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**ICT, MATHEMATICS AND  
ENTREPRENEURSHIP**

**June/July 2023**

**Time: 3 hours**



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**

**CRAFT CERTIFICATE IN CHILDCARE AND PROTECTION**

**CRAFT CERTIFICATE IN PETROLEUM GEOSCIENCE**

**CRAFT CERTIFICATE IN FASHION DESIGN AND GARMENT MAKING TECHNOLOGY**

**CRAFT CERTIFICATE IN FOOD AND BEVERAGE PRODUCTION SALE AND SERVICE**

**CRAFT CERTIFICATE IN CATERING AND ACCOMMODATION OPERATIONS**

**CRAFT CERTIFICATE IN SOCIAL WORK AND COMMUNITY DEVELOPMENT**

**CRAFT CERTIFICATE IN FOOD PROCESSING AND PRESERVATION TECHNOLOGY**

**CRAFT CERTIFICATE IN SCIENCE LABORATORY TECHNOLOGY**

**CRAFT CERTIFICATE IN FISHERIES SCIENCE AND TECHNOLOGY**

**CRAFT CERTIFICATE IN SUSTAINABLE AND ECOLOGICAL AGRICULTURE**

**CRAFT CERTIFICATE IN BAKING TECHNOLOGY**

**CRAFT CERTIFICATE IN NUTRITION AND DIETETICS**

### **MODULE I**

**ICT, MATHEMATICS AND ENTREPRENEURSHIP**

**3 hours**

#### **INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

*Mathematical table/ a non Programmable Scientific calculator.*

*Answer booklet;*

*This paper consists of TWO sections A and B.*

*Answer ALL questions in Section A and the specified FOUR question from section B.*

*Candidates should answer the questions in English.*

**This paper consists of 5 printed pages.**

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

**SECTION A (40 marks)**

*Answer ALL the questions in this section.*

1. (a) List **four** computer output devices. (2 marks)
- (b) Explain the function of utility programs in a computer system. (2 marks)
2. (a) State **two** formatting features that may be applied to a table in word processing. (2 marks)
- (b) State **two** categories of formulae that may be entered in a cell of a spreadsheet. (2 marks)
3. (a) Explain the term 'database' as used in data processing. (2 marks)
- (b) State **two** functions of a computer network. (2 marks)
4. Explain **two** benefits that a student may derive from e-learning. (4 marks)
5. Evaluate  
$$(-2 \times 18 + 42 \div 7) \div (81 - 27)$$
(4 marks)
6. A straight line passes through the points P(-4, 2) and Q(2,7).  
Determine the:  $x_1, y_1$   $x_2, y_2$   
(i) gradient;  
(ii) y-intercept. (4 marks)
7. A quantity **y** is inversely proportional to a quantity **x**. When  $x = 6, y = 24$ .  
Determine **y** when  $x = 18$ . (4 marks)
8. List **four** components of a business plan. (4 marks)
9. State **four** requirements that a suitable business location should meet. (4 marks)
10. Explain the difference between creativity and innovation with respect to entrepreneurship. (4 marks)

**SECTION B (60 marks)**

*Answer questions 11, 12, and 13 and any other ONE question from this section.*

11. (a) Explain the purpose of performing each of the following activities on a computer storage disk:
- (i) formatting;
  - (ii) assigning a volume label.
- (4 marks)
- (b) State **three** types of charts that may be created using a spreadsheet program.
- (3 marks)
- (c) Outline **four** threats to data stored in an electronic database.
- (4 marks)
- (d) Lex Ltd has two buildings A and B building A has a LAN network connected via cables whereas building B has a LAN network connected via a wireless link.
- (i) List two devices that may be used in the network in building A.
  - (ii) State two advantages of the type of network link used in building B.
- (4 marks)
12. (a) State **four** types of charts used to represent statistical data.
- (4 marks)
- (b) The ages of 13 employees in a bakery are distributed as follows:
- 27, 21, 31, 19, 26, 30, 28, 20, 26, 30, 20, 26, 32.
- Determine the:
- (i) median;
  - (ii) mode;
  - (ii) mean.
- (6 marks)

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(c) The probability that a loaf of bread picked from a large sample is a reject is 0.05. Two loaves are picked at random with replacement from the sample.

- (i) represent the information in a tree diagram;
- (ii) determine the probability that:

(I) Only one is a reject.

(II) None is a reject.

(5 marks)

13. (a) Explain **three** reasons that make scanning the environment important in entrepreneurship development. (6 marks)

(b) Outline **three** personal characteristics that may lead to success in entrepreneurship. (3 marks)

(c) Mr. Baraka has not developed an organisation chart for his business. Explain **three** challenges that may be associated with such a situation. (6 marks)

14. (a) State the generation of computers where each of the following technologies were used:

- (i) transistors;
- (ii) thermionic valves;
- (iii) large scale integrated circuits;
- (iv) integrated circuits.

(4 marks)

(b) Explain **two** components of the central processing unit of a computer. (4 marks)


(c) Distinguish between a footer and a footnote as used in word processing. (4 marks)

(d) In relation to computer storage, write each of the following abbreviations in full:

- (i) EPROM;
- (ii) CD;
- (iii) TB.

(3 marks)

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15. (a) Convert the following units:
- (i) 45,000 litres to  $\text{m}^3$ .
  - (ii)  $1\frac{3}{4}$  hours to minutes.
- (4 marks)
- (b) A factory occupies a rectangular space 80 m by 50 m. Two strands of electric fence wire are installed round the compound. Determine
- (i) its area;
  - (ii) the length of the wire used.
- 
- (5 marks)
- (c) Determine the volume of the following solids:
- (i) sphere of radius 8.0 cm;
  - (ii) cone of radius 6.0 cm and height of 10.0 cm;
  - (iii) cuboid of dimensions 0.30 m by 0.25 m by 0.15 m.
- (6 marks)
16. (a) Highlight **three** ways in which the Covid-19 pandemic has affected businesses in Kenya. 3 marks)
- (b) State **four** advantages of brainstorming as a means of generating business ideas. (4 marks)
- (c) The management of Banana Enterprises intends to foster an entrepreneurial culture among the employees. Explain **five** measures that it may take to achieve this objective. (8 marks)

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