1. Identify five examples of adapter cards found in a system unit. (05 marks)
   ✓ Video adapter cards
   ✓ MDA (monochrome display adapter)
   ✓ CGA (color graphic adapter)
   ✓ EGA (enhance graphic adapter)
   ✓ Sound adapter
   ✓ Modem adapter
   ✓ NIC adapter
   ✓ RAID adapter

2. (a) Differentiate between teleconferencing and video conferencing (02 marks)
   ✓ Teleconferencing is the live exchange and mass articulation of information among several persons and machines remote from one another but linked with telecommunication systems while video conferencing is a face to face communication over a long distance using video and computer technologies.

   (b) What are some of the requirements for one to carry out video conferencing? (03 marks)
   ✓ Computer
   ✓ Software
   ✓ Speakers
   ✓ Webcam
   ✓ Internet

3. (a) State two uses of televisions as forms of ICT for information management in society (02 marks)
   ✓ They ease communication
   ✓ They entertain
   ✓ Creates awareness and ensuring security
   ✓ Enhances teaching and learning

   (b) The mobile phone revolution is hitting the world as a storm. As an IT person state three areas this revolution is hitting most. (03 marks)
   ✓ Education
   ✓ Money and banking
   ✓ Entertainment and leisure
   ✓ Socialization and collaboration
   ✓ Security
   ✓ Politics
   ✓ Communication and transport
4. The science of "Ergonomics" looks at comfort, efficiency and safety in the ICT work environment, as a member of ICT show how ergonomics is being (or can be) provided for in your school and ICT systems.

✓ Proper ventilation
✓ Use of anti glare screens to reduce radiations
✓ Use of adjustable chairs with arm rests
✓ Air conditioners to regulate temperatures in rooms
✓ Use of woolen carpets to absorb dust
✓ Flexible keyboards

5. (a) Differentiate language processors from programming languages. (02 marks)

✓ Language processors help to translate the source code either in high level language or low level language while a programming language is a notation for writing computer software.

(b) Specify the functions of the following language processors. (03 marks)

i) Linkers

✓ These are anchors that connect one source code to another source by clicking on the command

ii) Compilers

✓ Translates source code into machine binary code called object code

iii) Interpreters

✓ It translates each source code statement one at a time into machine code and execute it.

6. (a) Give the file extension, of any two of the following file types. (02 marks)

<table>
<thead>
<tr>
<th>File type</th>
<th>File extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executable file</td>
<td>.exe</td>
</tr>
<tr>
<td>Motion pictures</td>
<td>.mpeg</td>
</tr>
<tr>
<td>Ms Excel</td>
<td>.xls</td>
</tr>
</tbody>
</table>

(b) Give two examples of file attributes. (02 marks)

✓ File name
✓ File size
✓ File extension
✓ File display
✓ File types
(c) State **one** function on a file in a computer system
   ✓ Files are used to organize data and information  (01 marks)

7. (a) Identify **three** signs or symptoms of operating system failure. (03 marks)
   ✓ Abrupt shut downs and ons
   ✓ Taking too long to load
   ✓ Corrupted files
   ✓ Failure to display active desktop
   ✓ Inability to boot

   (b) Give **two** qualities of good software. (02 marks)
   ✓ Compatibility
   ✓ Efficiency and effectiveness
   ✓ Interactivity
   ✓ Authenticity of software
   ✓ Cost effective

8. (a) Briefly show where you would use the following document referencing features embedded in electronic Word Processors.
   Table of contents: (1 mark)
   ✓ To provide an over view of a document
   ✓ To ease identification

   Caption: (1 mark)
   ✓ Labeling of a picture or any drawing for a quick insight about what is about

   Bibliography: (1 mark)
   ✓ Need for acknowledging all possible sources of information in a document

   Footnote: (1 mark)
   ✓ Need for providing more information at the bottom of a page about a concept mentioned in a document

   Index: (1 mark)
   ✓ Need for listing key words in the document and their corresponding page numbers.

9. (a) Briefly explain the term protocol (02 marks)
    ✓ These are rules governing communication over the internet

   (b) Specify the function of each of the following protocol; (03 marks)

   i) HTTP
It's a protocol used to communicate between web servers and web bowe software clients.

ii) VOIP

- It allows users to hold conferences across countries for free as long as you are connected on the internet.

iii) FTP

- Enables transfer of files to others through the internet.

10. Using the table below answer the questions that follow: (05 marks)

<table>
<thead>
<tr>
<th></th>
<th>A ITEM</th>
<th>B PRICE</th>
<th>C QUANTITY</th>
<th>D VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>MANGO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ORANGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PASSION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>MAXIMUM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>PRICE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(i) Write a formula to display the value (price by quantity) for each item in column D.

- \( = b2 \times c2 \)

(ii) Calculate the total quantity in cell C5.

- \( = (c2 + c3 + c4) \)
- \( = \text{sum}(c2:c4) \)

(iii) Write a formula to calculate the total value and display it in cell D5.

- \( = (d2 + d3 + d4) \)
- \( = \text{sum}(d2:d4) \)

(iv) Write a formula to display the maximum price in cell B6.

- \( = \text{max}(b2:b4) \)

(v) Write a formula to calculate the average quantity and display it in cell C7.

- \( = \text{average}(c2:c4) \)
11 (a) Distinguish between synchronous and asynchronous data communication modes

✓ Synchronous transmits groups of bytes simultaneously at regular intervals while asynchronous transmits one byte at a time over a line at random intervals

(b) State any two data communication devices

✓ Dial up modems
✓ Routers
✓ NIC
✓ Cable modem

(c) State two factors you would consider when choosing a data communication mode.

✓ Bandwidth
✓ Cost in terms of installation

11. (a) State one difference between computer ethics and legal issues.

✓ Computer ethics refers to the branch of practical thinking regarding to the professional and social conduct while legal issues are acceptable laws governing the operation of computers

(b) State any three unethical practices usually engaged in by ICT users.

✓ Software piracy
✓ Hacking
✓ Cracking
✓ Online stealing of data

2. Describe the following terms in relation to a database management systems (DBMS).

(i) Record

✓ A row containing data in a table

(ii) Field

✓ A column containing data in a table

(iii) Query

✓ A statement used to return a set of results depending on a given criteria

(iv) Key field
✓ A unique identifier of a given record in a table

(v) Data type

✓ These specify the type of data a field can store or contain

13. (a) What do you understand by the term computer communication? (02 marks)

✓ This refers to the transmission of data or information over a channel between two or more computers

(b) Suggest the differences between analog signal and digital signal. (02 marks)

✓ Analog signals use continuously changing values to represent information e.g. thermometers, voltmeters while digital signals use discrete values to represent data i.e. 0s and 1s

(c) Identify one area in where analog signals are applied (01 mark)

✓ In hospitals, specifically thermometers, ray machines

14. Explain the following terms used by electronic mail account users. (05 marks)

Login:

✓ Implies giving the system personal details for access

Compose

✓ Allows users to create messages

Inbox

✓ An email feature that holds all received emails for the user

Sign out

✓ Allows the email account holder to safely close the email account

Forward

✓ Allows received messages to be conveniently redistributed to other recipients
15. (a) State **three** reasons to justify the need for securing ICT systems.  

(05 marks)

- They are key targets for terrorists and thieves
- They hold key information for organizations
- May cause a standstill of organizational operation incase they are down

(b) Briefly describe the following measures of securing digital content.

1) **Audit log:**

(1 mark)

- Involves enabling the system to keep a record for every activity done on the system in an audit file

2) **Legislation:**

(1 mark)

- Involves setting up working rules and regulations to regulate acquisition, storage of digital content.

16. Indicate **True** or **False** against each statement in the table below

(05 marks)

<table>
<thead>
<tr>
<th></th>
<th>Cell referencing relates to giving identity to a cell or a group of cells in a worksheet by their column header and row number.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>True/False</td>
</tr>
<tr>
<td></td>
<td>true</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Absolute referencing is a form of cell addressing where the created formula gives the same results when copied to a different cell.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)</td>
<td>True/False</td>
</tr>
<tr>
<td></td>
<td>true</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Relative referencing is a form of cell addressing where the formulated equation give varying results according to where it is copied.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(c)</td>
<td>True/False</td>
</tr>
<tr>
<td></td>
<td>false</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Digital forensic is a branch of science that encompassing the recovery and investigation of material found in digital devices, often in relation to computer crime</th>
</tr>
</thead>
<tbody>
<tr>
<td>(d)</td>
<td>True/False</td>
</tr>
<tr>
<td></td>
<td>true</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Netiquette these are moral guidelines governing the use of computers</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e)</td>
<td>True/False</td>
</tr>
<tr>
<td></td>
<td>true</td>
</tr>
</tbody>
</table>

17. (a) Differentiate between Hacking and Cracking.  

(02 marks)

- Hacking is the breaking into the computer systems by the authorized **users** without permission while cracking is an act of accessing the network illegally.
(b) Identify 3 ways how you can secure your data from the above computer crimes.

- Use of strong passwords
- Installation of firewalls on a computer
- Employing copyright laws to employees

18. (a) NSSB’s network access speed is 5 megabytes per second. How many kilobytes of data can an internet user for that network be in position to receive or send per second?

(02 marks)

1mb = 1024 kilobytes
5 mbs = 5 * 1024
= 5000kb/s

(b) Identify three factors that affect network access speed.

- Bandwidth
- Transmission media
- Type of operating system

19. (a) Identify any two features that are typical of electronic publishing software.

(02 marks)

- Textboxes
- Columns
- Graphics
- Schemes

(b) Mention three publications that can be published online.

(03 marks)

- Websites
- Emails
- Adverts
- Programs

End