

THIS PAPER IS NOT TO BE REMOVED FROM THE EXAMINATION HALLS
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UNIVERSITY OF LONDON

CO3323 ZB

BSc Examination

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

Electronic Commerce

Wednesday 2 May 2018: 14.30 – 16.45

Time allowed: 2 hours and 15 minutes

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

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

There are 75 marks available on this paper.

No calculators should be used.

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Question 1 Scenario: Marshalls Cars

Marshalls is a family-run car dealership specialising in second-hand cars. They have been selling cars for over 50 years throughout the UK. Although very successful as a dealership, they have steered away from selling on-line.

Until now, the Marshalls management team believed that it was best to sell in person and to talk directly with customers.

However, some members of senior management are now proposing a change in direction. They argue that unless Marshalls not only has an e-commerce site but also provides customers with online support, they risk losing customers to the big car supermarkets that are appearing throughout the country. These technology-driven companies provide their customers with fast, on-demand online services.

One suggestion is that Marshalls begins moving some of its operations online by setting up an online auction facility and virtual community for its customers.

- (a) Marshalls Cars are planning to create online auctions to sell their used car stock. Propose **TWO** alternative approaches to conducting an online auction, and make a recommendation explaining which one you think is best suited to Marshalls Cars. For each auction approach you propose, describe how the auction works, how it could be implemented online and what the potential benefits are.

Up to five marks will be awarded for each auction described.

[10]

- (b) The use of virtual communities to engage potential and existing customers is increasing. Virtual communities not only provide customers with a place to share experiences, but also offer a detailed source of information on what customers like, and what could be improved. They can also help determine what new products and services customers would be interested in. For Marshall Cars, propose the design for a virtual community. Your proposal should include five "sticky features", which will attract potential and existing customers to the community and keep them returning. For each feature you propose, explain how it works and what it will offer Marshalls' customers.

Up to three marks will be awarded for each feature proposed for the new virtual community.

[15]

Question 2 Scenario: The Spiritual Hour

The Spiritual Hour is a phone-in radio show hosted by Nicki McCampbell. It is a weekly live broadcast from Manchester FM, a local radio station, and is also available as a podcast for a small fee.

Since its first broadcast in 2010, The Spiritual Hour has achieved great success. It is one of the most popular programmes on Manchester FM, and its podcast subscribers have reached the 250,000 mark.

Since 2015 they have also been selling books on a wide range of religions and religious practice, spirituality and wellbeing, CDs of inspiring speakers and music to meditate to, as well as T-shirts and keyrings.

The Spiritual Hour has largely been managed by its radio host, Nicki McCampbell, who has been doing all of this work unpaid. She organises the podcasts and sells the books and merchandise in her spare time, when not engaged in contract work.

Lately, largely because of its success, Nicki McCampbell has realised she can no longer manage this unpaid work. She has been working on an idea that will ensure that The Spiritual Hour continues to grow and develop, perhaps into other areas, such as live events hosted by The Spiritual Hour featuring guest speakers. Additionally, she would love The Spiritual Hour to be broadcast on different local radio stations, to go national and, eventually, international. Ms McCampbell has proposed that she be paid a basic wage in order to concentrate on The Spiritual Hour full time.

Nicki has no phobia of technology; on the contrary, she knows that harnessing technology creatively will grow her project exponentially. In this spirit, she has approached you, a computing and information systems specialist, to help her understand the latest trends in computing technology, and therefore make the right decisions to enable this to happen.

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

Write a proposal specifying a formal design for a new The Spiritual Hour's interactive website, using the information in the scenario. This design should include a network diagram, and describe a set of **TEN** key features of the website. This design should also specify at least **FIVE** features to keep customers returning to the site.

Up to five marks will be awarded for the design of the network diagram. One mark will be awarded for each of the 10 key features of the website. Up to two marks will be awarded for each feature to keep customers returning..

[25]

Question 3 Scenario: Cocky Coffee

Cocky Coffee began life in 2010, when a Japanese design student, Lee Kochi (pronounced: cocky), applied for a six-month traders licence in a pop-up store in Shoreditch. The council were developing a new area in the exciting east end of London and, eager to help new traders encourage new customers to the area, were allocating licences to businesses as long as they had never traded before.

Kochi's idea had been that, while the love affair with coffee had firmly established itself in the UK, the affair ended when people went home or to their offices. People found it difficult to recreate the freshly ground, frothed experience they enjoyed in their coffee shops. Some bought coffee machines, coffee bean grinders, and the correct metal jugs to maintain the exact temperature of the milk before frothing it, but many were put off by the knowledge they had to acquire, the accessories they needed to purchase, and the amount of time and effort involved.

Kochi wanted to simplify the experience, breaking it down into easy steps, while making it an exciting process. He used his pop-up shop as a showroom for his techniques and the basic equipment needed to get started. He established his reputation by doing free demonstrations three times a day. His boundless enthusiasm, effervescent personality and empathy with his audience's needs led to queues around the block to see these demonstrations as word of mouth spread.

With one more month before his licence ran out, he still hadn't applied his skills anywhere outside his pop-up store. He liked working with a small, intimate audience and wasn't sure how effectively his idea would come across online. So he found himself with a potentially great product and no outlet for it.

His many returning customers were puzzled by his lack of online presence. They thought he could go national and international; for example, he could link with the businesses producing the coffee and equipment he uses. Around 90% of customers asked for a website address, a Twitter handle, or a Facebook page – only to be disappointed.

- (a) Describe **FIVE** different approaches to online promotion that could be used by Cocky Coffee to publicise its new website. Your answer should discuss the various ways in which media such as banners, video advertising and text-based search promotion tools might be used.

Up to three marks for each approach discussed

[15]

- (b) As Cocky Coffee is likely to build an e-commerce website, they will need to purchase appropriate hardware. Describe **FIVE** factors that should be taken into consideration when choosing an appropriate hardware platform.

Up to two marks will be awarded for each factor listed.

[10]

Question 4 Internet Technologies

- (a) Give examples of **FIVE** security breaches, discussing how each relates to the **SIX** dimensions of e-commerce security (Integrity, Nonrepudiation, Authenticity, Confidentiality, Privacy, and Availability). [15]
- (b) Describe **TWO** approaches to protect computer systems against a Denial of Service attack. Then describe how a Denial of Service attack would affect business operations at the client level and at the server level. [10]

Question 5 E-Business

Using the production of personal computers as an example, describe the **SIX** main players in an industry value chain and detail how are they impacted by the introduction of e-commerce technology. Then draw a value chain for a company producing personal computers within that context. [25]

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