FACULTY OF SCIENCE

ACADEMY OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING	
MODULE	**IFM2B10** INTERNET BASED ELECTRONIC COMMERCE
CAMPUS	**APK**
EXAM	**JANUARY 2015**

DATE: 13/01/2015

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INTERNAL MODERATOR: **MR D COTTERRELL**

DURATION: 120 MINUTES   **MARKS: 100**

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NUMBER OF PAGES: 5

PLEASE TAKE CAREFUL NOTE OF THE FOLLOWING:

1. Answer **ALL** questions **ONLY** in the supplied **ANSWER SHEET**.

2. **Do NOT write/draw in pencil**. **Anything in pencil <u>WILL NOT BE MARKED</u>**.

3. Write **neatly** and **legibly**.

4. Answers must pertain to the material covered during the course of the module.

5. **NO** calculators may be used.

6. The paper consists of **12 question sections.**

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QUESTION 1

1.1 **Business-to-Consumer**, **Business-to-Business** and **Support Activities** are recognised as the **three major categories** of electronic **commerce**. By means of a **diagram**, **illustrate** how these **categories overlap**, while **taking into account** their **relative size** in **terms** of **number of transactions** and **dollar value of the transactions**. **(3)**

1.2 The moment an organisation begins to do business on the Internet, it faces multiple challenges on a global scale. **Briefly discuss** how **Trust**, **Culture** and **Infrastructure** may be viewed as challenges in e-commerce. **(3)**

[6]

QUESTION 2

2.1 **Briefly** describe the **purpose** of the **TCP and IP protocols**. **(2)**

2.2 Email is one of the most widely used features on the Internet. Although for systems to have access to it certain protocols must be used. **Briefly discuss** the **Simple Mail Transfer Protocol (SMTP) and the Post Office Protocol (POP).** **(4)**

[6]

QUESTION 3

3.1 By means of a **diagram**, illustrate the **router-based architecture** of the **Internet**. **(5)**

3.2 **List two distinct methods** that can be used to **limit** the **amount** of **SPAM** on the **web** and **its effects**. **(2)**

[7]

QUESTION 4

The Formula One Management (FOM) company has currently been experiencing problems reaching their fan base in the current season of Formula One racing. The new season brought in many regulatory changes in the sport which has made it even more difficult for fans to understand the rules in Formula One races.

They have asked you, their newly assigned E-Commerce Strategist to help find a way to reach Formula One fans better by strengthening the company's web presence. The CEO thought of creating a website where fans can visit to get all the latest information on the sport. The website can also serve as a source of detailed information about the new regulations of the sport.

An important aspect the CEO has requested is that the website should allow fans around the world to interact with each other on forums in the website so they can discuss all developments in the sport. In order to get the fans to join, the CEO would like to provide the entire website free of charge to all visitors. All content on the website will be available free-of-charge and visitors are free to join the website and will have access to all the content posted on the website.

Although FOM is a very large and financially strong, the company unfortunately does not have any money to support the running of the new website. They have called you in to help them in setting up their web presence strategy, in terms of how they can generate revenue and what costs they will need to try to cover. Answer the following questions to help FOM decide on how they will be managing their new fan website.

4.1 Using only the information and requirements in the case study, **suggest** the **most appropriate revenue model** that would help the company achieve their goals. **Name only one revenue model.** **(1)**

4.2 **Fully discuss** the revenue model suggested in question **4.1**. **Include** in your discussion its **definition**, and perhaps some of the **problems** associated with the revenue model. **(5)**

4.3 Total Cost of Ownership (TCO) in electronic commerce includes all costs incurred by the companies when they engage in business on the Web. List two **different costs associated** with the **TCO** of **electronic commerce initiatives**. **(2)**

4.4 ███ **(2)**

[10]

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QUESTION 5

5.1 **List** two **types** of **banner ads** that may be used on a website. **(2)**

5.2 **What** are the three **elements** of a **brand**? **(3)**

5.3 **Name** any **two** of the **major parts** of a **search engine.** **(2)**

[7]

QUESTION 6

6.1 The Internet facilitated the creation of marketplaces and eliminated a lot of the geographical implications that stopped companies from finding each other. Such marketplaces have been implemented in multiple ways to fulfil the needs of its participants, and often control of the marketplace is shared between buyers and sellers. **Briefly** describe **Independent Industry Marketplaces**. **(4)**

6.2 Internet technologies provide many benefits when used properly within an organisation. **List** three **advantages** companies get from **using Internet technologies** in their **supply chain management** activities. **(3)**

[7]

QUESTION 7

7.1 Discuss **Reverse auctions**. **(3)**

7.2 **List** two **supply chain characteristics** that **support reverse auctions**, and one **characteristic** that **discourages** it. **(3)**

[6]

QUESTION 8

8.1 By means of a **diagram**, **illustrate** the **basic electronic commerce website structure**. **(7)**

[7]

QUESTION 9

9.1 When building electronic commerce systems, all possible risks the system may face need to be identified. The nature and the extent to which the risk may disrupt a business must be taken into account when deciding on the type of strategy that is used by an organisation. According to the **Risk Management Model**, for each of the **following risk profiles**, **which strategies should an organisation choose to follow?** **(2)**

9.1.1 – Low probability of occurrence, with low impact in terms of cost.

9.1.2 – High probability of occurrence, but low impact in terms of cost.

9.2 **List** the six **requirements** for **secure electronic commerce**. **(6)**

9.3 **Briefly discuss** how **Symmetric encryption solutions** work. **(4)**

9.4 **Briefly discuss Digital Certificates** **(4)**

[16]

QUESTION 10

10.1 **What** is a **Digital Wallet?** **(2)**

10.2 Card payments on the web can be processed either using an open or a closed loop **(6)** system. **Draw** a **diagram** showing **how** a **closed loop payment card system** works. Be sure to indicate the different parties involved in the transaction, and the information transfers between each of the parties.

[8]

QUESTION 11

CREAM Technologies is a software development firm that specialises in the creation of information systems used in space exploration missions. Their software controls the engines and rockets used to launch spaceships. Very recently, you discovered a fault in the software used in the space ships, which could cause them to explode as they left the ground.

The software component controlling the use of fuel by the engines and rockets occasionally supplies more fuel than necessary. The fault could cause the engines to stop working and cause the space ship to explode as the space ship launches into the stratosphere. You reported the problem to your boss, but he asked you not to mention the issue to anyone because the contracts they have just secured with the software are of great value for CREAM Technologies.

11.1 As an IT professional, would you carry out your boss's instructions? **(10)** **Justify** your answer by referring to any **professional code of ethics** that you have learned during the semester. Also **include** in your discussion **if you think IT professionals** need to have a code of ethics, and the reasons for your choice.

[10]

QUESTION 12

12.1 **Write** the **HTML code** needed to link an **external CSS** file named "**MyCSS.css**" to **(4)** a web page. You may assume that the CSS file and the HTML file are in the very same folder.

12.2 **Name** and **describe** one **method** that may be used to **maintain state** on an **(2)** ASP.NET website.

12.3 Write **Visual Basic/C# code** to **read** a string value from a **session variable** named **(4)** **"IFM2B10"**. **Display** the **value** in **textbox "txtValue".**

5

You may assume that at the point you read the value from the session variable, the session variable may or may not exist. Therefore you need to check whether the session variable does exist.

[10]

TOTAL: 100 MARKS