Must answer question one any two of the remaining three.

First question worth 40%

Following two questions 30% each.

Definition. Explain/Example. Diagram. Code (If required).

Discuss diagram in your explanation.

# Question1

Staff as Superclass + Hourly Worker and Programmer as Subclasses.

The staff class is referred to as the superclass as the two sub classes inherit from the staff class.

The subclass inherits from the superclass.

For example, hourly worker will consist of id, name, staffNumber and hourlyRate. The HourlyWorker has inherited the attributes from the Staff class. Inherits represents the “is a” relationship i.e. hourly worker is a type of staff; programmer is a type of staff.

Replication of code is why we create a superclass to not duplicate code. Over-riding

Code-reuse – tested

Code-maintenance - adding additional attributes to the superclass

Common variables and methods go into superclass.

Specialized variables and methods go into the sub class.

# Question2

An abstract class is a class that you can’t instantiate from. An abstract class cannot create objects of type staff.

Abstract X Staff s1 = new Staff(……);

Subclass Y HourlyWorker h1 = new HourlyWorker(……);

Instantiate means you create objects of that type.

Polymorphism means many forms.

Staff s1;

S1 = new HW(……);

S1.printPaySlips();

S1. New Prog();

S1.printPaySlips();