

# **Information Systems Analysis & Design (M8748)**

## **Tutorial 15**

1. What is the difference between a pattern and a framework and how is each used?
2. What are the main aspects of changeability?
3. Why is the class constructor private in the Singleton pattern?
4. What are the advantages of using the Singleton pattern?
5. What are the disadvantages of using the Singleton pattern?
6. What implementation problems may occur when using the State pattern?
7. What are the differences between a pattern language and a pattern catalogue?
8. List two general dangers and two general benefits of the use of patterns.
9. What seven steps are suggested by Gamma et al. for the effective use of patterns?