

1994 Paper 8 Question 10

Proving Programs Correct

Briefly discuss each of the following topics:

- (a) partial and total correctness specifications [5 marks]
- (b) goal-directed proof using verification conditions [5 marks]
- (c) reasoning about arrays [5 marks]
- (d) use of Floyd–Hoare logic to provide an *axiomatic semantics* for programming languages [5 marks]