



TECHNICAL UNIVERISTY OF MOMBASA

# Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR BACHELOR OF TECHNOLOGY IN  
MICROBIOLOGY & BIOTECHNOLOGY  
(BTMB)

**ICS 2110: INFORMATION TECHNOLOGY I**

END OF SEMESTER EXAMINATION

**SERIES: APRIL 2013**

**TIME: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

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**Question One (Compulsory)**

- a) Distinguish between analog computers and digital computers. **(4 marks)**
- b) Explain **TWO** reasons for using secondary storage devices in the computer systems. **(6 marks)**
- c) Briefly explain the following categories of programs with one example of each:
- (i) Operating system
  - (ii) Word processor
  - (iii) Spreadsheet
  - (iv) Database management system
  - (v) Graphic packages
- (10 marks)**
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d) Define a computer system and outline its application in business. (10 marks)

### Question Two

a) Identify the components of the central processing unit and explain how they determine the processing capacity of a computer system. (8 marks)

b) Explain the functions of an operating system outlining different types of operating systems. (10 marks)

c) Describe **TWO** features of windows desktop. (2 marks)

### Question Three

a) Name and briefly explain **THREE** classifications of computer network based on geographical span. (6 marks)

b) Outline some of the **SIX** security measures necessary when using computers. (6 marks)

c) Convert the following values to their binary equivalent:

(i)  $451_{10}$

(ii)  $244_8$

(4 marks)

d) Convert the following to their decimal equivalent:

(i)  $1011_2$

(ii)  $946_{16}$

(4 marks)

### Question Four

a) (i) What is a worksheet grid? (2 marks)

(ii) Differentiate between a manual spreadsheet and an electronic spreadsheet. (4 marks)

b)

	A	B	C	D
	Item	Price	Quantity	Cost
1	Screen	7000	20	
2	Motherboard	600	11	
3	Keyboard	250	40	
4	Mouse	150	10	
5	Total			

(i) What formula function can you enter in Ms Excel to calculate the total for screen in the above table? (1 mark)

(ii) Explain the steps to copy the formula you entered to calculate the rest of the items. (4 marks)

(iii) Explain the procedure of drawing a pie chart for the cost. (4 marks)

### Question Five

a) (i) List **FIVE** symptoms of a computer system that has been affected by a computer virus. (6 marks)

(ii) Differentiate between a virus and a worm outlining the control measures needed to address the threat associated with this. (6 marks)

b) Identify **FOUR** non-conventional devices used to enter data or instructions into the computer system and for each case, explain how the organization can take advantages of the device.

**(8 marks)**