SOLUTION NOTES

Programming in Java (short question) 2003 Paper 1 Question 3 (ACN)

1. All methods in an abstract superclass must be declared abstract.

   No, they will automatically be treated as abstract.

2. A class declared final cannot be subclassed. Every method of a final class is implicitly final.

   Yes. For the second bit it is a bit iffy in that you can not tell in that a method being final only alters what is valid in classes that extent the class the method is in!

3. A redefinition of a superclass method in a subclass need not have the same signature as the superclass method. Such a redefinition is not method overriding but is simply an example of method overloading.

   Yes, but I might not then call it a RE-definition.

4. A constructor is a special method with the same name as the class that is used to initialize the members of a class object. Constructors are called when objects of their classes are instantiated.

   Yes

5. A method declared static cannot access nonstatic class members. A static method has this limitation because static class variables and static methods exist independent of any objects of a class.

   No, in that a static method can access non static class members if it has an instance of the class to use. It may not refer to a non-static name without indicating which instance of the class is to be used.

6. An array subscript may be an integer or an integer expression. If a program uses an expression as a subscript, then the expression is evaluated to determine the particular element of the array.

   Yes.

7. To pass one row of a double-subscripted array to a method that receives a single-subscripted array, simply pass the name of the array followed by the row subscript.

   Yes.

8. Overloaded methods can have different return values, and must have different parameter lists. Two methods differing only by return type will result in a compilation error.

   Yes.

9. The applet's paint method is called after the init method completes execution and the start method method has started executing to draw on the applet. It is also called automatically every time the applet needs to be repainted.

   Yes.

10. Any block of Java code may contain variable declarations.

    Yes.