Diploma Programme
Programme du diplôme
Programa del Diploma

Computer science
Higher level
Paper 3

Wednesday 18 November 2015 (morning)

1 hour

Instructions to candidates

- Do not turn over this examination paper until instructed to do so.
- Answer all questions.
- The maximum mark for this examination paper is **[30 marks]**.

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Answer **all** questions.

1. (a)   Define the term *WPA*.   [2]

    (b)   Outline the function of the Sim Application Toolkit (STK) used in the M-PESA system.   [2]

2. (a)   With the use of examples, outline the difference between push and pull technologies
          used in SMS banking.   [4]

    (b)   A mobile phone with a specialized app is able to replace a bank card when a person
          gets money from an ATM. Some of these phones make use of QR codes.

          Explain how these requests can be made using QR code technology.   [4]

3. When a customer connects online to their bank's website a precise series of steps are
    followed, involving the SSL protocol, in order to establish a secure connection.

    Describe the steps that this procedure would follow.   [6]

4. Fraud continues to be a major issue in the banking industry. Advances in technology
    have led to the development of multi-factor authentication, including the use of biometrics.
    TransEuropa, however, has not yet made the decision to introduce biometric technology.

    Discuss whether the introduction of biometrics for the authentication of mobile users would
    be both an acceptable and successful way to reduce losses due to fraud. You should include
    an evaluation of advances in technology and other methods of authentication, including those
    used by *TransEuropa* in the case study.   [12]