

## 2007 Paper 7 Question 3

### Security

A rapidly-growing online crime is *phishing*, in which victims are lured by an e-mail to log on to a website that appears genuine but that actually steals their passwords.

You have been hired by a bank to help them harden their online banking service against phishing attacks.

- (a) Explain briefly the strengths and weaknesses of the following four possible countermeasures:
- (i) SSL/TLS client certificates issued to each customer; [4 marks]
  - (ii) a handheld password calculator issued to each customer; [4 marks]
  - (iii) displaying a unique picture to each customer during the login process; [4 marks]
  - (iv) requiring that large payments, or payments to new recipients, be authorised by telephone or SMS as well as online. [4 marks]
- (b) You are told that the budget will accommodate only *two* of the above options. Which two would you recommend, and why? [4 marks]