INTRODUCTION TO COMPUTERS

1. (a). Define the term **computer**.

.....

.....

(b). Outline **four** characteristics of a good computer.

.....

.....

.....

.....

(c). State **five** advantages of using a computer today for data processing.

.....

.....

.....

.....

.....

(d). State **three** reasons to suggest why laptop computers are common today.

.....

.....

.....

2. (a). Distinguish between **computer generations** and **computer evolution**.

.....

.....

(b). (i). State **four** characteristics of computing devices developed during the mechanical eral.

.....

.....

.....

.....

(ii). State **three** examples of computing devices developed during the mechanical era.

.....

.....

.....

(c). Identify the major scientific discoveries in each of the following generations:

| **Generation** | **Discovery / milestone** |
|---|---|
| First | ..... |
| Second | ..... |
| Third | ..... |
| Fourth | ..... |
| Fifth | ..... |

3. (a). State **three** bases for classifying computers.

.....

.....

.....

.....

(b). Give **four** characteristics of second generation computers.

.....

.....

.....

.....

**(c).** Explain the following terms as used in relation to computer use:

(i). *Versatile***.**

.....

.....

**(ii).** *Diligent***.**

.....

.....

**(iii).** *Automation***.**

.....

.....

*(iv). Garbage - in , Garbage - out.*

.....

.....

*(v). Artificial intelligence.*

.....

.....

.....

(d). Give **four** disadvantages of using computers for data processing.

.....

.....

.....

.....

4. (a). State any **three** ways computes have caused un-employment in Uganda.

.....

.....

.....

(b). List **four** characteristics of first generation computer.

.....

.....

.....

.....

(c). State any **four** examples of computers classified under / as personal computers.

.....

.....

.....

.....

(d). Give **three** advantages that were associated with the development of the integrated circuit.

.....

.....

*5.* (a). State **four** characteristics of the following forms of computers:

(i). *Super computers.*

.....

.....

.....

.....

(ii). *Mini - computers.*

.....

.....

.....

.....

(iii).*Mainframe - computers.*

.....

.....

.....

.....

(iv). *Micro - computers.*

.....

.....

.....

.....

.....

(b). List **three** features of third generation computers.

.....

.....

.....

**6.** Outline **five** practical uses of computers in each of the following sector areas:

(i). *Security***.**

.....

.....

.....

.....

.....

*(ii). Governance.*

.....

.....

.....

.....

.....

*(iii). Education.*

.....

.....

.....

.....

*(iv). Transport.*

.....

.....

.....

.....

.....

*(v). Entertainment.*

.....

.....

.....

.....

.....

*(vi). Military.*

.....

.....

.....

.....

.....

*(vii). Business.*

.....

.....

.....

7. (a). (i). Define the term **computer system**.

.....

.....

(ii). Outline any **five** elements that make up a computer system.

.....

.....

.....

.....

.....

(b). State **four** factors to consider before buying a computer for use.

.....

.....

.....

.....

(c). Distinguish between the following pairs of terms:

(i). **Special - purpose** and **general - purpose** computers.

.....

.....

.....

(ii). **Analogue** and **digital** computers.

.....

.....

(iii). **Data** and **information**.

.....

.....

.....

(iv). **Stand - alone** and **networked** computers.

.....

.....

.....

(d). Give **five** characteristics of fourth generation computers.

.....

.....

.....

.....

.....

8. (a). State any **three** divisions of a computer's keyboard.

.....

.....

.....

(b). Describe each of the following keyboard keys:

(i). *Enter key.*

.....

.....

*(ii). Escape key.*

.....

.....

*(iii). Capslock key.*

.....

.....

*(iv). Tab key.*

.....

.....

*(v). Shift key.*

.....

.....

*(vi). Num lock.*

.....

.....

*(vii). Functional - keys.*

.....

.....

9. (a). Name **three** buttons that work as ON/OFF switches on a computer's keyboard.

.....

.....

.....

(b). State the difference between **backspace** and **delete** key.

.....

.....

.....

*(c).* Using a computer's keyboard, show how the following are carried out:-

(i). *Confirm a command.*

.....

.....

*(ii). Select the entire document.*

.....

.....

*(iii). Print a page.*

.....

.....

*(iv). Restart a computer.*

.....

.....

*(v). Cancel an operation or command.*

.....

.....

10. (a). Name **one** computing device that was developed by the following personalities:

(i). *Pascal Blaisé.* .....

(ii). *Herman Hollerith.* .....

(iii). *John Napier.* .....

(iv). *Konrad Zuse.* .....

(b). Give **three** characteristics of the **ENIAC** computer.

.....

.....

.....

(c). In your own analysis, suggest **five** reasons to support the idea that first generation computers were not popular.

.....

.....

.....

.....

.....

(d). Outline **five** characteristics of computers developed in the fifth computer generation.

.....

.....

.....

.....

.....

11. (a). Identify **four** hardware components that are supplied as part of a functional desktop computer.

.....

.....

.....

.....

(b). Write the following abbreviation in full:

(i). *CPU:* .....

(ii). *COBOL:* .....

(iii). *PC:* .....

(iv). *MIPS:* .....

(c). State **four** reasons for taking computers studies as a subject in secondary schools today.

.....

.....

.....

.....

12. (a). Write a list of **seven** measures you would take to maintain and care for your computer.

.....

.....

.....

.....

.....

.....

.....

(b). Use only **one** of the following words to fill in the spaces below in a way of describing major functions of a computer system.

**storage, input, processing, output.**

(i). With ..... , a computer keeps data for future use.

(ii). allows data to be generated using devices like a keyboard.

(iii). enables the computer to display data / information.

(iv). helps the computer to convert data into information.

## COMPUTER LABORATORY AND MAINTENANCE

**1.** (a). Define a **computer laboratory.**

.....

.....

(b). State **six** factors to consider before setting up a computer laboratory.

.....

.....

.....

.....

.....

.....

(c). Outline **four** physical measures that can be put in place to increase safety of computers.

.....

.....

.....

.....

(d). Distinguish between **cold - booting** and **warm - booting**.

.....

.....

2. (a). Outline **four** reasons for restarting a computer.

.....

.....

(b). State **four** advantages of restarting a computer.

.....

.....

.....

.....

*(c).* Describe the role of the following in the booting process of a computer:

(i). *POST.*

.....

.....

(ii). *RAM.*

.....

.....

(iii). *BIOS.*

.....

.....

(iv). *Kernel.*

.....

.....

*(d).* State the purpose of the following in a computer laboratory:

(i). *Woolen carpet.*

.....

.....

*(ii). Dust blower.*

.....

.....

*(iii). Screw driver.*

.....

.....

*(iv). Air conditioner.*

.....

.....

*(v). CCTV Camera.*

.....

.....

(vi). *UPS.*

.....

.....

3. (a). State **five** precautions you would bear in mind as you maintain your computer.

.....

.....

.....

.....

.....

.....

(b). Under what circumstances may a user restart a computer?

.....

.....

.....

.....

.....

.....

(c). Describe **four** measures you would employ to increase safety of a user while in a computer laboratory.

.....

.....

.....

.....

(d). Prepare a checklist of **five** rules and regulations for use in a computer laboratory of your school.

.....

.....

.....

.....

.....

4. (a). State **five** causes of booting failure in a computer.

.....

.....

(b). Describe **four** steps you would employ to correct a computer with a boot failure.

.....

.....

.....

.....

(c). Distinguish between **computer repair** and **computer servicing**.

.....

.....

.....

.....

(d). State **five** reasons for servicing your computer at home.

.....

.....

.....

.....

.....

5. (a). Suggest any **four** causes of system freeze in a computer laboratory.

.....

.....

.....

.....

.....

(b). State **five** measures you would take to control system freeze in a computer laboratory.

.....

.....

.....

.....

.....

(c). Write down a list of **five** activities you would take to maintain full life of a computer.

.....

.....

.....

.....

.....

(d). Prepare a list of **six** standard rules you would propose for use in a laboratory.

.....

.....

.....

.....

.....

.....

## COMPUTER HARDWARE DEVICES

1. (a). Define the term **computer hardware**.

.....

.....

(b). State **four** classes of computer hardware devices.

.....

.....

.....

.....

(c). (i). What are **peripheral devices**?

.....

.....

(ii). List **five** examples of peripheral devices.

.....

.....

.....

.....

.....

(d). Explain the following terms as used in relation to computer hardware devices.

(i). **Input**.

.....

.....

(ii). **Output**.

.....

.....

(iii). **Storage**.

.....

.....

(iv). **Processing**.

.....

.....

2. (a). Explain **four** forms of input hardware deives that can be used for text entry.

.....

.....

.....

.....

(b). State **three** advantages of using the following input hardware devices in a computer laboratory:

(i). **Keyboard**.

.....

.....

(ii). **Mouse**.

.....

.....

.....

(c). Give **four** factors to consider before buying an input hardware device.

.....

.....

.....

.....

(d). List **five** mouse techniques normally associated with mouse use.

.....

.....

.....

.....

.....

3. (a). State **three** forms computer ouput may take.

.....

.....

.....

*(b).* Suggest an output hardware device that shall be used for the following tasks:

(i). *Display a soft-copy.*

.....

.....

*(ii).* *Provide a copy of work on a piece of paper.*

.....

.....

*(iii).* *Indicate information by use of a set of low energy bulb.*

.....

.....

*(iv).* *To help a user play speeches and music files.*

.....

.....

(c). Give **four** reasons to suggest why LCD monitors are common today.

.....

.....

.....

.....

.....

(d). State **six** factors to consider before buying a monitor for graphics work.

.....

.....

.....

.....

.....

.....

*4.* (a). Explain the following terms in relation to monitor choice and use:
(i). *Resolution.*

.....

.....

(ii). *Refresh rate.*

.....

.....

(b). (i). Suggest the difference between **dots per inch** and **screen resolution**.

.....

.....

.....

(ii). Identify **three** causes of paper jam in a printer.

.....

.....

.....

(iii). Suggest **six** measures you would introduce to maintain your printer.

.....

.....

.....

.....

.....

.....

(c). Outline **five** factors to consider before buying a printer for domestic use.

.....

.....

.....

5. (a). (i). Write the abbreviation **CPU** in full.

.....

(ii). State **three** parts that make up the CPU.

.....

.....

.....

*(b).* Give the importance of the following during data processing:

(i). *Data bus.*

.....

.....

*(ii).* *Address bus.*

.....

.....

*(iii).* *Accumulators.*

.....

.....

(c). Explain the **four** machine cycles carried out by the CPU during data processing.

.....

.....

.....

.....

.....

(d). Name the **two** components in the CPU that provide temporary data storage.

.....

.....

6. (a). (i). Distinguish between **primary** and **secondary** memory.

.....

.....

(ii). Describe any **five** examples of primary memory generally referred to.

.....

.....

.....

.....

.....

.....

(b). State **four** characteristics of Random Access Memory.

.....

.....

.....

.....

*(c).* Write down **three** storage devices that use the following technologies:

(i). *Solid - state.*

.....

.....

*(ii). Magnetic.*

.....

.....

*(iii). Optical storage.*

.....

.....

7. (a). Suggest **five** reasons to explain why majority of the computer programs are generally supplied on a computer disc.

.....

.....

.....

.....

.....

(b). Naiga Sandra has data that is 4.5 GB in size. Write down **three** storage media she would use to store her data.

.....

.....

.....

(c). Outline **five** factors to consider before buying a storage media for use.

.....

.....

.....

.....

8. (a). State **five** measures you would put in place to have long term use of a storage medium of your choice.

.....

.....

.....

.....

.....

(b). Give the meaning of the following terms as used in data storage:

(i). *Access - time.*

.....

.....

*(ii). Storage capacity.*

.....

.....

*(iii). Reading.*

.....

.....

*(iv). Writing.*

.....

.....

*(v). Storage device.*

.....

.....

*(vi).* *Storage medium.*

.....

.....

*9.* (a). Describe the following storage facilities

(i). *Hard disk.*

.....

.....

*(ii).* *Compact disc.*

.....

.....

*(iii).* *Flash disk.*

.....

.....

(b). (i). Describe **four** causes of hard disk crush in a computer laboratory.

.....

.....

.....

.....

(ii). State **three** circumstances underwhich a user may prefer a flash disk over a compact disc.

.....

.....

.....

(iii). State **four** advantages of partioning a hard disk.

.....

.....

.....

.....

10. (a). (i). Write **BIT** in full: .....

(ii). Give **two** advantages of using BIT notation in a computer.

.....

.....

(iii). Write down the digits that make up hexa - decimal.

.....

(iv). Convert 1101110 into deca notation.

(v). Write 121 into binary notation.

(b). Fill in the table below with the most appropriate measure of data.

| | |
|---|---|
| 8 bits | ..... byte(s) |
| ..... bytes | 1 Kilo Byte (KB) |
| ..... Kilo Bytes (KBs) | 1 Giga Byte (GB) |

11. (a). Give **four** specialiased characteristics of optical storage media.

.....

.....

.....

.....

(b). Write the following in full and state the number of digits each represents.

(i). *ASCII*

.....

(ii). *EBDIC*

.....

(iii). *BDIC*

.....

## WORD PROCESSING

1. (a). Define a **word processor**.

.....

.....

(b). Give **four** advantages of using an electronic word processing program over a manual mode.

.....

.....

.....

.....

(c). (i). State **six** editing tools in a word processor.

.....

.....

.....

.....

.....

.....

(ii). Give **four** *forms / examples* of documents prepared using a word processor.

.....

.....

.....

.....

2. (a). Outline **six** features found in a word processor.

.....

.....

.....

.....

.....

.....

(b). Describe the following tools found in a word processor.

(i). *Wordwrap.*

.....

.....

*(ii). Page layout.*

.....

.....

*(iii). Footer.*

.....

.....

*(iv). Ruler.*

.....

.....

*(v). Drop Cap.*

.....

.....

3. (a). (i). What is a **font**?

.....

.....

(ii). State **three** properties of a font.

.....

.....

.....

(b). Distinguish between **editing** and **formatting** as used in word processing.

.....

.....

.....

.....

(c). State **six** formatting tols used in a word processor.

.....

.....

.....

.....

.....

.....

4. (a). What is the function of the *mail-merge* facility in a word processor.

.....

.....

(b). (i). Explain what document referencing is in word processing.

.....

.....

(ii). State **four** document referencing tools used in a word processor.

.....

.....

.....

.....

*(c).* What is the indication of the following in a word processor?

(i). *Red underline below a word.*

.....

*(ii).* *Green underline below a word.*

.....

*(d).* How are the following done using a word processor:

(i). *Place a word in the middle of the page.*

.....

.....

*(ii).* *Have a word appearing on top margin space of each page in a document.*

.....

.....

*(iii).* *Change page size from letter to A4 paper size.*

.....

5. (a). State **four** activities that can be done on a table in a word processor.

.....

.....

.....

.....

(b). Describe the procedure for printing page six (6) from a sixty (60) page document.

.....

.....

(c). State the difference between **slip - cell** and **merge - cell**.

.....

.....

(d). What is the importance of grouping objects drawn?

.....

.....

*6.* (a). Describe how a user can typeset the following tasks in a word processor:
(i). $H_2O$.

.....

(ii). ~~*Computer studies*~~.

.....

(iii). *COMPUTER STUDIES.*

.....

(iv). *pAGE lAYOUT.*

.....

(b). What is the difference between **copy** an **paste** as applied onto given text.

.....

.....

(c). Describe how you would place a *watermark* in only one page in a document?

.....

.....

*(d).* Explain the following case styles in word processing:

(i). *Sentence case.*

.....

.....

*(ii).* *Upper case.*

.....

.....

*(iii).* *Title case.*

.....

.....

*(iv).* *Toggle case.*

.....

.....

7. (a). Distinguish between a **footer** and a **footnote**.

.....

.....

.....

(b). State **four** functions of a word processing program.

.....

.....

.....

.....

(c). List **six** ways you can make a document look attractive and professional.

.....

.....

.....

.....

.....

.....

(d). State the tools you would use to carry out the following tasks:

*(i). A teacher of physics who would wish to draw a time - speed graph.*

.....

*(ii). A teacher of mathematics who would wish to insert an equation.*

.....

*(iii). A teacher of english language who would wish to add numbers against each line in a passage.*

.....

8. (a). (i). Define the term **page orientation**.

.....

.....

(ii). State the **two** different forms of page orientation.

.....

.....

(b). State the difference between a **superscript** and a **subscript**.

.....

.....

*(c).* Explain the use of the following tools in a word processor:

(i). *Word count.*

.....

.....

*(ii). Auto complete.*

.....

.....

*(iii). Select All.*

.....

.....

9. (a). Describe how the following are done using a word processor:

(i). *Select a word*.

.....

.....

(ii). *Select a paragraph*.

.....

(iii). *Select the entire document*.

.....

(b). State **two** facilities in a word processor one would use to correct a document to make it free from mistakes.

.....

.....

(c). Kato was typesetting a document, describe the steps he would carry out in order to:

*(i). Give a document a name.*

.....

.....

*(ii). Give the document another name.*

.....

.....

10. (a). Define the following terms as used in word processing:

(i). *Line spacing.*

.....

.....

*(ii). Word spacing.*

.....

.....

*(iii). Margins.*

.....

.....

(b). State any **three** forms of text wrap while dealing with images.

.....

.....

.....

(c). Describe how you would insert page numbers in a document.

.....

.....

.....

.....

.....

11. (a). Study the table bwlow and answer questions following:

| S.1 CLEANING PROGRAM | | | | |
|---|---|---|---|---|
| **Stream** | **T** | **No:** | **R** | **In-charge** |
| Central | **U** | 20 | **E** | Simon |
| Precious | **N** | 60 | **C** | David |
| North | **C** | 40 | **E** | Joseph |
| East | **H** | 82 | **S** | Peter |

(i). How many columns do you see on the table above?

.....

(ii). State any **six** formatting features used in the table above.

.....

.....

.....

.....

(iii). How would you duplicate the table above to have four on one page?

.....

.....

(iv). How would you place the table above in the middle of the page?

.....

.....

(v). State **one** referencing feature you would apply on this table.

.....

(vi). The teacher on duty would wish to obtain the number of students that are to work from the streams indicated. Write down a formular you would use to obtain the total.

.....

12. (a). Your teacher has asked you to create a roll - call sheet for one hundred and fifty (150) students. The names are recorded on the basis of first - come, first - serve i.e. in no order. The roll - call sheet should cater for sex, house and 12 spaces on the right hand side against each name.

(i). Outline **seven** facilities you would work with to have a neatly prepared roll - call sheet.

.....

.....

.....

.....

.....

.....

.....

(ii). You need to insert a three line heading. State **four** tools you would engage to do this work.

.....

.....

.....

.....

(b). What is the effect of applying the following paragraph tools:

(i). *Columns*.

.....

.....

*(ii). Line numbering.*

.....

.....

*(iii). Line spacing.*

.....

.....

*(iv). Use of hyphanation.*

.....

.....

13. (a). You have been contacted by an events company to draw a sketch direction to the venue of a birth day party for its client.

(i). Identify **six** tools you would use to have the sketch drawn in soft copy.

.....

(ii). As you are drawing your sketch, what is the purpose of a ruler in your design pattern?

.....

.....

(b). Write down a tool you would need to carry out the following tasks:

*(i). have text in the bottom margin appearing repeatedly in a document.*

.....

*(ii). have the first letter in a paragraph to strecth more lines.*

.....

*(iii). have text move away from the left and right margins settings.*

.....

*(iv). increase vertical distance between typed lines.*

.....

14. (a). (i). Define the term **page - break**.

.....

.....

(ii). Write down **three** forms of page - break used in word processing.

.....

.....

.....

(b). State **four** circumstances under which page - break is useful in a word processor.

.....

.....

(c). Give **five** examples of file extensions related to word processing.

.....

.....

.....

.....

.....

(d). State **three** ways you would safeguard a word processing document.

.....

.....

.....

15. (a). In relation to mail - merge facility in a word processor, explain the following:

(i). *Main - document.*

.....

.....

*(ii). Data - source.*

.....

.....

*(iii). Merge to printer.*

.....

.....

*(iv). Edit individual document.*

.....

(v). **Send to e-mail**.

.....

.....

(b). Describe the following facilities:

(i). **Clip - art gallery**.

.....

.....

(ii). **Word - art**.

.....

.....

(iii). **Fill - colour**.

.....

.....

(c). State **four** properties of a good table in a word processor.

.....

.....

.....

.....

(d). (i). Define the term **text alignment**.

.....

.....

.....

(ii). State **three** forms horizontal alignment in relation to text handling.

.....

.....

.....

## COMPUTER SOFTWARE

1. (a). (i). Define the term **computer software**.

.....

.....

(ii). State the **two** major categories of computer software.

.....

.....

(b). Distinguish between **system** and **applications** software.

.....

.....

.....

(c). State the **three** major divisions of computer system software.

.....

.....

.....

2. (a). (i). What are **operating systems**?

.....

.....

(ii). Give **five** functions of operating system software.

.....

.....

.....

(b). Outline **six** factors you would consider before buying an operating system program for your computer.

.....

.....

.....

.....

.....

.....

(c). Explain any **four** types of operating systems by classification.

.....

.....

.....

.....

3. (a). (i). What are **user interfaces**?

.....

.....

(ii). Give **three** forms of user interfaces available for use.

.....

.....

.....

(b). (i). Give **five** facilities that are available in a graphical user interface that helps a user to perform tasks.

.....

(ii). State **four** advantanges and **two** disadvantages of a graphical user interface.

.....

.....

.....

.....

(c). (i). What is a **line - user interface**?

.....

.....

(ii). State **three** advantanges and **two** disadvantages of a line - user interface.

.....

.....

.....

*4.* (a). Describe the following facilities as used in relation to user interfaces:

(i). *Dialogue box.*

.....

.....

(ii). *Menu*.

.....

.....

*(iii). Drop lists.*

.....

.....

*(iv). Radio buttons.*

.....

.....

*(v). Check box.*

.....

.....

*(vi). Icon.*

.....

.....

5. (a). (i). What are **utility programs**?

.....

.....

(ii). Describe any **ten** utility programs commonly used.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(b). State any **five** utility programs that can be used in file management.

.....

.....

.....

.....

.....

(c) (i). Give **six** uses of an anti-virus program.

.....

.....

.....

.....

.....

.....

(ii). List **five** examples of anti - virus programs commonly used.

.....

.....

.....

.....

.....

(c). Give **four** advantages of backing - up data in a computer laboratory.

.....

.....

.....

.....

6. (a). What are computer **programming languages**?

.....

.....

(b). State any **two** categories of programming languages.

.....

.....

(c). (i). State **three** advantages and two disadvantages of using a high level programming language.

.....

.....

.....

(ii). List **four** examples of high level programming languages.

.....

.....

.....

.....

7. (a). (i). What is a **language translator**?

.....

.....

(ii). State **three** examples of program translators.

.....

*(b).* Define the following terms as used in programming:

(i). *Bug.*

.....

.....

*(ii). Source - code.*

.....

.....

*(iii). Compiler.*

.....

.....

*(iv). Machine code.*

.....

.....

*(v). Interpreter.*

.....

.....

(c). Explain **eight** characteristics of a good programming language.

.....

.....

.....

.....

.....

.....

.....

.....

8. (a). (i). Define an **application program**?

.....

.....

(ii). State **five** factors you will consider before buying an application program.

.....

.....

.....

.....

.....

(b). (i). What is a **freeware program**?

.....

.....

(ii). State **three** advantages and **two** disadvantages of using a freeware program.

.....

.....

.....

**(c).** Explain the following terms as used in relation to computer programs:

(i). **Shareware.**

.....

**(ii). Open - source program.**

.....

.....

9. (a). (i). What is a **software suite**?

.....

.....

(ii). Give **four** advantages and **two** disadvantages of using a software suite.

Advantages:

.....

.....

.....

.....

Disadvantages:

.....

.....

(iii). List **three** examples of software suite programs.

.....

.....

.....

(b). (i). Give the difference between **custom - made** and **off - the - shelf** software.

.....

.....

(ii). State **three** advantages and **two** disadvantages of using custom made over off - the - shelf programs.

.....

.....

.....

(c). Explain **six** categories of application programs available for use.

.....

.....

.....

.....

.....

.....

10. (a). Describee **four** ways of obtaining computer software programs for use while at home.

.....

.....

.....

.....

(b). List **three** causes of software failure in an organisation.

.....

.....

.....

.....

(c). State **four** system requirements needed when installing a computer program.

.....

.....

.....

.....

## SPREADSHEETS PROGRAM

1. (a). Define a **spreadsheet**.

.....

.....

(b). Give **five** advantages of using an electronic spreadsheet program.

.....

.....

.....

.....

.....

(c). State **six** examples of spreadsheet programs commonly used.

.....

.....

.....

.....

.....

.....

(d). Describe how a sports teacher of your school would use a spreadsheet program to perform his / her tasks.

.....

.....

.....

.....

2. (a). State **five** forms of data types that can be stored in a spreadsheet program.

.....

.....

.....

.....

.....

(b). Distinguish between a **column** and **row** as used in spreadsheets.

.....

.....

.....

(c). Explain houw you can add the following in a spreadsheet program:
(i). *Row*.

.....

.....

(ii). *Column*.

.....

.....

*(d).* Explain the following terms as used in relation to spreadsheet programs.

(i). *Cell.*

.....

(ii). *Workbook.*

.....

.....

*(iii). Worksheet.*

.....

.....

3. (a). Distinguish between a **workbook** and a **worksheet**.

.....

.....

.....

*(b).* Explain the use of the following facilities in a spreadsheet program:

(i). *Freeze pane.*

.....

.....

*(ii). Print grid - line.*

.....

.....

*(iii). Print - selection.*

.....

.....

(c). (i). What is a **cell reference**?

.....

.....

(ii). Oultine the various forms of cell references used in a spreadsheet program.

.....

.....

.....

.....

.....

.....

4. (a). Explain the following data types as used in spreadsheet programs.

(i). *Number*.

.....

.....

(ii). *Currency*.

.....

.....

(iii). *Text*.

.....

.....

(b). Identify the nature of data types the following may below:

(i). *Student's name*.

.....

(ii). *Fees paid*.

.....

(iii). *Quantity in store*.

.....

(c). (i). What is a **function** as used in spreadsheet programs.

.....

.....

(ii). State **three** parts that make up a spreadsheet formular.

.....

.....

.....

(d). Give **four** examples of statistical functions in a spreadsheet progam.

.....

.....

.....

.....

5. (a). Explain the following forms of cell referencing:

(i). *Mixed*.

.....

.....

(ii). *Relative*.

.....

.....

(iii). *Absolute*.

.....

.....

*(b).* State the forms of cell referencing used in the following formulae:

(i). *=SUM(B2:B10)*

.....

(ii). *=COUNTIF($C$2:*$C$10,B1)

.....

(iii). *=RANK($D$2:$D$10, $D$2:$D$10)*

.....

(c). Distinguish between a **name box** and a **formula bar**.

.....

.....

6. The following spreadsheet was developed by a retailer of ABC Limited. Study it and answer the questions that follow:

| | A | B | C | D |
|---|---|---|---|---|
| 1 | **Item_Name** | **Quantity** | **Unit_Price** | **Total_Cost** |
| 2 | Bagiya | 28 | 250 | |
| 3 | Yorghut | 100 | 700 | |
| 4 | Soda | 52 | 800 | |
| 5 | Rolex | 200 | 1,500 | |
| 6 | Toilet Paper | 600 | 250 | |
| 7 | Ream (Rotatrim) | 15 | 18,000 | |
| 8 | Pencil | 30 | 250 | |
| 11 | Pems | 150 | 500 | |
| 12 | Exercise books | 700 | 500 | |

(a). How many rows are in the spreadsheet above?

.....

.....

(b). Write a suitable heading for the spreadsheet above.

.....

(c). Explain what facility was used in order not to show rows 9 and 10 respectively.

.....

.....

*(d).* Write a formular to determine the following:

(i). *Highest quantity bought.*

.....

(ii). *Lowest unit_price.*

.....

*(iii).* *Total cost for pens bought by the retailer.*

.....

*7.* (a). Explain the following functions as used in a spreadsheet program:

(i). *SUM.*

.....

(ii). *AVERAGE.*

.....

(iii). *RANK.*

.....

(iv). *IF.*

.....

(vi). *MODE.*

.....

(vii). *COUNT.*

.....

(b). Describe how you would sort data using a spreadsheet program.

.....

.....

.....

.....

(c). Explain how you would add a new worksheet in a workbook.

.....

.....

.....

.....

8. (a). Explain the use of a function in a spreadsheet program.

.....

.....

(b). If a formula **=IF(B2>=60,"Promoted","Repeat")** is generated by a spreadsheet user, explain what is most likely to be output for the two conditions when applied to a set of marks.

.....

.....

.....

.....

(c). Outline **three** qualities of a good graph in relation to a spreadsheet program.

.....

.....

.....

*(d).* Explain the following terms:

(i). *Auto re-calculate.*

.....

.....

(ii). *Auto fill***.**

.....

.....

(e). What is the function of a *cross-hair handle* in a spreadsheet program?

.....

.....

9. (a). State **four** examples of graphs that can be used in a spreadsheet program.

.....

.....

.....

.....

(b). Write down a function you would use to perform the following in a spreadsheet program:

*(i). Position of each student basing on the total marks.*

.....

*(ii). Adding up scores for four subjects.*

.....

*(iii). Determine the largest value in a selected range of cells.*

.....

**(iv).** *Determine the number of entries in a given column***.**

.....

(c). (i). What is a **cell range**?

.....

.....

(ii). How many cells are in the cell range (B4:F16)?

.....

.....

10. (a). What is an **error message**?

.....

.....

*(b).* Explain the following error messages displayed in a spreadsheet program:

(i). *#######*

.....

(ii). *#DIV/0!*

.....

*(iii).* *#Name?*

.....

*(iv).* *#Value!*

.....

(v). *#REF!*

.....

(vi). *#Num!*

.....

(vii). *#NULL*

.....

*(c).* Describe the following application sections on a spreadsheet application interface:

(i). *Name box.*

.....

.....

*(ii). Formular bar.*

.....

.....

*(iii). Data series.*

.....

.....

*(iv). Legend.*

.....

.....

## COMPUTER NETWORKS

1. (a). Define the term **data communication**.

.....

.....

(b). State any **four** *components / elements* of data communication.

.....

.....

.....

.....

**(c).** With examples, explain the following data communication components:

(i). *Sender***.**

.....

.....

**(ii).** *Receiver***.**

.....

.....

*(iii). Communication device.*

.....

.....

*(iv). Protocol.*

.....

.....

(vi). *Communication channel.*

.....

.....

2. (a). Outline **five** advantages and **four** disadvantages of data communication.

Advantages:

.....

.....

.....

.....

.....

Disadvantages:

.....

.....

.....

.....

(b). Explain any **five** data communication tools used in an organisation.

.....

.....

.....

.....

.....

.....

(c). State **four** factors to consider before choosing a data communication tool for use.

.....

.....

.....

.....

**3.** (a). Define the term **computer network.**

.....

.....

(b). (i). State **four** bases for classifying computer networks.

.....

.....

.....

.....

(ii). Explain **six** factors to consider before setting up a local area network.

.....

.....

.....

.....

.....

.....

.....

.....

(c). State **four** advantages of using a computer network.

.....

.....

.....

.....

(d). Outline **three** disadvantages of using a computer network by a school.

.....

.....

.....

4. (a). Give **two** reasons for setting up a local area network.

.....

.....

(b). (i). Give the difference between a **server** and a **stand - alone** computer.

.....

.....

.....

(ii). Give **four** advantages of using a clinent - to - server network.

.....

.....

.....

.....

.....

(c). Under what circumstances may one prefer a peer - to - peer network?

.....

.....

.....

.....

5. (a). List **five** examples of computer crimes committed across a computer network.

.....

.....

.....

.....

.....

(b). Outline **three** disadvantages of using a computer network to a school.

.....

.....

.....

(c). Describe **four** forms of resources that can be shared across a computer network.

.....

.....

.....

.....

.....

.....

6. (a). Using an illustration, draw a simple structure of the following:

| | | |
|---|---|---|
| | | |
| **Bus topology** | **Ring topology** | **Star topology** |

(c). Give **three** characteristics of a bus topology.

.....

.....

.....

(d). State **three** advantage of using cables for data transmission across a network.

.....

.....

.....

7. (a). State. any **three** examples of cable types available for data communicaiton.

.....

.....

.....

(b). Explain **four** factors to consider before choosing a network topology for configuration in a computer laboratory.

.....

.....

.....

(c). (i). What are **un-guided transmission media**?

.....

.....

(ii). List **four** examples of un-guided transmission media.

.....

.....

(d). Give **four** advantages of using mobile computer networks.

.....

.....

.....

.....

**8.** (a). Define a computer **network topology.**

.....

.....

(b). Write the following abbreviation in full in relation to computer network:

(i). *TCP/IP*: .....

(ii). *IP*: .....

(iii). *SMTP*: .....

(iv). *FTP*: .....

(v). *IPX*: .....

(c). Give **three** hardware components needed to connect a computer to an already existing network.

.....

(d). Suggest **four** functions of a computer network administrator to an organisation.

.....

.....

.....

.....

9. (a). (i). What are **networking hardware devices**?

.....

.....

.....

(ii). State **four** examples of networking hardware devices.

.....

.....

.....

.....

*(b).* Give the use of the following communicaiton hardware devices:

(i). *Hub.*

.....

.....

(ii). *Switch.*

.....

.....

.....

(iii). *Repeater.*

.....

.....

(iv). *Bridge.*

.....

.....

(v). *Modem.*

.....

.....

(v). *Router.*

.....

.....

(c). Give **three** qualities of a good network administrator.

.....

.....

.....

(d). Suggest **four** functions of a computer network administrator to an organisation.

.....

.....

.....

.....

.....

10. (a). (i). Define a **computer server.**

.....

.....

(ii). State **four** characteristics of a good computer server computer.

.....

.....

.....

.....

(iii). Outline the different forms of *computer servers* an organisation may implement.

.....

.....

.....

(b). Give **three** advantages of using a *star* over a *ring* topology in an organisation.

.....

.....

.....

(c). Outline **four** disadvantages of using wireless networks.

.....

.....

.....

.....

## SYSTEM START-UP AND CONFIGURATION

*1.* (a). Define the following terms as used in computer studies:

(i). *System start - up.*

.....

.....

(ii). *System configuration*.

.....

.....

(b). (i). State **two** methods of starting a computer.

.....

.....

(ii). Outline the steps a computer takes to start - up.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(c). (i). What are computer **system requirements**?

.....

.....

(ii). Explain the *two* types of system specifications.

.....

.....

2. (a). Distinguish between **minimum** and **recommended** system requirements.

.....

.....

.....

.....

(b). Write a list of **five** computer hardware system requirements a user should consider in order to work his system well.

.....

.....

.....

.....

.....

(c). Explain **five** software system requirements Jonathan should have in order to set up his computer well.

.....

.....

.....

3. (a). Describe a step - by - step process you would carry out to identify system requirments using the:

(i). *internet.*

.....

.....

.....

.....

.....

(ii). *computer itself.*

.....

.....

.....

.....

.....

(b). (i). Distinguish between **installing** and **un - installing** as used in software use.

.....

.....

.....

.....

(ii). Under what circumstance may a user prefer a full on his computer set?

.....

.....

(c). Explain **five** factors you would consider before installing a computer application program.

.....

.....

.....

.....

.....

4. (a). Identify **seven** components you would *add* / *replace* in a computer system unit to increase its performance.

.....

.....

.....

.....

.....

.....

.....

(b). (i). Define a **computer port**.

.....

.....

(ii). List **five** examples of computer ports that may be available to connect peripheral devices.

.....

.....

.....

(c). After connecting a peripheral device on a computer, state **five** reasons why some of them may not work properly.

.....

.....

.....

.....

.....

5. You have been provided with the following hardware components in a new condition: **keyboard, monitor, mouse, system unit, UPS, power cables, VGA cable**.

(a). Describe how you would connect the above components to have a fully working computer set.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(b). State **four** other items you would need to add to making this comptur system more functional at home.

.....

*6.* Explain the use of the following hardware components:

(a). *Power supply unit.*

.....

.....

*(b). Mother board.*

.....

.....

*(c). System fan.*

.....

.....

*(d). Expansion cards.*

.....

.....

*(e). Storage bays.*

.....

.....

*(f). Central processing unit.*

.....

.....

*(g). Memory (RAM)*

.....

.....

*7.* (a). Explain the following forms of software installations:

(i). *Clean install.*

.....

.....

*(ii). Re - install.*

.....

.....

*(iii). Upgrade install.*

.....

.....

*(iv). Multi-boot install.*

.....

.....

*(v). Virtualisation install.*

(b). Write down a check - list of **seven** activities you would carry out at a time of installing an operating system.

.....

.....

.....

.....

.....

.....

.....

8. (a). Outline steps you would need to install an operating system in your computer.

.....

.....

.....

.....

.....

.....

(b). Explain you you can install an application program from the following locations:

(i). *A compact disc - ROM or DVD - ROM*

.....

.....

.....

.....

*(ii). A USB flash disk.*

.....

.....

.....

.....

*(iii). A web page.*

.....

.....

.....

9. (a). Explain how you can un - install an application program from your computer.

.....

.....

(b). Suggest **three** reasons for upgrading computer software.

.....

.....

.....

*(c).* Describe the following error messages that are displayed on a computer's screen.

(i). *Access denied.*

.....

.....

.....

*(ii). Disck is full.*

.....

.....

*(iii). Disk not found.*

.....

.....

(iii). *Device not ready.*

.....

.....

.....

10. (a). Describe the following icons found on the computer's screen:

(i). *My Computer.*

.....

.....

*(ii). My Network Places.*

.....

.....

*(iii). My Documents.*

.....

.....

*(iv). Recycle bin.*

.....

.....

*(v). Control Panel.*

.....

.....

(b). Describe **any** ten tools residing in a control pannel that can be used to make a computer more user friendly.

.....

.....

.....

.....

.....

(c). (i). Explain how you can add a user account in your computer.

.....

.....

.....

.....

(ii). Give **four** qualities of a good password.

.....

.....

.....

.....

11. (a). (i). Give the difference between a **file** and a **folder**.

.....

.....

.....

(ii). Write a list of procedure you would take to create a folder for use.

.....

.....

.....

.....

(b). State **four** advantages of using a folder in file management.

.....

.....

(c). Explain the following types of computer files:

(i). *System file*.

.....

.....

(ii). *Program file*.

.....

.....

(iii). *Executable file*.

.....

.....

(d). (i). Distinguish between a **file name** and a **file extention**.

.....

.....

.....

(ii). Outline **three** qualities of a good file name.

.....

.....

.....

(iii). Give **three** examples of executable file extensions.

.....

.....

.....

12. (a). Write down **four** activities that can be carried out on a file.

.....

.....

.....

.....

(b). State **four** causes of file corruption in a computing environment.

.....

.....

.....

.....

(c). Outline **three** measures you would adopt to control file corruption in a computer laboratory.

.....

.....

.....

(d). Explain **five** causes of data losss in a computer laboratory.

.....

.....

.....

.....

.....

## THE INTERNET AND WORLD WIDE WEB (WWW)

1. (a). Define the term **Internet**.

.....

.....

(b). State **five** advantages and **five** disadvantages of using the internt in an organisation.

Advantages:

.....

.....

.....

.....

.....

Disadvantages:

.....

.....

.....

.....

.....

(c). Describe the terms as used in relation to internet use:-

(i). *Intranet.*

.....

.....

.....

(ii). *Extranet.*

.....

.....

.....

(d). List **five** requirements you would need before establishing an internet connection.

.....

.....

.....

.....

.....

2. (a). Outline **seven** services provided by the internt to an organisation.

.....

.....

.....

.....

.....

.....

.....

(b). Identify the following domain extensions:

(i). *.com:* .....

(ii). *.net:* .....

(iii). *.mil:* .....

(iv). *.gov:* .....

(v). *.org:* .....

(c). Give the difference between the **Internet** and **WWW**.

.....

.....

.....

(d). (i). What is a **web browser**?

.....

.....

(ii). Give **six** examples of web browsers commonly used.

.....

.....

.....

.....

.....

.....

*3.* (a). Explain the following terms as used in relation to internet use: -

(i). *Web page.*

.....

.....

*(ii). Website.*

.....

.....

*(iii). Surfing.*

.....

.....

*(iv). Uniform Resource Locator.*

.....

.....

*(v). Search engine.*

.....

.....

*(vi). Cookies.*

.....

.....

(v). *Bookmark.*

.....

.....

4. (a). (i). What is the work of a *search engine* to internet users?

.....

.....

(ii). Give **four** examples of search engines commonly used.

.....

.....

.....

(b). (i). Explain any **seven** forms of crime committed by using the internet.

.....

.....

.....

.....

.....

.....

.....

(ii). Suggest any **four** ways you would control internet related crime in a computer laboratory.

.....

.....

.....

.....

(c). Distinguish between **hacking** and **cracking**.

.....

.....

.....

5. (a). (i). Define an **e-mail**.

.....

.....

(ii). State **four** examples of e-mailing software providers.

.....

.....

.....

.....

(b). Outline **five** advantages and four disadvantages of using an e-mail for communicaiton in an organisation.

.....

.....

.....

.....

.....

*(c).* Explain the following parts of an e-mail message: -

(i). *To.*

.....

*(ii). From.*

.....

*(iii). Subject.*

.....

*(iv). Body.*

.....

*(v). Attachment.*

.....

*(vi). Compose / New.*

.....

6. (a). Give the difference between **carbon copy** and blind **carbon copy** as used in relation to e-mail operation.

.....

.....

(b). Explain **five** common crime committed using an e-mail software.

.....

.....

.....

.....

.....

(c). (i). Describe to a senior one student how you can create an e-mail account.

.....

.....

.....

.....

.....

(ii). State any **two** requirements needed to access an existing e-mail accounts.

.....

.....

*7.* (a). Give the difference between the following pairs of words:

(i). *Sign - up and sign - in.*

.....

.....

(ii). *Log - in and log - out.*

.....

.....

(iii). *User - name and password.*

.....

.....

(b). Explain **four** reasons why an e-mail may fail to reach its destination safely.

.....

.....

.....

.....

(c). State **four** facilities inside an e-mail software that have made e-mail communication popular.

.....

.....

.....

.....

*8.* (a). Explain what is kept in the following locations found inside an e-mail program.

(i). *spam folder.*

.....

.....

(ii). *draft folder.*

.....

(iii). *sent folder.*

.....

(b). Today, majority of the companies prefer using e-mail programs to send adverts and information about their products. State **six** advantages that such companies will benefit from.

.....

.....

.....

.....

.....

.....

9. (a). (i). Define the term e-commerce.

.....

.....

(ii). State **five** advantages and **three** disadvantages of using e-commerce service in business.

.....

.....

.....

.....

.....

(b). State **six** causes of slow download speed of the internet.

.....

.....

.....

.....

.....

.....

(c). Describe **five** ways the internet contributes to teaching and learning in your school.

.....

.....

.....

.....

.....

## DATABASE MANAGEMENT SYSTEMS

*1.* (a). Define the following terms as used in database management:

(i). *Database.*

.....

.....

(ii). *Database management systems.*

.....

.....

(b). Give **five** advantages of using an electronic program over a manual database.

.....

.....

.....

.....

.....

(c). (i). State **four** general functions of an electronic database program.

.....

.....

.....

.....

(ii). List **six** examples of database application programs.

.....

.....

2. (a). State the difference between a **flat database** and a **relational database**.

.....

.....

(b). Outline **four** database objects commonly refered to in database programming.

.....

.....

.....

.....

(c). State **five** factors you would consider before designing a simple database table.

.....

.....

.....

.....

.....

.....

.....

(d). Outline **five** application areas of database programs in an organisation.

.....

.....

.....

.....

.....

3. The table below shows part of a database structure. Use it to answer questions that follow:

| *Employee No:* | *Name* | *Telephone No:* | *Salary* | *No. of Months* | *Date of Birth* |
|---|---|---|---|---|---|
| U567/089 | Babirye | 0772-350408 | 789,000 | 04 | 17/09/1989 |
| U567/090 | Jeff | 0737-888901 | 890,000 | 03 | 14/10/1995 |
| U567/091 | Jane | 0737-444444 | 490,000 | 02 | 09/03/1998 |
| U567/092 | Bettie | 0776003200 | 509,000 | 06 | 11/06/1995 |

*(a).* Write down the appropriate data types assigned to the following fields:

(i). *Telephone number.*

.....

*(ii).* *Employee number.*

.....

*(iii).* *Salary.*

.....

*(iv).* *Number of months.*

.....

*(v).* *Date of birth.*

.....

(b). (i). Suggest the suitable *primary key* field for the table above.

.....

(ii). State **three** qualities of a good primary key field.

.....

.....

.....

.....

(iii). How many *fields* are in the table above?

.....

*(c).* Write a search condition that will return the following:

(i). *employees with a salary more than 500,000.*

.....

*(ii). employees whose name start with letter J.*

.....

*(iii). employees whose telephone number contains number "8".*

.....

*(iv). employees born from 1989 to date.*

.....

4. (a). Distinguish between a **field name** and a **field**.

.....

.....

(b). Descrie the folloing database objects: -

(i). *Table.*

.....

.....

(ii). *Query*.

.....

.....

(iii). *Form.*

.....

(iv). *Report*.

.....

.....

(c). (i). What is a **data type**?

.....

.....

(ii). State **four** examples of data types used in a database.

.....

.....

.....

.....

5. (a). Under what circumstances may a user use the following in a query criterion:

(i). *And*.

.....

(ii). *Or*.

.....

(b). Give **four** advantages of using a query in a database.

.....

.....

.....

.....

.....

*(c).* What will the query return when the following conditions are used:

(i). *Year([Date of Birth])=1984*

.....

*(ii). Len([Candidate_Name])=16*

.....

*(iii). Like "*ry".*

.....

*(iv). In (Kampala, Jinja, Masaka, Mbale)*

.....

6. (a). State the difference between **validation rule** and **validation text**.

.....

.....

.....

(b). With examples, explain the use of the following during database design:

(i). *Field size.*

.....

.....

*(ii). Default value.*

.....

.....

*(iii). Format.*

.....

*(iv). Input mask.*

.....

.....

*(v). Alignment.*

.....

.....

*(vi). Allow duplicates.*

.....

.....

*7.* (a). Explain the following as used in relation to database design:

(i). *Surrogate keys.*

.....

.....

*(ii). Candidate keys.*

.....

.....

*(iii). Primary key.*

.....

.....

(b). Describe **four** components of a good database table.

.....

.....

(b). Fill in the spaces below using appropriate word in relation to database design.

(i). ..... holds data for a database.

(ii). enables a user to ask questions about data in a database.

(iii). is used to primariry display data in a database.

(iv). is apaper like object that is used to enter data into a database.

*8.* (a). Explain the following terms:

(i). *Column.*

.....

.....

(ii). *Field.*

.....

.....

*(b).* What is the importance of the following in a form:

(i). *Control source.*

.....

.....

(ii). *Toolbox.*

.....

.....

(c). A retailer of KCB Retailers limited maintains a manaul database to help him manage the business. You have been asked to design an electronic version for the enterprises. Write down **six** field names you would imagine to be in your table.

.....

.....

.....

.....

.....

.....

9. (a). Distinguish between the following terms:

(i). *Currency and number.*

.....

.....

*(ii). Text and memo.*

.....

.....

*(iii). Design view and datasheet view.*

.....

.....

(b). (i). What are **wild card** symbols?

.....

.....

(ii). Give **two** examples of wild card symbols used in query design.

.....

.....

## ELEMENTARY PROGRAMMING

*1.* (a). Explain the following term as used in elementary programming:

(i). *program.*

.....

.....

*(ii). programming.*

.....

.....

*(iii). syntax.*

.....

.....

*(iv). object code.*

.....

.....

*(v). source code.*

.....

.....

(b). State **three** examples of translators that are used in a program creation.

.....

.....

.....

.....

*(c).* Distinguish between the following pairs of terms as used in prgramming.

(i). *Translator and an assembler.*

.....

.....

(ii). *Interpreter and compiler.*

.....

.....

*(iii).* *Bug and debugging.*

.....

.....

(d). Give **three** advantages of carrying out a dry run in program creation.

.....

.....

.....

**2.** (a). State **two**

(i). advantages,

.....

.....

.....

(ii). disadvantages of using low level programming languages.

.....

.....

.....

(b). Distinguish between **machine** and **assembly** language.

.....

.....

(c). Give **three** reasons to suggest why high level computer programs are common today.

.....

.....

.....

(d). State **four** examples of high level programming languages.

.....

.....

.....

.....

3. The computer club of your school intend to introduce computer programming to its members. You have been selected being a S4 student to take them through the stages of program development cycle. Using clear examples and illustrations, describe the stages members have to know.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

4. Outline **four** activities in each case a computer programmer has to undertake in the following program development stages:

   *(a). Testing and debugging phase.*

.....

.....

.....

.....

   *(b). Coding the program.*

.....

.....

.....

.....

   *(c). Program maintenance*

.....

5. (a). Define a **program algorithm**.

.....

.....

(b). State **two** tools a programmer can use to prepare an algorith for implementation.

.....

.....

(c). Outline **four** advantages program algorithms to a program beginner.

.....

.....

.....

.....

6. (a). What is a **pseudo code**?

.....

.....

.....

(b). Outline **six** advantages of using a pseudo code over a flow chart in algorithm representation.

.....

.....

.....

.....

.....

.....

(c). Prepare a checklist of **seven** guidelines you would include or consider for a good pseudo code.

.....

.....

.....

.....

.....

.....

.....

(d). Give **four** disadvantages of using pseudo coding in programming.

.....

.....

.....

.....

7. Write a pseudo code that can be used to prompt the user to enter the diameter of a circle which will be used to calculate the perimeter and area of the circle.

.....

.....

.....

.....

.....

.....

.....

8. Write a pseudo code that can be used to prompt the user to enter the length and width of a square which will be used to calculate the perimeter and area of the square.

.....

.....

.....

.....

.....

.....

.....

.....

.....

9. Write a pseudo code that can be used to prompt the user to enter two numbers that will be added.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

10. Write a pseudo code that will display a statement "**I LOVE COMPUTER STUDIES**".

.....

.....

.....

.....

.....

.....

.....

11. (a). Define a **flow chart**.

.....

.....

(b). Give **two** uses of flow charts in programming.

.....

.....

(c). Using the following table, fill in the spaces provided using either text or shape to describe activities in programming:

| | Shape | Description |
|---|---|---|
| Start / Stop | ..... | ..... |
| Input / Output | ..... | Used to denote an input or output operation. For example, READ A, B, PRINT SUM. |
| ..... | ..... | Indicates that a processing or data transformation is taking place. For example SUM = A+B. |
| Decision | ..... | ..... |
| Connector | ..... | Used as a connecting point or interface for arrows coming from different directions. |

(d). Suggest **four** guidelines for preparing a flowchart.

.....

.....

.....

.....

12. Draw a flowchart for a program used to prompt the user to enter two numbers. The program should find the sum and average then display the output on the screen.

13. Draw a flowchart for a program that would prompt the user to enter the length and width of a rectangle, calculate the area and perimeter then display the result.

14. Design a flowchart for a program that can be used to classify people according to the age limit. If a person is more than 20 years, output “adult” otherwise output “young person”

15. State **three** factors you would consider when:

(a). Writing a pseudo code.

.....

.....

.....

(b). Drawing a flowchart.

.....

.....

.....

16. Using illustrations, explain at least **six** symbols used in flowchart design

.....

.....

.....

.....

.....

.....

.....

.....

17. Draw a flowchart that would be used to classify animals according to sex. If a letter M is input, the program should display ‘male’ otherwise it should display ‘female‘

18. Write a pseudo code for a program that would be used to solve the equation $E = MC^2$

.....

.....

.....

.....

.....

.....

19. (a). Expliain **three** reasons why a flowchart would be used instead of a pseudo code to solve a problem.

.....

.....

.....

(b). A school uses a simple computerized system to manage students' results. The school administers three examinations namely; beginning of term (BOT), middle of term (MOT) and end of term (EOT). The systems administrator has set the system to get the total of the three examinations and find the average which used to promote the students to the next class. If the average is below 50 student is dismissed. Write a suitable algorithm that will manage the students' results.

20. A company bills its customers on the last day of every month. If the bill is paid before the start of the second week of the next month, the customer is given a 5% discount. If the account is settled after the second week but before the last week, the customer is charged the amount of the bill. Any payments after the beginning of the last week are charged an interest of 5%. A report is required to show each customer's bill and what is actually paid.

21. (a). State **two** qualities of a good pseudocode.

.....

.....

(b). With the aid of flowchart diagrams, describe each of the following programme control structures:

(i). **Sequence**.

.....

(ii). **Selection**.

.....

.....

(c). Draw a programme flowchart that would accept three numbers and find their sum. If the sum is greater than 200, it adds 30 to the sum, otherwise subtracts 20 from the sum. The programme should then display the results.

22. (a). Explain the following terms in relation to computer programming:

(i). **Compactness**.

.....

.....

(ii). **Structuredness**.

.....

.....

(iii). **Locality**.

.....

.....

(iv). **Naturalness**.

.....

.....

(b). Describe **six** characteristics of a good programming language.

.....

.....

.....

.....

.....

.....

**(c).** Explain the following components of a C program structure:
(i). **/**Comment*/**

.....

.....

**(ii). #include<stdio.h>**

.....

.....

**(iii). int main()**

.....

.....

**(iv). Braces**

.....

.....

**(v). printf()**

.....

.....

**(vi). scanf()**

.....

.....

**(vii). return 0**

.....

.....

23. (a). Describe the following as used in C programming:

(i). **Variable**.

.....

.....

(ii). **Variable declaration**.

.....

.....

(iii). **Termination**.

.....

.....

(b). Fill in the table below the common printf() formattin specificiers:

| Formatting specifier | Description |
|---|---|
| %f | ..... |
| %d | ..... |
| %c | ..... |
| %s | ..... |
| %u | ..... |

(c). (i). What is a **keyword**?

.....

.....

(ii). Give **four** examples of keywords used in the C programming language.

.....

.....

.....

.....

24. Write a C program to enter two numbers and find their sum.

.....

.....

.....

.....

.....

.....

25. Write a C program to enter two numbers and perform all arithmetic operations.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

26. Write a C program to enter length and breadth of a rectangle and find its perimeter.

.....

.....

.....

.....

.....

.....

.....

.....

27. Write a C program to enter length and breadth of a rectangle and find its area.

.....

.....

.....

.....

.....

.....

.....

.....

.....

28. Write a C program to enter radius of a circle and find its diameter, circumference and area.

.....

.....

.....

.....

.....

.....

.....

.....

29. Write a C program to enter length in centimeter and convert it into meter and kilometer.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

30. Write a C program to enter temperature in Celsius and convert it into Fahrenheit.

.....

.....

.....

.....

.....

.....

.....

.....

.....

31. Write a C program to enter temperature in Fahrenheit and convert to Celsius

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

32. Write a C program to convert days into years, weeks and days.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

33. Write a C program to find power of any number x ^ y.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

34. Write a C program to enter any number and calculate its square root.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

35. Write a C program to enter two angles of a triangle and find the third angle.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

36. Write a C program to enter base and height of a triangle and find its area.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

37. Write a C program to calculate area of an equilateral triangle.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

38. Write a C program to enter marks of five subjects and calculate total, average and percentage.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

39. Write a C program to enter P, T, R and calculate Simple Interest.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

40. Write a C program to enter P, T, R and calculate Compound Interest.

.....
.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

## MODERN TRENDS IN COMPUTING

1. (a). State any **four** health challenges a user is bound to face as a result of using a computer regularly.

.....

.....

.....

.....

(b). State **three** measures that should be put in place in a computer laboratory to safeguard users' health.

.....

.....

.....

(c). Give **two** ways through which a computer user can minimise Repetitive Strain Injuries (RSI) associated with the use of a computer

.....

.....

(d). (i). Define the term **computer ethics**.

.....

.....

(ii). Outline **five** ethical concerns normally expressed in a computer laboratory.

.....

.....

.....

(e). (i). Define the term **biometrics**.

.....

.....

(ii). Give **four** examples of biometric devices used in a computer laboratory.

.....

.....

.....

.....

(iii). Identify **three** advantage of using biometric devices.

.....

.....

.....

2. (a). Distinguish between **legal** and **ethical** issues in relation to computer use.

.....

.....

.....

(b). You intend to establish a computer laboratory in your community. Prepare a checklist of code of coduct that users have to observe.

.....

.....

.....

.....

.....

(c). (i). Define the term **computer integrity..**

.....

.....

(ii). State the **three** components of computer integrity in daily use.

.....

.....

.....

(d). (i). What is **system security**?

.....

.....

(ii). Identify **four** areas that are a security threat to a computer user.

.....

.....

.....

.....

3. (a). (i). What is a **computer virus**?

.....

.....

(ii). State **three** signs of a computer that has been infect by a virus.

.....

.....

.....

(iii). Give **four** dangers of viruses to computer files.

.....

.....

.....

.....

(b). Describe any **five** properties of computer viruses.

.....

.....

.....

.....

.....

(c). Explain **four** ways a computer set can be protected against dangers of viruses.

.....

.....

.....

.....

(d). (i). What is the work of an **anti-virus** program to a computer?

.....

.....

(ii). State **four** activities anti-virus programs carry out in the process of protecting computers.

.....

.....

(iii). Give **three** examples of anti-virus programs.

.....

.....

.....

4. (a). (i). Define the term **computer crime**?

.....

.....

(ii). State **three** examples of computer crimes committed in laboratory.

.....

.....

.....

(b). (i). Distinguish between **hacking** and **cracking** as used in computing.

.....

.....

.....

(ii). Outline **six** ways a user can safeguard his or her computer against effects of computer crime.

.....

.....

.....

.....

.....

.....

(c). (i). Define the term **system failure**.

.....

.....

(ii). State **four** ways system failure can be controlled in a computer laboratory.

.....

.....

.....

.....

**(d).** A computer laboratory experiences power supply problems. Describe **three** power related problems that should be addressed.

.....

.....

.....

5. (a). (i). Define the term **computer vandalism**.

.....

.....

(ii). State **three** ways computer vandalism can be minimised in a laboratory.

.....

.....

.....

(b). (i). Give the meaning of term **software piracy**.

.....

.....

(ii). Explain any **five** forms software piracy takes.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(ii). State **four** dangers of software piracy to an organisation.

.....

.....

.....

.....

(c). (i). What is the meaning of the term **information theft**.

.....

.....

(ii). Give **two** reasons a company may suggest as a reason for information theft.

.....

.....

6. State three responsibilities of each of the following personnel in a school.

(a). **Database administrator**.

.....

.....

.....

(b). **Technician**.

.....

.....

.....

(c). **System analyst**.

.....

.....

.....

(d). **Computer laboratory attendant**.

.....

.....

.....

(e). **Application instructor**.

.....

.....

.....

(f). **Software engineer**.

.....

.....

.....

(g). **Graphics designer**.

.....

.....

.....

7. (a). Explain the following terms as used in computing:

(i). **Artificial Intelligence**.

.....

.....

(ii). **Digital forensics**.

.....

.....

(iii). **Virtual reality**.

.....

.....

(iv). **Expert systems**.

.....

.....

.....

(v). **Virtualisation**.

.....

.....

(b). (i). Define the term **cloud computing**.

.....

.....

(ii). State **three** advantages and two disadvantages of cloud computing to a user.

Advantages:

.....

.....

.....

Disadvantages:

.....

.....