

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD  
UNIVERSITY OF MALTA, MSIDA  
MATRICULATION EXAMINATION  
INTERMEDIATE LEVEL  
MAY 2017

---

<b>SUBJECT:</b>	INFORMATION TECHNOLOGY
<b>DATE:</b>	16 <sup>th</sup> May 2017
<b>TIME:</b>	9:00 a.m. to 12:05 p.m..

---

**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.**

*K-Jewels* is small company of three persons that sells custom made jewellery over the web. The design and layout of the website is important for usability and customer satisfaction. The web pages have different types of links and use forms to fill in the customer data. The website allows customers to scroll through the jewellery items.

- a) Clearly explain the difference between internal and external hyperlinks with reference to this website. (4)
- b) Explain the term horizontal scrolling. (2)
- c) List **THREE** common design principles for this website. (3)

The website requires the information to be stored in a database.

- d) Identify **TWO** possible tables and **TWO** possible fields for each table. (4)
- e) The data to be stored in the database requires unique identification. What type of field do you recommend? (2)
- f) What can one use to display a sorted list of data retrieved from the database in a format suitable for printing? (3)

**(Total: 18 marks)**

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

2. This question is about Computer Systems, Processing Modes and Decision Making

- a) List and briefly explain any **TWO** categories of computers in current use. (2)
- b) List and explain any **TWO** types of processing modes. (2)
- c) List and explain the **THREE** levels of decision making. (3)
- d) Explain the acronym GUI. (1)

**(Total: 8 marks)**

3. This question is about types of software

- a) A computer requires special software to manage its hardware. Explain any **TWO** main functions of this software. (2)
- b) Name **ONE** difference between bespoke software and general purpose software. (1)
- c) Where do you expect to find an operating system apart from a computer? Give **ONE** example of such an OS. (2)
- d) List and explain the use of any **THREE** utility software applications excluding virus scanners. (3)

**(Total: 8 marks)**

4. This question is about Systems Development

- a) At which stage of the Software Development Lifecycle does testing occur? (2)
- b) Will good system documentation facilitate future maintenance? Clearly explain and give reasons. (4)
- c) Company A develops systems by first designing the high level parts and then creating the smaller modules. Company B develops systems by developing the small individual components and putting them together later. What is the approach that Company A and Company B use? (2)

**(Total: 8 marks)**

5. This question is about Database Systems

- a) List and explain any **TWO** uses of a data dictionary. (2)
- b) What is meant by the problem of data duplication in a database? (2)
- c) Database design requires good preparation. Give **FOUR** reasons for this. (4)

**(Total: 8 marks)**

6. This question is about Computer Related Crime and E-Business

- a) Briefly define the term computer related crime. (2)
- b) Briefly explain the term plagiarism. (2)
- c) What is meant by E-business? Briefly explain. (2)
- d) List and explain any **TWO** ways how IT can be used for obtaining a competitive advantage. (2)

**(Total: 8 marks)**

7. This question is about Networks in Organisations

- a) Briefly outline the structure of the Internet. (1)
- b) The Internet uses protocols for the WWW. List the protocols for sending a normal browser request and a secure request. (2)
- c) List and briefly explain any **FOUR** common network topologies. (4)
- d) Give **ONE** example of a technology that supports wireless communication. (1)

**(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) List and explain any **TWO** differences between verbal and written communication. (2)
- b) List any **TWO** characteristics that a good help desk for supporting IT problems should have. (2)
- c) List and explain any **FOUR** HCI related Internet utilities. (4)
- d) List and explain any **TWO** functional areas in a typical organisation. (2)

**(Total: 10 marks)**

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

- 2. Certain factors can lead to change in an organisation. Change is required for stability and future success. Explain what is organisational change and list any **THREE** factors leading to change. Explain how change can bring stability in the future.  
**(Total: 10 marks)**
- 3. Compare and contrast internal and external communication. When would you use internal and when would you use external communication? List and explain any **THREE** external entities who receive communication from an organisation.  
**(Total: 10 marks)**