



kasneb

CICT PART I SECTION 1

INTRODUCTION TO COMPUTING

TUESDAY: 26 November 2019.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

**QUESTION ONE**

- (a) Summarise four stages/steps followed in data collection and processing. (4 marks)
- (b) Computers can be classified based on purpose.  
Giving examples, distinguish between “general purpose computers” and “special purpose computers”. (4 marks)
- (c) Your friend is frustrated that after pressing the power button of the computer, it turns on but displays nothing.  
**Required:**  
Suggest four reasons that could be attributed to this situation. (4 marks)
- (d) Differentiate between the following terms:
- (i) “Audit log” and “audit trail”. (4 marks)
- (ii) “Ethernet port” and “telephone port”. (4 marks)

**(Total: 20 marks)**

**QUESTION TWO**

- (a) Explain the following terms as used in social media:
- (i) Flash mob. (1 mark)
- (ii) Follower. (1 mark)
- (iii) Handle. (1 mark)
- (iv) Lurker. (1 mark)
- (b) Distinguish between a router and a hub by the following criteria:
- (i) Function. (2 marks)
- (ii) Data transmission form. (2 marks)
- (iii) Transmission mode. (2 marks)
- (c) (i) Using an example, explain the term “tautology”. (2 marks)
- (ii) Show using a truth table that  $P \vee (\sim P)$  is a tautology. (2 marks)
- (d) One of the services offered by internet is communication.

**Required:**

Describe three communication services provided through the internet.

(6 marks)

**(Total: 20 marks)**

**QUESTION THREE**

- (a) Mobile computing technology allows transmission of data, voice and video via a computer to any other wireless enabled device without having to be connected to a fixed physical link.

With reference to the above statement, identify four mobile computing devices.

(4 marks)

- (b) Outline four benefits of using email in communication. (4 marks)
- (c) Describe four reasons why some governments are moving to web-based computing systems when dealing with members of the public. (4 marks)
- (d) Information communication technology (ICT) is a double-edged sword in that it has created new jobs but at the same time made other jobs obsolete.

With reference to the above statement, describe four jobs that have been created by ICT and four jobs that have been rendered obsolete by ICT. (8 marks)

**(Total: 20 marks)**

**QUESTION FOUR**

- (a) (i) Explain the term “bandwidth”. (1 mark)
- (ii) State one advantage and one disadvantage of the impact of bandwidth on signal transmission. (2 marks)
- (b) Describe three functions of an input unit of a computer. (3 marks)
- (c) Recommend four techniques that might be used to locate logic errors. (4 marks)
- (d) State three objectives that the designer of a Local Area Network (LAN) topology must address in order to achieve a stable LAN. (3 marks)
- (e) Explain the following types of keys in a computer keyboard:
- (i) Alphanumeric keys. (2 marks)
- (ii) Special keys. (2 marks)
- (f) Highlight three classification of memory based on physical types. (3 marks)

**(Total: 20 marks)**

**QUESTION FIVE**

- (a) Distinguish between the terms “data” and “information” as used in information communication technology (ICT). (2 marks)
- (b) Perform the following computations:
- (i)  $110111_2 + 101111_2$  (2 marks)
- (ii)  $4013_{(8)} - 745_{(8)}$  (2 marks)
- (iii)  $4A7_{(16)} + 235_{(16)}$  (2 marks)
- (iv) Convert  $1100011_2$  to octal (base 8). (2 marks)
- (v) Convert  $1CD_{(16)}$  to octal (base 8). (2 marks)
- (vi) Convert  $3101_8$  to hexadecimal (base 16). (2 marks)
- (c) In a Diploma class of seventeen students:
- Five students are studying web design and database.
  - Four students are studying programming and database.
  - Eight students are studying programming and web design.
  - Three students are studying web design only.
  - Two students are studying programming only.
  - One student is studying database only.

**Required:**

- (i) Represent the above information in a Venn diagram. (4 marks)
- (ii) Determine the number of students studying three subjects. (2 marks)

**(Total: 20 marks)**

.....