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SUBJECT: **Information Technology**  
DATE: 5<sup>th</sup> September 2019  
TIME: 4:00 p.m. to 7:05 p.m.

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**Directions to Candidates**

Workings are considered as part of the answer and must be shown.

**SECTION A: COMPUTING PRINCIPLES**

**Answer Question 1 and any FOUR other questions from this section.**

**1. This question is compulsory.**

Special Dress is a company that rents dresses for special occasions. The company has a shop from which clients can view and hire a variety of products. The main database is made up of two tables, one storing CLIENT information and another storing PRODUCT information. For tracking purposes, each product is entered into the PRODUCT table separately using unique serial numbers. A product is linked to only one CLIENT when hired.

- a) Identify **THREE** fields and corresponding data types for the CLIENT table. (3)
- b) Identify **THREE** fields and corresponding data types for the PRODUCT table. (3)
- c) A client may hire many products but one product may only be hired to one client. Identify the type of relationship between the CLIENT and PRODUCT tables and briefly describe how a PRODUCT can be marked as hired to a particular client. (2)
- d) Which database tool would you use to create a printed output of all the products in the database? (1)

The dresses company is in the process of creating a basic website with a homepage, product catalogue, a mail-to feature and a sitemap. Links to related products within the website and links to product manufacturer websites will also be provided.

- e) Briefly describe **TWO** advantages of having such a website to the company. (2)
- f) Name **THREE** items you would include when displaying product information. (3)
- g) Identify the type of link that links product pages together within the same website. (1)
- h) Identify the type of link that links a product to a manufacturer website. (1)
- i) What is the purpose of the mail-to feature? (1)
- j) What is a sitemap? (1)

**(Total: 18 marks)**

**Answer any FOUR of questions 2, 3, 4, 5, 6 and 7**

2.

a) ICT has changed the way people plan and book flights for their holidays. ICT is also helpful during the holiday itself.

i. Briefly explain **ONE** way how the use of ICT has contributed to ease planning and/or booking travel arrangements. (2)

ii. Apart from using it for planning, travellers also make use of ICT once they arrive at their destination. Briefly describe **ONE** way how ICT is used during a holiday experience. (2)

b) ICT is also changing the nature of work.

i. What is tele-working? (2)

ii. Briefly describe **TWO** advantages of tele-working. (2)

**(Total: 8 marks)**

3.

“Data is a precious thing and will last longer than the systems themselves.”

*Quote from Tim Berners-Lee, inventor of the World Wide Web.*

a) Distinguish between data and information. (2)

b) What is the Information Society? (2)

c) What is Information Overload? (2)

d) Why are data and information important to modern organisations? (2)

**(Total: 8 marks)**

4.

a) Briefly describe **TWO** components of a typical microprocessor. (4)

b) What are the channels that link different components in a computer called? (1)

c) What is the purpose of Character Coding Systems? (2)

d) ASCII and UNICODE are two popular Character Coding Systems. Briefly outline **ONE** difference between ASCII and UNICODE. (1)

**(Total: 8 marks)**

5.

A company selling small household gadgets has a chain of shops spread across the island. At each outlet, a point-of-sale computer system stores a daily transaction file. At the end of the day, the transaction files are copied from the different outlets to a central computer using FTP, so as to update the master file.

- a) Define the terms transaction file and master file. (2)
- b) What is real-time processing? (1)
- c) Why is master-transaction file processing preferred than real-time processing in the household chain of shops scenario described above? (1)
- d) Briefly describe **ONE** scenario in which real-time processing is a requirement. (2)
- e) Define and explain the purpose of FTP. (2)

**(Total: 8 marks)**

6.

- a) Briefly describe **TWO** Internet Security threats. (2)
- b) What is encryption and why is it used? (2)
- c) Internet fraud is a major problem. What should one do when one receives an email appearing to be from one's bank which is asking to confirm the login or credit card information? (2)
- d) Give an example of how the use of a social networking site can potentially lead to loss of privacy even when a personal account is set to allow friends only to view one's page. (2)

**(Total: 8 marks)**

7.

A school has commissioned a feasibility study for the implementation of a Database Management System (DBMS) to replace its existing flat-file data storage system.

- a) What is a feasibility study? (1)
- b) Briefly describe **ONE** limitation of a flat-file approach for storing data. (1)
- c) What is a DBMS? (2)
- d) Explain **TWO** advantages of a DBMS over a flat-file approach. (2)
- e) Explain the role of the Database Administrator (DBA). (2)

**(Total: 8 marks)**

***Please turn the page.***

## SECTION B: HUMAN COMMUNICATION & BUSINESS ORGANISATION

Answer question 1 and **ONE** other question from this section.

### 1. This question is compulsory.

A Private Company, established over fifty years ago by a hard-working family, is today a Public Company (plc.) employing over 300 people. Over the years the company evolved into a formal organisation which is still supported by the informal organisation. The management also sought to develop structures of upward communications, downward communications and a knowledge base. As the organisation grew bigger, the management also sought to distribute power at different levels of the organisation to streamline the way it is managed.

- a) Distinguish between a Private Company and a Public Company (plc). (2)
- b) Define the terms formal organisation and informal organisation. (2)
- c) Briefly describe **ONE** characteristic found in both the formal and informal organisation. (1)
- d) Distinguish between upward communication and downward communication. (2)
- e) Mention **TWO** reasons for having a knowledge base. (2)
- f) What term is used to refer to an organisation in which power is distributed at different management levels and departments? (1)

**(Total: 10 marks)**

### Answer **ONE** question from 2 and 3.

2. Despite the popularity of digital visual communication media, posters created with Desktop Publishing technologies, remain a popular physical advertising medium in public places.

- a) Describe **THREE** examples of digital visual communication media. (6)
- b) Why are posters still widely used in public places and outside spaces? (2)
- c) Briefly explain **TWO** features of Desktop Publishing. (2)

**(Total: 10 marks)**

3. a) Large organisations frequently publish an Organisational Chart on their website. What is an Organisational Chart? Provide **ONE** reason for putting it up on the company's website. (2)

b) With the aid of a diagram, explain the difference between Hierarchical and Matrix Organisational Charts. (4)

c) Briefly explain the need for user support, both within the organisation and to external customers. (4)

**(Total: 10 marks)**