UNIVERSITY OF LONDON

CO1108 ZB

BSc, CertHE and Diploma EXAMINATION

COMPUTING AND INFORMATION SYSTEMS and COMBINED DEGREE SCHEME

Information systems: Foundations of e-Business

Wednesday 08 May 2019: 10.00 – 13.00

Time allowed: 3 hours

DO NOT TURN OVER UNTIL TOLD TO BEGIN

There are **SIX** questions in this paper. Candidates should answer **FOUR** questions. All questions carry equal marks, and full marks can be obtained for complete answers to a total of **FOUR** questions. The marks for each part of a question are indicated at the end of the part in [.] brackets.

Only your first **FOUR** answers, in the order that they appear in your answer book, will be marked.

There are 100 marks available on this paper.

Calculators are not permitted in this examination.

Question 1   Lawsons Computers

Lawsons was originally a network of local computer shops that repaired and built custom computers to order. Several years ago Lawsons closed many of its shops and moved much of its business online. Although it still has some 20 shops, much of its business is now done through its e-commerce presence.

Using this presence customers can place orders, make payments and track their repairs. As a consequence of Lawsons moving online, its presence has faced increasing competition.

Although the move to e-commerce initially lead to increases in sales, Lawsons' profits have been steadily falling of late.

You have been hired by Lawsons to write a strategy document that will highlight approaches to improving the business by changing its competitive strategy.

(a) Describe **THREE** different competitive strategies which Lawsons could adopt and say which one you would recommend and why. Candidates will be awarded up to **THREE** marks for each strategy described and **ONE** mark for the one they recommend.   [10]

(b) Describe **THREE** strategies Lawsons Computers could employ in its stores using its information services to achieve a competitive advantage over its competitors. Candidates will be awarded up to **FIVE** marks for each strategy described.   [15]

Question 2   Brogans Furniture

Brogans is a furniture leasing company that leases furniture to businesses throughout the UK. Many of its customers lease office furniture for long periods of time and regularly renew their leases.

Brogans also provides many additional services to its customers; these include cleaning, maintenance and office relocations.

Many of Brogans staff are freelancers who work on a job-by-job basis delivering furniture and maintaining it. Brogans has realised that although it has some data on its customers it has very little in the way of business intelligence.

Brogans regularly collects market research. It also has a large social media presence and collects information systems data from its internal sales processing systems.

The management team at Brogans also believes that if it can make use of big data then it can be more effective.

The management team believes its current lack of business intelligence and infrastructure to process its data has led to many missed opportunities. Brogans believes that if it can better understand the data it has, it can not only sell more services to its existing customers but also acquire new ones.

You have been hired as a business consultant by Brogans to write a report for them about the different types of intelligence systems and infrastructures there are and how Brogans could turn its data into information more effectively.

(a) To prepare your initial report to the management team at Brogans, describe **THREE** types of business data Brogans could use to generate its business intelligence. Then explain where and how this data would be stored and accessed.

Candidates will be awarded up to **THREE** marks for each description of the types of data Brogans could use for business intelligence and a further **ONE** mark for explaining where that data would be stored and accessed.

[10]

(b) Define the process of data mining and explain its importance as a business tool. Describe what kinds of information data mining could produce for Brogans and describe **TWO** circumstances when it could be utilised by Brogans. Candidates will be awarded up to **SIX** marks for defining data mining and explaining its importance. Candidates will be awarded up to a further **FOUR** marks for listing **TWO** ways in which it could be used by Brogans to turn its data into information more effectively. [10]

(c) Explain what the term 'big data' refers to and list **TWO** of the reasons why Brogans should use it. Candidates will be awarded up to **THREE** marks for explaining the term 'big data' and **ONE** mark for each reason listed. [5]

Question 3   Business Environments

(a) Define and describe the term 'business ecosystem'. Then provide a real-world example of a business ecosystem. Candidates will be awarded up to **FIVE** marks for defining and describing the term business ecosystem. Candidates will be given up to a further **FIVE** marks for a real-world example of such a system. [10]

(b) Explain why companies that are first movers when creating disruptive technologies do not always benefit from their inventions. Provide **ONE** example with your answer. Candidates will be awarded up to **THREE** marks for their description and up to a further **TWO** marks for the example. [5]

(c) Explain the term 'virtualisation' and describe how international companies can use it to grow their technical infrastructure quickly to serve their customer bases. Candidates will be awarded up to **FIVE** marks for their explanation of virtualisation and up to a further **FIVE** marks for explaining how companies can use it to grow their infrastructure. [10]

Question 4   Ethical Issues

(a) Identify and describe the **FIVE** moral dimensions that are involved in deciding the political, social and ethical issues that e-commerce businesses face. Candidates will be awarded up to **THREE** marks for identifying and describing each moral dimension.   [15]

(b) Describe **TWO** technology trends that pose significant ethical issues for e-commerce companies, giving an example for each of its ethical or moral impact. Candidates will be awarded up to **FIVE** marks for each technology trend described.   [10]

Question 5   Database Technologies

  (a) List and describe **THREE** of the main capabilities or tools of a database management systems. Candidates will be awarded up to **FIVE** marks for each tool or capability described.   [15]

  (b) A start-up business wants to create a new database for storing information about its customers. Explain and describe **TWO** factors it should consider that will influence how it designs its database.   [10]

Question 6   Computer Networks

(a) Identify and describe the **FOUR** layers of the Department of Defense reference model for TCP/IP and describe how this model works. Candidates will be awarded up to **THREE** marks for identifying and describing each layer and up to a further **THREE** marks for describing how the reference model works.   [15]

(b) Describe how packet switching works and is used to transport data across a network. Candidates will be awarded up to **TEN** marks for their description of how packet switching works and is used to transport data.

[10]

END OF PAPER