

2011 Paper 7 Question 6

Hoare Logic

- (a) What does it mean for a logic to be *sound* and to be *complete*? [4 marks]
- (b) Outline how Hoare logic can be proved sound. [4 marks]
- (c) What does it mean for Hoare logic to be *relatively complete*? [4 marks]
- (d) State conditions under which Hoare logic is relatively complete and outline the proof of completeness under these conditions. [8 marks]