

2002 Paper 7 Question 1

Specification and Verification I

- (a) Describe the difference between deep and shallow semantic embedding. [4 marks]
- (b) Describe *two advantages* of using deep embedding and *two disadvantages*. [4 + 4 marks]
- (c) Outline how partial and total correctness specifications can be translated into higher order logic. [4 marks]
- (d) Give *one advantage* and *one disadvantage* of regarding Hoare Logic as a theory in higher order logic. [2 + 2 marks]