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UNIVERSITY OF LONDON

CO1108 ZB

BSc and Diploma Examination

**COMPUTING AND INFORMATION SYSTEMS AND COMBINED DEGREE
SCHEME**

Information systems: The Foundation of E-Business

Date and Time: Friday 6 May 2016 : 10.00 - 13.00

Duration: 3 hours

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.

No calculators should be used.

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Question 1 Scenario: Legal Advice Group

In 2001, a group of solicitors decided they wanted to exclusively provide people with legal advice who couldn't normally afford to get it. They established a charity with the help of the government which enabled them to open a small number of shop outlets where people could come to get legal advice for a small fee.

Initially, all of these shop outlets were in London, and the group decided they wanted to run a service as technology-enabled as possible. They have read about the idea of having a digital firm and think if they can incorporate these ideas in to their new business then they can make a profit, which they can then use to help more people with the legal advice that they need.

One of the important aspects of the new technology-enabled system they are considering is that they have as good communication systems and technologies as possible. The group wanted to be able to speak face-to-face with people who needed legal advice who didn't live in London or who couldn't make it to their shop outlets for other reasons, for example if they were disabled. Furthermore, in order to keep costs down, training of new solicitors coming on board with the group on issues concerning legal advice will be done remotely wherever possible.

The Legal Advice Group believe that if they invest heavily in information systems they will be able to achieve significant improvements not only in how they operate but also how they interact with their solicitors, those who need help, and each other. Their longer term concern is to keep costs down so that ultimately they can help as many people as possible.

As the Legal Advice Group are new to supplying people's needs in this way it is also important that they learn from the data the organisation generates internally and from that which is available outside the organisation too. They want to purchase a system that will allow them to make use of the data they collect and turn that data into useful decision making and forecasting information.

For this question, you must use the information provided above in the scenario.

- (a) Describe how the Legal Advice Group can create a chain of these legal advice shops that can be described as a digital firm. Identify five of the major relationships they would need to be technology enabled and describe three core business processes that would need to be accomplished through networks.

[15]

- (b) Recommend five communications technologies that the Legal Advice Group could invest in to ensure the greatest level of communication between the different shop outlets in the chain. Make sure your recommendations include technologies to enable the board members of the Legal Advice Group to be able to speak face to face with the manager of each shop outlet every day and also train staff remotely.

[10]

Question 2 Scenario: Hawk Biking Ltd

Since its establishment in 1975, Hawk Biking Ltd has become the largest manufacturer of Hawk motorbikes in Europe. Each one of its fifteen factories manufacturing Hawk bikes has over a thousand workers directly contributing to the design, manufacturing and distribution of a large assortment of Hawk bikes. It prides itself in producing a large range of bikes in different colours, bikes with different shapes and additional features for a large customer base Europe-wide.

Although Hawk Biking Ltd has very well organised production lines, it found that as it grew in size it was becoming less and less able to meet the demands from motorbike outlets for the varied range of bikes they wished to sell.

One particular aspect of Hawk Biking Ltd that was different from factory to factory was the set of business processes used to design, manufacture and then distribute the bikes. This was a problem in that staff and managers moving between factories had to learn whole new ways and processes for working.

Workers at Hawk Biking Ltd also complained about either having too little or too much information. Furthermore, workers said that often the information they did receive was not at the right time and was not formatted correctly. As a result this information was not appropriate and therefore could not be used for decision making. This was particularly true of middle managers. To compensate for this lack of timely and appropriate information, managers generally took to “over ordering” as a method of reducing the risk of running out of component parts or materials for bikes that were being produced.

Some managers have now taken to creating their own small information systems. However, many of these systems do not communicate with each other. These islands of information are causing further problems as the data each hold are often inaccurate.

For this question, you must use the information provided above in the scenario.

- (a) Define and describe a set of business processes and related information systems that could be used by Hawk Biking Ltd in the manufacturing of a new bike aimed at the female market. In your answer you must detail the relationship between the business processes and the information systems you recommend and explain the role played by the information systems in improving the efficiency of the business processes you defined.

[15]

- (b) To address Hawk Biking Ltd's information sharing problems, write a proposal for three new information systems that can address the needs of those working on the production line, middle management trying to make day to day decisions, and those senior managers responsible for forecasting and planning. Explain why you have chosen a particular type of information system, what it will offer, and what benefits it will bring. [10]

Question 3 Technology, Work and Society

- (a) What is de-skilling? Explain whether or not information systems necessarily lead to de-skilling of their users. [15]
- (b) It is often argued that workers find the introduction of new technologies at work difficult. Discuss the difference between machine-centered design and human-centered design. [10]

Question 4 Scenario: Building Information Systems

- (a) Describe in detail the four phases of building and maintaining systems. For each phase, define the key processes, how they are undertaken and describe the outputs. [15]
- (b) Explain why a systems development project may fail during one of the four phases of building and maintaining systems. Include at least three examples in your answer. [10]

Question 5 Business Processes and Value Chains

- (a) Explain what is meant by the term “business processes” in relation to creating value for customers. Following this describe the scope of a business process and the value-added by a business process. [10]
- (b) Describe what is meant by a firm’s *value chain*. Include in your answer a description of primary and secondary processes and an example of a value chain for a restaurant. [10]
- (c) Compare and contrast the terms “system” and “subsystems” in the context of IT while performing work in businesses and government organisations. [5]

Question 6 Scenario: Mortgage Services

Mortgage Services is the biggest provider of mortgage services in the UK. Inside the main office of Mortgages Services in London, Ms. Voychek, a potential mortgage client, is sitting with a financial advisor called Mr. Morrissey. They are both looking at a PC running a presentation package that details the potential types of Mortgage Services that can be acquired. The specific presentation being run is one the bank has prepared in order to help financial advisors explain to potential clients the risks associated with different types of Mortgage Services that the bank is offering at any one moment.

Mr. Morrissey and Ms. Voychek are now at a stage in the presentation which involves the financial advisor asking the potential client about certain details relating to financial status (e.g., salary, regular commitments, etc.) and preferences (e.g. ability to access money invested, different types of investments etc.). Mr. Morrissey has just logged in to the bank's mainframe computer remotely and started a session with a system, known as Choose Your Investment, specifically designed to capture the sort of customer data just described and suggest which, among those on offer, is the best deal for Ms. Voychek. The mortgage deals used by this system were in turn generated by a very large system called Triangle, that allows financial analysts to gain information on not only products in the UK but across the world.

After Ms. Voychek has chosen which of the deals she would like to receive more information on, Mr. Morrissey will send an email to Mr. Brogan, the branch's secretary, and ask him to forward a written quote by fax to Ms. Voychek's home address along with a covering letter including details about the validity period of the offer.

For this question, you must use the information provided above in the scenario entitled **Mortgage Services**.

- (a) Discuss FIVE types of information systems that occur in the given scenario, justifying each type that you identified with the passage explaining its relevance in the scenario. [15]
- (b) For three types of information systems you listed in part (a), briefly explain, using the information conveyed in the given scenario, in which business processes it would be applied. Also provide an example of how office automation systems can increase efficiency. [10]

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