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]