

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

UNIVERSITY OF MALTA, MSIDA

MATRICULATION CERTIFICATE EXAMINATION

INTERMEDIATE LEVEL

MAY 2012

SUBJECT:	INFORMATION TECHNOLOGY
DATE:	28 th May 2012
TIME:	4.00 p.m. to 7.00 p.m.

Directions to Candidates

Note that marks will be awarded for neatness and accuracy. Workings are considered as part of the answer and must be shown.

Section A: COMPUTING PRINCIPLES

Answer Question A1 and any FOUR other questions from this section.

Question A1

This question is compulsory.

The Malta Bank plc is a small financial service provider in Malta. It provides a range of financial services including private banking and investment banking.

The Malta Bank also issues credit cards such as the Visa and MasterCard and offers *on-line banking* services as well as *telephone banking (call centre)* to its customers.

Even though the Malta Bank is relatively quite small it still makes extensive use of Information Technology in all its operations.

- a) Explain what is meant by *on-line banking*. **[2 marks]**
- b) Give ONE example and ONE advantage of on-line banking. **[2 marks]**
- c) Security is still an issue when using the internet for payments. Suggest ONE security measure one should take. **[1 mark]**
- d) Mention TWO advantages when using credit or debit cards. **[2 marks]**
- e) Mention another use of ICT (apart from the above) which the bank can make use of. **[2 marks]**
- f) Describe FOUR obligations the Bank has under the Data Protection Act. **[4 marks]**
- g) Apart from on-line banking, give another TWO examples where ICT can be used by Malta Bank plc. **[2 marks]**

Answer ANY FOUR of questions A2, A3, A4, A5, A6 and A7

Question A2

This question is about *Information Systems*

- a) Mention THREE qualities that data must have in order to be considered as useful. **[3 marks]**
- b) Stress is one of the major factors in work-related illness. Mention TWO other factors that can lead to health problems related to work using IT. **[2 marks]**
- c) *Illegally downloading or copying copyrighted music is the same as stealing; there is no difference.*
 - i) Mention the THREE main issues found in any software copyright law. **[3 marks]**
- d) *Teleworking* has become a popular use of modern ICT systems in the digital world.
 - i) Define *teleworking*? **[1 mark]**
 - ii) Mention ONE advantage of teleworking. **[1 mark]**

Question A3

This question is about *Categories of Software*

- a) All computers are installed with an operating system. Explain why this is important, using THREE functions of the operating system. **[3 marks]**
- b) Explain, using a suitable example the term *multiprogramming*. **[3 marks]**
- c) What term is used to describe the ability to run the same program on different types of computers? **[1 mark]**
- d) Software manufacturers continuously issue *upgrades* to their software. However, this does not always go down well with customers. Give THREE reasons why this is so. **[3 marks]**

Question A4

This question is about *Databases*

- a) Define the role of the *DBMS*. **[2 marks]**
- b) The following are two tables found in an online ordering database:

ONLINE_ORDER(OrderNumber, *CustomerID*, OrderDate)
CUSTOMER (CustomerID, DeliveryAddress, Telephone)

[3 marks]

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From the above tables indicate:

- i) an entity;
- ii) a primary key;
- iii) a foreign key

- c) Why is *referential integrity* important for databases? [3 marks]
- d) Mention TWO tasks that can be executed using Structured Query Language (SQL). [2 marks]

Question A5

This question is about *Internet related software*

- a) Name and briefly describe any THREE types of protocols related to the Internet. [6 marks]
- b) Describe any TWO services provided by *e-Government* to its citizens. [4 marks]

Question A6

This question is about *Systems Development*

- a) During the design stage, suitable testing strategies that are to be used should be identified. Testing strategies can include *Alpha Testing* and *Beta Testing*.
 - i) Explain the terms in italics. [4 marks]
 - ii) When the development is finished and all the initial testing has been successfully completed, which type of final testing would be carried out by the end user? [1 mark]
- b) Mention THREE types of changeover procedures for an existing system. Briefly explain ONE of them. [5 marks]

Question A7

This question is about *Networks in organisations*

- a) Discuss a *peer-to-peer network* as opposed to a *server-based network*. [4 marks]
- b) Mention TWO types of networks commonly used. [2 marks]
- c) Draw a diagram that shows the essentials of a star network. [3 marks]
- d) Explain the term *internet*. [1 mark]

Section B: HUMAN COMMUNICATION & BUSINESS ORGANISATION

Answer question B1 and ONE other question from this section

Question B1

- a) The most efficient and satisfactory organization is the one in which *formal organization* is supported by the *informal organization*.
- i) Define the terms in italics. **[4 marks]**
 - ii) Mention any TWO characteristics found in both *formal* and *informal* organisations. **[4 marks]**
 - iii) What is the relationship, if any, between the two types of organisation? **[2 marks]**
- b) What do you understand by a *Centralised Organisation*? Give TWO advantages of such an organisation. **[3 marks]**
- c) As organizations grow bigger these days, the power is distributed at different levels to be able to run the organization more efficiently.
- i) How do we refer to this type of organisation? **[1 mark]**
 - ii) Give ONE disadvantage of such an organisation. **[1 mark]**

Answer ONE question from B2 and B3

Question B2

- a) E-commerce allows us to buy and sell online. What advantages does e-commerce offer to (i) the business and (ii) the customer? **[5 marks]**
- b) Business-to-Business (B2B) and Business-to-consumer (B2C) are similar but different. Explain. **[5 marks]**

Question B3

Organisations create a hierarchy of objectives.

- a) Give a definition of *objective*. **[2 marks]**
- b) Give an example of an objective. **[2 marks]**
- c) In the process of achieving objectives, a manager decides on various issues to achieve such objectives effectively. Explain the key steps in such decision making. **[6 marks]**