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INFORMATION COMMUNICATION TECHNOLOGY,
COMMUNICATION SKILLS AND
ENTREPRENEURSHIP EDUCATION
June/July 2017
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN MECHANICAL ENGINEERING
(PRODUCTION), (PLANT OPTION), (CONSTRUCTION PLANT OPTION)
DIPLOMA IN AUTOMOTIVE ENGINEERING
DIPLOMA IN WELDING AND FABRICATION
DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING
(POWER , TELECOMMUNICATIONS AND INSTRUMENTATION OPTIONS)
DIPLOMA IN BUILDING
DIPLOMA IN CIVIL ENGINEERING
DIPLOMA IN ARCHITECTURE

MODULE I

INFORMATION COMMUNICATION TECHNOLOGY,
COMMUNICATION SKILLS AND
ENTREPRENEURSHIP EDUCATION

3 hours

INSTRUCTIONS TO CANDIDATES

This paper consists of EIGHT questions in THREE sections; A, B and C.
Follow the instructions provided at the beginning of each section
All answer should be written in the answer booklet provided.
Maximum marks for each part of a question are as indicated.
Candidates should answer the questions in English.

This paper consists of 7 printed pages.

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

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SECTION A: ICT (40 marks)

Answer FOUR question from this section.

1. (a) (i) Explain the term *booting* as used in computers. (1 mark)

    (ii) Outline **two** circumstances that could necessitate warm booting. (1 mark)

    (b) Figure 1 shows a section of a typical toolbar in a spreadsheet program. Use it to answer the question that follows.
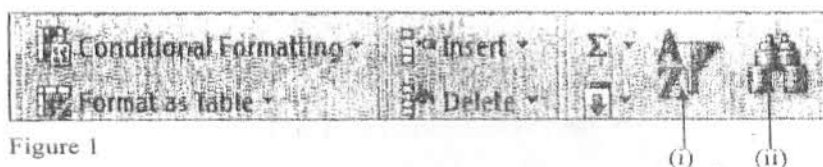

Figure 1

Fig. 1

Explain the function of each of the features labelled (i) and (ii). (2 marks)

    (c) James, a technician in an engineering company would like to buy CAD software for office use. Explain **three** factors that he could put into consideration. (3 marks)

    (d) (i) With the aid of a sketch in each case, differentiate between *flip over* and *flip up* print options as used in desktop publishing programs. (2 marks)

    (ii) John designed a publication with an object and would like to text wrap it. State **four** text wrapping options available. (1 mark)

2. (a) Explain each of the following data types as used in database programs:

    (i) auto number;
    (ii) memo. (2 marks)

    (b) (i) Figure 2 shows a section of typical toolbar in a presentation program. Use it to answer the question that follows:
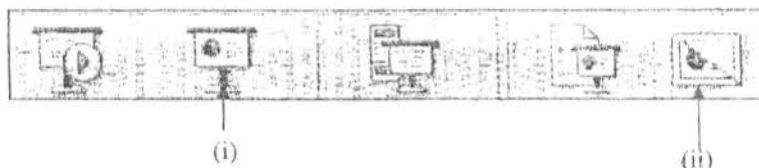

Fig. 2

Outline the function of the features labelled (i) and (ii). (1 mark)

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(ii) Outline **one** reason that could make an engineer demonstrate a project report using a presentation program. (1 mark)

(c) Figure 3 shows data in a spreadsheet program. Use it to answer the questions that follow:

	A	B	C	D
1	MATERIAL	CATEGORY	PRICE	Discount Amount
2	cement	A	35,000	
3	ballast	A	27,000	
4	concrete	A	22,000	
5	iron sheets	B	36,000	
6	sand	A	45,000	
7	water	C	15,000	
8	doors	B	30,000	
9	DISCOUNT	10%		
10	TOTAL PRICE FOR CATEGORY B MATERIALS			
11	NUMBER OF MATERIALS IN CATEGORY A			

Fig. 3

(i) Using cell referencing only, write a function that could be used to:

(I) Calculate the total price for category B materials. (1 mark)
(II) Display the number of category A materials. (1 mark)

(ii) Using cell referencing only, write a function that could be used to calculate the discount amount. Assume that a discount of 10% is offered on materials in category B.

(2 marks)

(d) Differentiate between *datasheet* and *design* view options of a table in a database program. (2 marks)

3. (a) (i) Define each of the following features as used in a word processing program.

(I) Watermark;
(II) Drop cap. (1 mark)

(ii) Differentiate between *hanging* and *first line* indent. (2 marks)

(b) Differentiate between *shareware* and *freeware* as used in information security.
(2 marks)

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(c) When interacting with a newly developed database system, Janet, an engineering company technician came across the following database objects:

(i)   a graphical interface object to display, edit and insert data;
(ii) an object to select/ retrieve a record from one or more tables;
(iii) an object to output data arranged in a specified order;
(iv) an object that organizes information in rows and columns.

Identify the database object described in each case.   (2 marks)

(d) Passwords could be used for data security, however they have some weakness. Explain **three** weaknesses associated with passwords.   (3 marks)

4. (a) Explain each of the following information security features:

(i)   replication;
(ii) backup.   (2 marks)

(b) (i) A certain engineering firm has the following ICT equipment:

   • Plotter;
   • Scanner;
   • MICR;
   • Monitor;
   • Sensor;
   • Joystick.

   Classify the equipment as either input or output devices.   (2 marks)

(ii) Outline activities that a user could carry out when caring for a computer mouse.
                                                                        (1 mark)

(c) (i) Differentiate between *centre* and *justify* text alignment options as used in a word processing program.   (2 marks)

(ii) Explain the function of the *format painter* feature in a word processing program.
                                                                        (1 mark)

(d) Explain the function of each of the following utility software: (2 marks)

(i)   disk cleanup;
(ii) defragmenter;
(iii) linker;
(iv) compiler.

5. (a) Outline **four** challenges of using speech recognition software. (2 marks)

(b) (i) An engineering company with several offices occupying three floors of a building is contemplating automating their operations. Explain **three** circumstances that would influence the inter connection of their computers. (3 marks)

(ii) With the aid of a diagram in each case, distinguish between *star* and *bus* topology as used in computers. (2 marks)

(c) **Figure 4** shows an extract from a DTP program. Use it to answer the question that follows:

The Construction Industry

The construction industry is very important for the *Kenya economy*. It accounts for 5% of the country's **GDP** and employs about 1 million people with an estimated annual wage bill of Sh3.2 billion.

According to recent findings by National Bureau of Statistics (NBS), Kenya's economy grew by 4.9% in the first quarter of 2011 thanks to the improved productivity in the construction industry.

NBS reported that the industry contributed Sh12.6 billion to countries GDP in 1st quarter of 2011 buoyed by the large road infrastructure projects currently under way across the country.

The construction was also reflected in cement consumption which rose from 77.3 million tonnes up from 667.1 million tonnes consumed in 2010.

This has seen an increase on the demand for other engineering professionals to be subcontracted in this industry.

Fig. 4

Identify **four** formatting features applied in the extract. (2 marks)

(d) Name **two** devices used for data processing in the pre-computer era. (1 mark)

SECTION B (30 marks)

COMMUNICATION SKILLS

Answer question SIX (compulsory) and any other ONE question from this section.

6.   (a)   State **two** reasons that make it necessary for organizations to place advertisements in the newspaper.   (2 marks)

    (b)   Identify **three** methods that may be used to convey oral messages in an organization.   (3 marks)

    (c)   Highlight **three** benefits of using video conferencing as a method of communication.   (3 marks)

    (d)   (i)   List **two** advantages of effective upward communication in an organization.   (2 marks)

        (ii)   State **two** ways in which the management of an organization may control the harmful effects of grapevine communication.   (2 marks)

    (e)   Most managers prepare and circulate an agenda in preparation for a meeting. Explain **two** reasons that may account for this practice.   (2 marks)

    (f)   List **two** areas on which an interviewee may ask questions during an interview, if given a chance.   (2 marks)

    (g)   Explain **two** ways in which the medium of communication may bar effective transmission of the message.   (2 marks)

    (h)   Outline **two** methods that may be used to collect data for report writing.   (2 marks)

7.   (a)   Distinguish between internal and external communication. Give an example in each case.   (2 marks)

    (b)   As the communication assistant in Pengo Engineering Works, state **three** guidelines you would follow when designing notices for communication.   (2 marks)

    (c)   Mak Engineering Limited has received an assortment of equipment as donation from a local Non-Governmental Organization (NGO). As the communications officer, write a letter to the management of the NGO acknowledging receipt of the equipment and appreciate the kind gesture.   (6 marks)

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8. (a) Communication can be defined as a process which involves the transmission and accurate replication of ideas ensured by feedback for the purpose of eliciting actions which will accomplish organisational goals.
State **two** important points emphasized in this definition. (2 marks)

(b) Architect Kwetu has requested for your advice in choosing a medium of communication. Suggest **two** factors that he should consider when making an appropriate choice. (2 marks)

(c) The management of Bandon Engineering Works Limited emphasizes on presenting written instead of oral reports. Explain **three** reasons for this emphasis. (6 marks)

SECTION C (30 marks)

ENTREPRENEURSHIP EDUCATION

*Answer any **THREE** questions from this section.*

9. (a) State **five** reasons that may make a business plan fail. (5 marks)

(b) Outline **five** strategies that an organization may take to demonstrate its responsibility to the community living around its area of operation. (5 marks)

10. (a) Outline **four** measures that an organization may adopt to manage its business finances effectively. (4 marks)

(b) State **six** steps that may be followed to start a small enterprise. (6 marks)

11. (a) State **four** contributions of entrepreneurship to the economic development of a country. (4 marks)

(b) Explain **three** conditions that may make a business opportunity viable. (6 marks)

12. (a) State **four** limitations of using e-commerce in business. (4 marks)

(b) Explain **three** ways in which the political environment of a country may negatively influence entrepreneurial development. (6 marks)

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