NAME: …………………………………….   Signature…………………………...

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840/1
COMPUTER STUDIES
Paper 1
July /August 2019
2 Hours 30 Minutes

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MASAKA DIOCESE EXAMINATION BOARD

Uganda Certificate of Education

COMPUTER STUDIES

PAPER 1

2 Hours 30 Minutes

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INSTRUCTIONS TO CANDIDATES

Write your name, signature and personal number in the space provided above.

*This paper consists of three sections **A, B and C**.*

*Section **A** contains **20** compulsory objective- type questions. The correct alternative **A, B, C** and **D** against each question must be written in the box provided on the right hand side of the question.*

*Section **B** contains **six** structured questions. Attempt all.*

*Answers to section **B** must be written in the spaces provided in the question paper.*

*Section **C** contains **three** essay questions. Answer only **one**. Answers to section **C** must be written in the answer booklet provided.*

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MCQ	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Total

SECTION A (20 MARKS)

*Answer **all** questions in this section*

1) Computer generations refer to ……… and ……… of computers over time while computer evolution refers to ……… development from simple to advanced forms of computers.
   A. Growth, modification, increased
   B. Advancement, accumulation, increased
   C. Improvement, increase, gradual
   D. Advancement, growth, modified

C

2) In word processing ……… are used to position text or objects in the right direction.
   A. Insertion points
   B. Rulers
   C. I-beams
   D. Help features

B

3) Identify the most important function of a wool carpet in a computer laboratory.
   A. Absorb moisture from the floor
   B. Absorb sounds from movements
   C. Deter excessive temperatures from the floor
   D. Absorb dust and prevent it from entering the computers

D

4) A hyperlink can best be described as a ………
   A. Built-in connection to another related webpage
   B. Hypertext document accessible via a data link
   C. Program that delivers web pages that you request for
   D. Faster way to access information in a menu

A

5) The following are services offered by data communication tools except:
   A. Telemedicine
   B. Faxing
   C. Internet
   D. News groups

C

6) A ……… service program enables faster access to data and programs run faster when used:
   A. Disk defragmenter
   B. File compression
   C. Data recovery
   D. Software monitor

A

7) ……… peripheral device interface is ideal for connecting devices that make and control music:
   A. Audio port
   B. 1394 port
   C. MIDI port
   D. SD port

C

2

8) From the list below, identify the correct combination of a storage device and a storage medium.
   A. Hard disk drive and hard disk
   B. CD-R and CD-R drive
   C. Hard disk drive and Blu-ray drive
   D. DVD and hard disk

A

9) Choose a database query criteria that would return records of transactions that took place on the current day.
   A. Date()-1
   B. Date()+1
   C. <Date()
   D. Date()

D

10) Which of the following is not part of personal computers?
   A. Handheld computers
   B. Mini computers
   C. Portable computers
   D. Consumer computers

B

11) Why would a presenter add sounds to an electronic presentation?
   A. To add special visual effect
   B. To add preset sliding effects
   C. To indicate the start and end of a presentation
   D. T restore original placeholders

C

12) One of the following is the best example of network operating systems.
   A. Disk operating system
   B. Android
   C. Linux
   D. EPOC

C

13) .... are tools mainly used for artificial intelligence.
   A. High level languages
   B. Higher processors
   C. Multimedia applications
   D. Expert systems

D

14) A computer crime that involves taking someone else's work or ideas and passing them on as one's own is best called:
   A. Plagiarism
   B. Sniffing
   C. Spoofing
   D. Spamming

A

15) Identify one internet search service:
   A. Telnet
   B. Archie
   C. File transfer protocol
   D. Mailing lists

   B

16) Choose a reason for preventing access to information on a web page/site
   A. Promote plagiarism
   B. Promote piracy
   C. Promote unethical uprightness
   D. Promote copyright restrictions

   D

17) What part of hardware holds data in a temporary storage area before the data is sent to a device?
   A. Buffer
   B. Registers
   C. Memory cache
   D. Virtual memory

   A

18) In a GUI ……… cause specific action to take place.
   A. Lists
   B. Menus
   C. Buttons
   D. None of the above

   C

19) Identify the kind of software with no copyright restrictions.
   A. Public domain software
   B. Freeware
   C. Shareware
   D. B or C

   A

20) ……… are used to explain data points in a spreadsheet chart.
   A. Legends
   B. Data columns
   C. Axes
   D. Data labels

   D

SECTION B (60 Marks)
Attempt all questions in this section
Write your answer in the spaces provided for each question

21a) Define the term computer literacy *(01 Mark)*

Computer literacy refers to having the knowledge and understanding of computers and their uses.

b) State two kinds of computer users *(02 Marks)*

Ordinary users
Professional users

c) Identify the most appropriate hardware component for each of the following tasks.

i) Directly drawing images or selecting items on the screen   *(01 Mark)*
Light pen

ii) Managing commands exchanged between input and output devices   *(01 Mark)*
Control unit

iii) Storing images of documents on rolls of sheet film   *(01 Mark)*
Microfiche and microfilm

iv) Producing characters on paper using patterns of dots   *(01 Mark)*
Dot matrix printer

22i) How is a softcopy different from a hardcopy?   *(01 Mark)*
Soft copy exists electronically and displays visually on the screen or is audio or voice form such as speech or music whereas hard copy exists physically on paper and in a in a permanent form that is in print out form.

ii) Mention two softcopy output devices and one hardcopy output device.   *(03 Marks)*

Softcopy output devices	*hardcopy output devices*
Monitors	*Plotters*
Data Projectors	*Facsimile machine*
Speakers	*Printers*

iii) In a spreadsheet with two worksheets, a user needs to enter a function in sheet 1 to calculate the average of entries in sheet 2 from cell B1 to B4. Write down the function to complete this task.
        (02 Marks)
=AVERAGE(Sheet2!B1:B4)

iv) Give the main function for each of the following application software.

a) Reference software   *(01 Mark)*
Provides valuable and thorough information for reference purposes. (Encyclopedias, dictionaries, health and medical guides) examples: Microsoft Encarta, Mosby's medical encyclopedia and Webster's dictionary and thesaurus.

b) Communication software   *(01 Mark)*
Provides to access information and data on one computer and transmit it to another computer across a network or data link. Examples: Web browsers (Internet explorer and Netscape navigator), E-mail software (Microsoft outlook), Chat rooms, Newsreader, Video conferencing software, Instant messenger and Groupware.

c) Entertainment software *(01 Mark)*

Includes interactive games, videos and other programs designed to support a hobby or provide amusement and enjoyment. Software that is both educational and entertaining is called edutainment software. Examples: Windows and Nero media player and Power DVD

d) Presentation software *(01 Mark)*

Uused to create and display information or data in form of slides/slide show.

23a) Give two benefits of system design under system development life cycle. *(02 Marks)*

Creation of the physical design of the new system
Ddeveloping alternative design proposals
Selecting the best alternative and designing the system specification

b) State three measures to limit computer vision syndrome. *(03 Marks)*

Use monitors which don't flicker
Use suitable lights on the screen and surrounding.
Use a screen filter/anti-glare screen
Keep your eyes at reasonable distance from the screen
Regularly look away from the screen and focus on something in the distance
Take regular breaks - at least 5 minutes break every hour
Have regular eye tests and wear glasses if prescribed

c) Write down two moral guidelines to observe while using a computer. *(02 Marks)*

Not to use a computer to harm other people.
Not to interfere with other people's computer work.
Not to snoop around in other people's files.
Not to use a computer to steal.
Not use a computer to bear false witness.
Not to use or copy software for which you have not paid.
Not to use other people's computer resources without authorization.
Not to appropriate other people's intellectual output.
Think about the social consequences of the program you write.
Use a computer in ways that show consideration and respect.

d) Suggest three tasks that would require computer vision capability. *(03 Marks)*

Controlling processes like industrial robots or autonomous vehicles
Detecting events like visual surveillance or people counting
Organizing information like indexing databases of images and image sequences
Modeling objects or environments like industrial inspection, medical image analysis or topographical imaging
Interaction for example as the input to a device for computer-human interaction

24a) Define a user interface. *(01 Mark)*

A user interface is a combination of hardware and software that you use to communicate with and control the computer.

b) List down three uses of antivirus programs *(03 Marks)*

Prevents viruses from a computer's memory or storage media

Detects viruses in a computer's memory or storage media

Removes viruses from a computer's memory or storage media.

c) Explain one advantage and one disadvantage of a GUI *(02 Marks)*

Advantages of a GUI

1. It is user friendly

2. No need to type or memorise any command language

3. The interface is similar for any application

Disadvantages of a GUI

1. Requires more memory

2. Requires a very fast processor

3. It is difficult to automate functions for expert users

4. Occupies more disk space to hold the files for all different applications

d) Explain one advantage and one disadvantage of a CLI

Advantages of a command line interface *(01 Mark)*

1. Takes up little space

2. doesn't require a very fast processor

3. Operations are quick because commands are entered directly through a keyboard

4. Many commands can be grouped together as a batch file so that repetitive tasks can be automated

Disadvantages of a command line interface *(01 Mark)*

1. A command language has to be learnt and memorized

2. It is not user friendly

3. The interface may vary from application to application

e) What do the abbreviations GUI and CLI stand for? *(02 Marks)*

Graphical user interface

Command line interface

25a) What does the abbreviation URL stand for? *(01 Mark)*

uniform resource locator

b) What does it mean? *(01 Mark)*

A URL is the address of a resource on the Internet or data link.

c) Write down an example of a URL. *(01 Mark)*

http://www.cnn.com

http://www.yahoo.com

http://www.microsoft.com

ftp://eds.ipi.arizona.com

d) Give two parts of a URL. *(02 Marks)*
Protocol
server name
File name

e) Mention three ways by which the internet can be used to improve education *(03 Marks)*
Easing keeping records of students and school online
Easing research for educational information.
Facilitating links with other schools to exchange information leading to virtual schools.
Enabling distance learning where education is delivered from one location while learning takes place at other locations.

f) State two benefits of video conferencing as an internet service. *(02 Marks)*
No travel costs
No time wasted travelling to other cities / countries
Can organise meetings at short notice

26a) Differentiate between the following terms as used in different applications.

i) Shrinking text to fit and wrapping text in spreadsheets *(02 Marks)*
Shrinking text to fit involves fitting text in a cell without widening the column containing the text while wrapping text involves text forming a paragraph that fits inside that cell the cell's height increasing to accommodate multiple lines of text.

ii) Merging cells and splitting cells in word processors *(02 Marks)*
Merging cells refers to combining more than one cell into one big cell whereas splitting cells refers to the sub-diving a cell or cells into more cells.

iii) Slide layout and slide design in presentations *(02 Marks)*
Slide layout is the arrangement of elements such as title and subtitle text, lists, pictures, tables, charts, AutoShapes, and movies, on a slide whereas slide design includes all the various design components of a slide such as slide background, font, font size, font style and other objects.

iv) Entity and attribute in databases *(02 Marks)*
An entity is something or object of significance whether real or imagined about which information is needs to be known or held while an attribute is any detail that serves to qualify, identify, classify, quantify or express the state of an entity or any description of a thing of significance.

b) Study the data below.

Name	Maths	English	Total
Annette	80	90	
Lydia	40	100	
Amos	20	80	
Peter	99	55	

i) How would you get the total for Lydia in a word processing application? Write the expression. *(01 Mark)*

=SUM(LEFT)

ii) Which feature would you use to colour scores in English that are above 75 to blue in a spreadsheet? *(01 Mark)*

Conditional formatting

SECTION C (20 Marks)

Attempt only one question

27a) Explain five best practices that can be undertaken when setting up and using computers to limit injuries to computer users *(10 Marks)*

Practice	*(01 mark)*	*2X5=10 Marks*
Explanation	*(01 mark)*	

Avoid illegal connections and disconnectionsto limit electrocution
Avoid exposing computers to heat/direct sunlightthat may lead to component explosion
Foods and drinks should not be allowed in the computer laboratory may pour into electrical connections leading to electrocution
The repairs should be done by technical personsto limit dangers relating to electrocution
Keep fire extinguishers to guard against fires
Setup lightening arrestors to guard against thunder
Use firm tables to hold the weight of hardwaresothat devices donot fall onto users
Education/sensitizing users about basic hardware care/practices
Engage alarms systems e.g. smoke, fire detectorsto alert users about dangers
Insulate all wires to limit electrocution
Lay cables in trunks and away from pathways so that users do not trip over and fall

b) Explain five main dangers to hardware components. *(10 Marks)*

Practice	*(01 mark)*	*2X5=10 Marks*
Explanation	*(01 mark)*	

Hardware theft- Physically stealing hardware
Vandalism-defacing hardware
Viruses-lead to head crashes on hard drives
Aging hardware
Natural disasters like floods, fire and earthquakes
Unstable electrical power

28) Data transmission media include paths through which messages travel from the sending device to the receiving device.

For each of the following transmission media, write short notes. Use of advantages and disadvantages will be rewarded.

a) Twisted pair cables   *(04 Marks)*
b) Coaxial cables   *(04 Marks)*
c) Fibre optic cables   *(04 Marks)*
d) Microwaves   *(04 Marks)*
e) Infrared light   *(04 Marks)*

Explanation   *(02 marks)*   *4X5=20 Marks*
Advantage   *(01 mark)*
Disadvantage   *(01 mark)*

TWISTED PAIR CABLE (TPC) *TPC is a type of cable that consists of 4 pairs of two independently insulated wires twisted around one another to reduce interference.*

Advantages
Inexpensive
Easy to install
It is a thin, flexible cable that is easy to string between walls.
Because UTP is small, it does not quickly fill up wiring ducts.
Data cannot be easily distorted due to reduced noise interference.
Used in transmission of both data and voice

Disadvantages
Twisted pair's susceptibility to the interference greatly depends on the pair twisting schemes staying intact during the installation
Its unrepeated length limit is 100 meters that is limited to short distances.
Slow transmission of data between devices.

COAXIAL CABLE *Coaxial cable is a type of wire that consists of a center wire surrounded by insulation and then a grounded shield of braided wire.*

Advantages
Heavily insulated that reduces interference.
Transmits data faster over long distances.
Can transmit much data at a time.

Disadvantages
More expensive than twisted pair cables.
Not easy to install.
Need boosters to transmit data.
The cables are bulky

FIBRE OPTIC CABLES
Fibre optic cables use glass (or plastic) threads (fibers) to transmit data in light form.

Advantages
Offer high band width that is carry significantly more signals
Low signal loss
Faster or increased speed of data transmission
Secure data transmission at a significant cost.
Substantial weight and size saving

Disadvantages
More expensive
Difficult to install and modify
More fragile than other wire based communication channels.

Microwaves:
These provide a high speed signal transmission and are limited to line-of-sight transmission.
Microwaves stations are often located on the tops of buildings, towers or mountains to avoid possible obstructions.

Advantages of microwaves
Provide high-speed communication transmission
No need to install cables
Lower installation and maintenance costs
Microwaves require no right of way acquisition between towers.
Microwaves can carry high quantities of information due to their high operating frequencies.
High frequency/short wavelength signals require small antennae.

Disadvantages of microwaves
Limited to line of sight transmission
May be affected by temporary atmospheric disturbances
Attenuation by solid objects: birds, rain, snow and fog.

Infrared light:
This is a wireless transmission media that sends signals using infrared light waves.
Also requires a line-of-sight transmission.
Devices like mice, printers and digital cameras which have an IrDA port may transfer data from one device to another using infrared light waves.

29) Explain two benefits for each of the *ten* activities involved in servicing computers that you know. **(20 Marks)**

Activity *(02 mark)* *4X5=20 Marks*
Explanation *(02 mark)*

Emptying the recycle bin
Free up disk space
Removes unwanted files

Cleaning computer parts
Reduces wear and tear
Keep devices in good working condition

Upgrading software
Introduce improvements and new features to increase efficiency
Correct bugs (errors) encountered in previous versions of software.

Updating software
Its good preventative maintenance for your computer.
Avoids interruptions in system performance.

Activating firewalls
Protect your computer from unauthorised remote access
Block messages linking to unwanted content
Block unsuitable or immoral content

Repairing and replacing damaged parts
Disk defragmenting
Disk cleaning
Covering computers
Scanning storage devices
Installing power stabilizers and surge protectors

End