. **"Java does not support multiple inheritance through classes"**. Give a technical explanation about the statement.

(4 mark)

g.

i. Briefly explain the **Abstract Class** considering its rules.

(3 mark)

ii. Differentiate **Interfaces** from **Abstract Classes** using key points.

(5 mark)