Name:_____ Index No:_____

2920/101
INTRODUCTION TO INFORMATION
COMMUNICATION TECHNOLOGY
AND ETHICS
November 2012
Time: 3 hours

Signature:_____

Date:_____

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

MODULE I

For Examiner's Use Only

Question	1	2	3	4	5	6	7	8	Total Marks
Marks									

This paper consists of 13 printed pages.

Candidates should check the question paper to ascertain that all the pages
are printed as indicated and that no questions are missing.

Turn over

1.   (a)   Outline **four** challenges that an organization could encounter while undertaking social responsibility in ICT.   (4 marks)

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(b)   Differentiate between *serial port* and *parallel port as* used in computers.
                                                                           (4 marks)

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(c)   Janet owns an ICT consulting firm in a busy town with a number of employees. The space she has for the office is not enough to accommodate all employees.

  (i)   Describe **two** approaches in modern telecommunication application she could adopt to ensure that she maximizes employees output.
                                                                           (4 marks)

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  (ii)   Outline **two** benefits other than office space that her firm would derive from the approaches described in (i).   (2 marks)

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(d)   A newly established college has installed microcomputers in various departments. Describe **three** types of microcomputers that the college could have installed citing the most appropriate application area.   (6 marks)

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2. (a) Explain the term *computer ergonomics*. (2 marks)

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(b) (i) Explain the term *cloud computing* as used in ICT. (2 marks)

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(ii) Explain **two** information security goals. (4 marks)

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(c) Juma, an ICT consultant with a certain NGO noted that the output from the employees was declining. After investigations he discovered there were conflicts.

(i) Outline **four** possible causes of the conflicts. (4 marks)

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(ii) Explain **two** conflict resolution techniques that Juma could propose to the NGO's management. (4 marks)

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(d) Each of the following statements relates to computer storage components. Identify the component described in each case.

  (i) Increases the computer throughput by storing frequently used data;

  _____ (1 mark)

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  (ii) Counterbalances the speed differences between communication elements;

  _____ (1 mark)

  _____

  (iii) Holds data and instructions during processing;

  _____ (1 mark)

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  (iv) Stores voluminous data in a computer .

  _____ (1 mark)

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3. (a) Explain each of the following terms as used in ICT ethics:

  (i) Copyright; (2 marks)

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  (ii) Privacy. (2 marks)

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  (b) (i) Explain one importance of life skills to an ICT graduate. (2 marks)

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  (ii) The morale of employees in a certain organization has drastically gone down due to strict deadlines.

    I. Identify a possible cause for the low morale. (1 mark)

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II. Outline **three** techniques that could be used to manage the cause identified in 1. (3 marks)

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(c) ABC company employees log into the main database on daily basis. Outline **four** ethical behaviours the employees could adhere to in order to prevent unauthorized access. (4 marks)

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(d) Explain **three** reasons that could make an organization to encourage ICT personnel to observe professional ethics. (6 marks)

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4. (a) (i) Outline **four** approaches to effective time management. (4 marks)

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(ii)   Differentiate between *self awareness* and *self esteem*.   (4 marks)

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(b)   A computer technician was required to maintain a local area network. He found out it was difficult to troubleshoot. He also noted that removal or addition of a computer disrupted it. Failure of one computer affected the entire network.

(i)   Identify the network layout.   (1 mark)

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(ii)   Outline **two** merits of the layout identified in (i).   (2 marks)

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(c)   In the recent past most organizations have adopted digital data transmission. Outline **two** reasons that could have led to this trend   (2 marks)

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(d)   (i)   Distinguish between *synchronous* and *asynchronous* data transmission.   (4 marks)

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(ii) Outline **three** reasons that would influence data encryption.

(3 marks)

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5. (a) (i) Define each of the following terms as used in computers:
1. hypertext; (1 mark)

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II. hypermedia. (1 mark)

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(ii) Distinguish between *disk scan* and *disk clean up* as used in computers.

(4 marks)

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(b) (i) Juliet has been using a computer in her busy front office. Recently, she has experienced eye strain. Outline **four** possible remedies for her condition.

(4 marks)

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(ii) Outline **three** measures that could be put in place to minimize injuries in a computer room. (3 marks)

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(c) Outline **three** controls that could be put in place in an organization to ensure data safety. (3 marks)

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(d) John, an entrepreneur acquired a general purpose software for his business despite the fact he has a fully developed ICT section.

    (i) Identify an alternative software acquisition method he could have used; (1 mark)

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    (ii) Outline **two** advantages and **one** disadvantage of the method identified in (i). (3 marks)

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6. (a) (i) Explain the importance of operating systems to the end users. (2 marks)

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    (ii) Maria intends to acquire an operating system for her new computer. Outline **three** factors that could influence her choice. (3 marks)

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(b) (i) Differentiate between _CRT_ and _LCD monitors_ as used computers. (4 marks)

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(ii) Describe **three** types of optical disks. (3 marks)

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(c) The following are types of computer software;
- web browser,
- groupware,
- enterprise resource planning,
- linker,
- accounting software,
- translator,
- electronic mail.

Classify each one of them as either general purpose, special purpose or system software. (3 marks)

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(d) (i) James was hired to input data from source documents, verify, validate and perform batch reconciliations. Identify his job title. (1 mark)

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(ii) Differentiate between an _ICT librarian_ and an _information system auditors_. (4 marks)

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7. (a) (i) Citing an example in each case, distinguish between *volatile* and *non volatile* memory.   (4 marks)

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     (ii) Outline **four** functions of a *control unit* in a computer system.
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    (b) A college with a computer laboratory consisting of twenty computers would like to employ hardware techniques to reduce computer virus infection. Outline **four** such techniques.   (4 marks)

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    (c) Explain the function of the *USB port* in a computer system.   (2 marks)

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(d)   Jane bought a new computer for use in her business.

    (i)   Outline **three** categories of input devices that could be incorporated in the computer citing an example in each case.   (3 marks)

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    (ii)   Suppose her business involves production of large graphics in a variety of colours.

        I.   Identify an output device that she could acquire for this purpose.   (1 mark)

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        II.   Outline **four** factors that she could consider when acquiring the device identified in I.   (4 marks)

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8.   (a)   (i)   State **six** ICT equipment in a typical organization other than computers.   (3 marks)

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(ii)   ABC Company integrated ICT in its operations. Explain **two** positive impacts of this move to the company.   (4 marks)

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(b)   Tom upgraded his *third generation* to a *fourth generation* computer. Outline **three** similarities between the two computer generations.   (3 marks)

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(c)   ABC Company Limited has been using ICT equipment for many years. A lot of this equipment has become obsolete. Explain **three** relevant methods that the company could use to dispose them with minimum harm to environment.

(6 marks)

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(d)   With the aid of a sketch in each case, describe the type of data processed by:

(i)   Digital computer;   (2 marks)

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(ii)   Analog computer.   (2 marks)

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