

1920/101
INTRODUCTION TO ICT
July 2016
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL
CRAFT CERTIFICATE IN INFORMATION TECHNOLOGY

INTRODUCTION TO ICT

3 hours

INSTRUCTIONS TO CANDIDATES

*This paper consists of **TWO** sections.*

*Answer **ALL** the questions in section A and any **FOUR** questions in section B in the answer booklet provided.*

Candidates should answer the questions in English.

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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) Define the term *firmware* as used in computer networks. (2 marks)
- (b) Outline **two** reasons why an invention should be patented. (2 marks)

2. Figure 1 shows the stages of data processing in a manual examination system. Use it to answer the question that follows.

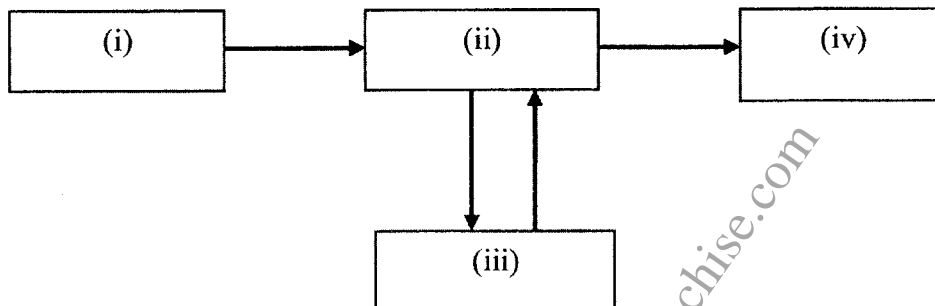


Figure 1

Assume that the exams have been done and marked, explain the stages labeled (i), (ii), (iii) and (iv) with reference to processing of examination results. (4 marks)

3. Explain each of the following computer network technologies as used in LAN:
- (i) bus topology; (2 marks)
- (ii) token ring. (2 marks)
4. (a) With the aid of an example, explain the term *cyber crime* as used in computing. (2 marks)
- (b) Nancy came across the following list of computers.
Minicomputers, supercomputers, mainframes, microcomputers
- Arrange them in terms of their processing power from lowest to the highest. (2 marks)
5. (a) Explain the function of each of the following components of a computer CPU:
- (i) control unit; (1 mark)
- (ii) ALU. (1 mark)

- (b) It has been noted that plagiarism is on the increase in submitted projects by ICT students. Explain **two** measures that could be put in place to deter students from this practice. (2 marks)
6. Differentiate between *application package* and *user program* as used in computer software. (4 marks)
7. Giddox Company intends to network all its computers. Outline **four** advantages the company will derive from this move. (4 marks)
8. Most organizations are shifting from the use of *twisted pair* cables to the use of *fiber optic* cables in their computer networks. Explain **two** reasons for this trend. (4 marks)
9. City Airways Ltd has introduced new routes covering the whole world. Suppose the company intends to computerize its booking operations:
- (i) Explain the appropriate data processing method the company should use. (2 marks)
 - (ii) Outline **two** advantages of using this data processing method. (2 marks)
10. Explain each of the following file organization methods as used in file management.
- (i) random; (2 marks)
 - (ii) indexed sequential. (2 marks)

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Turn Over

SECTION B (60 marks)

Answer any **FOUR** questions from this section

11. (a) Joseph has been requested to network the computers in the organization he works for and he prefers to use the network topology shown in figure 2.

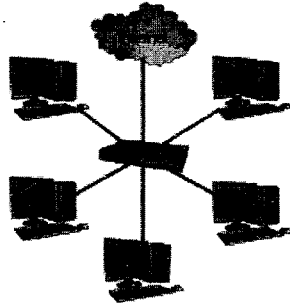


Figure 2

- (i) Describe this network topology. (4 marks)
- (ii) Outline **three** advantages of using this topology. (3 marks)
- (b) Differentiate between the features of the *second generation* and *third generation* computers. (4 marks)
- (c) Salama Medical Clinic intends to purchase computers for use in its operations. Explain **two** ways the computers could be used in the clinic. (4 marks)
12. (a) (i) Outline **two** factors that could be considered while choosing a data transmission medium. (2 marks)
- (ii) Differentiate between *BaseBand* and *BroadBand* coaxial cables. (4 marks)
- (b) William intends to computerize operations in his supermarkets. Explain **three** types of data capture devices that could be used in the system. (6 marks)
- (c) Judy wishes to acquire a word processing application for her laptop. Outline **three** factors she should consider other than cost. (3 marks)
13. (a) Outline **three** types of computer files as used in data processing. (3 marks)
- (b) Itech Ltd has advertised for sale a personal computer with the following specifications; *4 GB RAM, 200 GB hard disk* and *DVD drive*. Explain each of the devices listed in the specification. (6 marks)

- (c) Martin has been requested to acquire computer software for Stats Company. Explain **three** methods that he could use to achieve his objective. (6 marks)
14. (a) (i) Define the term *repetitive strain injury* as used in Information Communication Technology. (2 marks)
- (ii) Explain **three** risk factors that could lead to repetitive strain injury. (6 marks)
- (b) Mugosh Ltd wishes to acquire a printer for the office use. Outline **four** criteria that could be used while selecting the printer other than cost. (4 marks)
- (c) Many schools have embraced the use of ICT in their learning activities. Outline **three** ways that this move could positively impact on learners. (3 marks)
15. (a) (i) Define the term *systems software* as used in computer system. (2 marks)
- (ii) Outline **two** types of *systems software* giving an example in each case. (4 marks)
- (b) Figure 3 shows computer ports used to connect computer peripherals. Use it to answer the questions that follow.

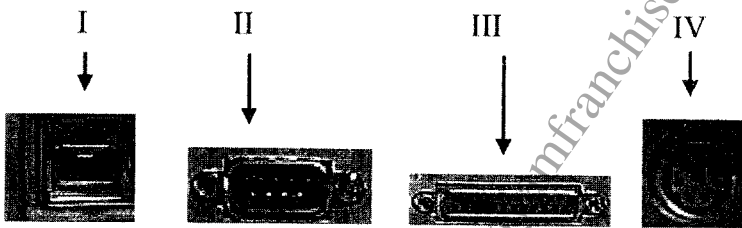


Figure 3

- (i) Identify the ports labeled I, II, III and IV. (4 marks)
- (ii) State an example of the computer peripheral that would be used on each of the ports. (2 marks)
- (c) Furha Company intends to introduce web based application systems for their daily office duties. Outline **three** ways in which this move would positively affect the employees. (3 marks)

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