



# TECHNICAL UNIVERSITY OF MOMBASA

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## INSTITUTE OF COMPUTING AND INFORMATICS

### DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

#### UNIVERSITY EXAMINATION FOR:

#### DIPLOMA IN MARINE ENGINEERING

EMR 2102: ICT 1

#### END OF SEMESTER EXAMINATION

**SERIES: DECEMBER 2016**

**TIME: 2 HOURS**

**DATE:** Pick Date Dec 2016

#### Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose No questions. Attempt Choose instruction.

**Do not write on the question paper.**

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#### Question ONE

a) Select the most suitable data type from the list to represent:

- i. the number of children in a family
- ii. a line of a company's address
- iii. the gender of a person
- iv. somebody's birthday

(4marks)

b) Complete each sentence below using one item

- i. Is used in CAD applications to produce very large printouts.
- ii. is used to display data from a computer onto a very large screen.
- iii. Sends data to a microprocessor in a washing machine.
- iv. Is used to control the pointer on a laptop screen.
- v. Is used to input sounds for use in presentation software.

(5marks)

c) Details of each customer need to be entered into the computer. Explain any two useful application package for this purpose (4mark)

- d) The prolonged use of computers can lead to health and safety problems. Identify two health problems that may be caused by prolonged use of computers and explain how each could be prevented (4marks)
- e) Computers are used to manage data in boat firms. Name the different applications used to input data about boats and customers who hires and discuss the advantages and disadvantages of these. (9marks)
- f) A company wants all its offices to be able to communicate using ICT systems. They are considering using fax, e-mail and bulletin boards. Discuss the advantages and disadvantages of these methods. (4marks)

## Question TWO

A small office has four standalone computers. The office manager wants to connect the computers together to form a LAN.

- a) Name the network device which would have to be present in each computer before they could be networked. (4marks)
- b) Explain two reasons why a WLAN would be preferable to a cabled LAN. (4marks)
- c) Identify two reasons why the manager should not use Bluetooth technology to create the network. (4marks)
- d) A school keeps records of every student including details of their names, addresses, phone numbers and dates of birth. Using this information, define the terms file, field and record.
- i. File (2marks)
  - ii. Field (2marks)
  - iii. Record (2marks)
  - iv. Data (2marks)

## Question THREE

- a) State and describe any FIVE functions of operating systems (10marks)
- b) Explain the distinctive features of each of the following operating systems giving examples of situations where it could be used
- i. Windows 2003 server (5marks)
  - ii. Redhat linux 9 (5marks)

## Question FOUR

The manager of a boat company wants to improve the security of the computer network. She has decided to use authentication techniques so that employees can identify themselves to the system.

- a) Name four authentication techniques and describe how each technique would help keep the data more secure. (4marks)

- b) Schools and colleges now use ICT systems for student record keeping. Other than name, address, post code, and telephone numbers, give **four** distinct fields and describe why they are needed. (10marks)
- c) Explain why the following are used with PCs.
- i. smartcard (2marks)
  - ii. Blu-ray (2marks)
  - iii. Fixed hard disc drives (2marks)

### Question FIVE

Highlight the features of each of the following types of computers

- i. Server farm computers (5marks)
- ii. Supercomputers (5marks)
- iii. Portable computers (5marks)
- iv. Workstation computers (5marks)