

**Further Java – Question 2**

2000

Describe the model for handling graphical output and interactive input in the Abstract Windowing Toolkit (AWT) for Java. Your answer should cover the use of:

- hierarchies of classes,
- overriding methods,
- interfaces,
- inner classes,
- spatial hierarchy.

[4 marks each]

**Answer**

- Component and subclasses, especially Container leading to Panel (and thence Applet) and to Window (and thence Frame and Dialog).
- Behaviour characterised by overriding paint() method.  
1.0 input by overriding mouseDown(), mouseDrag() and other methods.
- MouseListener, MouseMotionListener and ActionListener interfaces for 1.1 input.
- Inner classes to provide several classes implementing ActionListener for different inputs but all sharing same object's data fields.
- Screen hierarchy: Frame containing a MenuBar (which contains Menus containing MenuItems) and other Containers containing further components.