2920/101
INTRODUCTION TO ICT AND ETHICS
July 2018
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY

MODULE I

INTRODUCTION TO ICT AND ETHICS

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of EIGHT questions.
Answer any FIVE of the EIGHT questions in the answer booklet provided.
Candidates should answer the questions in English.

This paper consists of 4 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** limitations of *touch screen* as an output device. (4 marks)

   (b) Describe each of the following ethical issues in regard to computer technology:

   (i) patent rights;

   (ii) trademark. (4 marks)

   (c) Computer technology has had positive impact to the society with respect to how people communicate. Explain **three** such impacts. (6 marks)

   (d) Explain **three** ways in which one would improve low personal self esteem at the place of work. (6 marks)

2. (a) Outline **four** examples of negative impact that each of the following *information* accessed through the use of ICT would have on the society:

   (i) pornography;

   (ii) slander. (8 marks)

   (b) Describe how each of the following are used to threaten the privacy of personal data through computer technology:

   (i) cookies;

   (ii) electronic profile;

   (iii) spyware; (6 marks)

   (c) Biometric devices have been used to control access to highly secured data control rooms. Explain **three** ways in which this has been achieved. (6 marks)

3. (a) Outline **two** differences between a *worm* and a *virus* as used in computer security. (4 marks)

   (b) The following issues relate to the use of ICT in Kenya:
   - using the office computer to do personal work;
   - selling pirated software to a non-governmental organization;
   - withdrawing cash from your parents bank account using ATM card without their consent;
   - plagiarizing and using materials from the Internet for your class assignment without giving credit to the original author;
   - sharing offensive messages about a particular community on twitter account;
   - hacking into your school's database to change your examination results;
   - reading a government officer's e-mail without his or her permission;
   - posting a mock examination paper to your Facebook account before it is officially released to candidates;

   Classify each of these issues as either *ethical* or *legal*. (4 marks)

(c) A national examination system requires the use of *direct input* devices to capture data due to the large volume of data involved. Describe **two** types of input devices that may be suitable for this system. (4 marks)

(d) Every business that employs people regardless of its size and industry experiences various organizational conflicts.

    (i) Explain **three** causes of such conflicts. (6 marks)

    (ii) Outline **two** effects of such conflicts to the organization. (2 marks)

4. (a) Outline **four** advantages of *digital cameras* over *analogue cameras*. (4 marks)

(b) Many Internet service providers have continued to replace coaxial cables with fiber optic cables for Internet connectivity. Explain **three** reasons for this trend. (6 marks)

(c) Explain **two** types of *random access memory* of a computer system. (4 marks)

(d) Information technology has lately been introduced in many manufacturing plants. Explain **three** benefits of using this technology to the manufacturing industry. (6 marks)

5. (a) Joan has two choices of desktop publishing packages from which to buy one for the company. Explain **four** factors she should consider assuming the cost is the same for both packages. (8 marks)

(b) The following is a list of tasks that an organization carries out on a daily basis:

    – data collection and analysis on market opportunities for its products;

    – storage of employee's data;

    – creation of organization documents.

Identify the appropriate type of software the organization would use for each task, justifying your choice. (6 marks)

(c) Computers use *utility software* to enhance the operation of the operating system. Explain **three** examples of such software. (6 marks)

6. (a) Explain **three** situations where the monitor may not be an appropriate output device. (6 marks)

(b) Many companies face the challenge of electronic waste due to computerization. Explain **three** factors that contribute to the production of such waste. (6 marks)

(c) With the aid of **four** examples, describe the term *microcomputer* as use in computer systems. (4 marks)

(d) Explain **two** circumstances under which a *dot matrix printer* would be a suitable output device in an organization. (4 marks)

7. (a) Outline **four** functions of the operating system with regard to file management. (4 marks)

(b) Most learning institutions have computerized their financial operations. Explain **three** ways that the system could help minimize fraud. (6 marks)

(c)   A software development company stores its programs in *CD-ROMs* for sale. Explain **two** benefits of this move to the company. (4 marks)

(d)   Call center staff spend most of their time using computers for data entry.

   (i)   Explain **two** health-related problems to the staff that would be caused by each of the following devices:

      (I)   key board;

      (II)   CRT visual display unit. (4 marks)

   (ii)   Suggest **one** solution for each of the devices that would minimize the associated health risks in (i). (2 marks)

8.   (a)   A software development company has a employed a *systems programmer*. Outline **four** duties that could be assigned to the programmer. (4 marks)

(b)   Differentiate between *intrapersonal* and *interpersonal* types of conflicts in an organization giving an example in each case. (4 marks)

(c)   Many organizations have raised the concern that most graduates looking for employment lack *soft skills*. Explain **three** such skills that the organizations seek. (6 marks)

(d)   A commercial bank has offices in several floors of a building and other branches within the same city. The company intends to install a computer network to link all their offices. With the aid of a diagram, describe the most appropriate type of network for the company. (6 marks)

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