

UGANDA NATIONAL EXAMINATIONS BOARD -UNEB
COMPUTER STUDIES-840/1
DRAFT MARKING GUIDE – 2016

SECTION A:

- | | | | |
|------|-------|-------|-------|
| 1. D | 7. C | 13. C | 18. C |
| 2. A | 8. C | 14. B | 19. D |
| 3. D | 9. D | 15. B | 20. A |
| 4. A | 10. C | 16. A | |
| 5. B | 11. B | 17. B | |
| 6. B | 12. A | | |

20x1mark@=20 marks

SECTION B:

21. (a) Pascaline machine or

Pascaline Arithmetic calculator

Pascaline calculator/Machine

Pascaline mechanical calculator

Any1x1= 1 mark

(b) Stating reasons for each of the following characteristics given

(i) – Not wide spread or not common

- Rare or scarce
- Consumed a lot of electrical energy/power
- Many frequently replaceable parts e.g. vacuum tubes
- based on real natural materials
- Constant break down
- Had maintenance problems
- Based on real natural materials
- Very bulky parts

Any1x2= 2marks

(ii) - Consumed alot of electrical energy/power

- Underdeveloped cooling systems like heat sinks
- Based natural raw materials
- They were bulky
- Had many vacuum tubes

Any1x2= 2marks

(c) **Characteristic features of modern computers**

- Upgradable
- Multiprocessing
- Multitasking
- They are cheaper
- They are communicative/collaborative/interactive
- They need electrical power
- They are generally portable
- They are cheaper
- They are generally portable

- They are collaborative/interactive/communicative
- **speed**-means they are very fast and do work in negligible time. E.g. perform a million instructions in one microsecond
- **Accurate**- means they are accurate and errors are due to human error or program error.
- versatile** –means they are capable of performing different tasks in many different ways.
- Diligence** –means that are capable of handling repetitive and boring tasks over and over again.
- Storage-capable of storing data in large amounts temporarily and permanently
- They Are Automatic
- Have Artificial intelligence

Any3x1= 3marks

(d) Virtual reality is a technology/system that simulates real world happenings on a computer e.g. flying a plane, cyber school's technology.

OR

One can perform a task as if he or she is in the real world using a computerised system.

E.g. Cyber Science Solution, Games

Any 1x2= 2marks

TOTAL=10 MARKS

22. (a) A peripheral device is a device which is **connected externally** through ports or by wireless connectivity to the motherboard and can be removed and lives the computer working.

Or

A peripheral device is a device which is connected externally through ports or by wireless connectivity to the motherboard and can be removed and are outside the basic computer devices.

Or

Any device that can be added to the system to increase/enhance its functionality.

Any1x2= 2marks

(b) Categories of computer hardware

- Input hardware
- Output hardware
- Processing hardware
- Storage hardware
- Communication hardware

Any4x1= 4marks

(c) Why carry out warm booting

- After/during installing new software
- After installing new hardware
- When switching from one operating system to another
- When a computer application hangs/freezes or a deadlock state
- After uninstalling a software
- After uninstalling a hardware
- After updating a hardware or software
- After scanning for viruses
- Computer system slows down
- Application fails to load

- When a device is not ready
- When there is a possible attack on a system
- After configuring server or changing CMOS settings

Any4x1= 4marks
TOTAL=10 MARKS

23. (a) (i) Sort 1mark
(ii) Filter 1mark

(b) =IF(C2>=200,"PROMOTION","REPEAT")

Or

=IF(C2<200,"REPEAT",IF(C2>=200,"PROMOTION"))

Any1x2=2marks

(c) =Max(C2:C8) or =Max(C2,C3,C4,C5,C5,C6,C7,C8)

Or

=MAXA(C2:C8)

Or

=LARGE(C2:C8,1)

Any1x1= 1mark

(d) A database management system is a specialised program/software that permits easy creation of data, access, retrieval and make use of data.

Or

A software used to create a database

Or

A software used to manage a database

Or

A software used to manipulate information in a database

Any1x2 2marks

(e) Activities where database management system can be used

- Cataloguing books in a library
- Making telephone directory
- Making inventories
- Capturing patient's biodata in health units
- Capturing student's biodata in schools
- Hotel reservation systems
- Employee payroll system
- Supermarket goods/stock updating
- Accounting/financial system
- School management system
- Registration system
- Report making system

Any1x1= 1mark

(e) (i) Form

1mark

(ii) Query

1mark

TOTAL=10 MARKS

24. (a) (i) **Simplex transmission** is a mechanism/mode of data transmission where data is transmitted in one direction only.

2marks

Example:

- Radio transmission
- Tv Transmission/telecast
- Buzzer alrms

Any1x1= 1mark

- (ii) **Full duplex transmission** is a mechanism/mode of data transmission where data is transmitted back and forth (both directions) at the same time(simultaneously).

2marks

Example:

- Telephone transmission
- Cellophone Transmission

Any1x1= 1mark

(b) Advantages of the method

- Transactions and business updates can occur instantaneously and globally, thereby saving time
- Transactions can occur 24/7(24hours per week)
- Businesses have the ability to gather customer's information, analyse it and react if appropriate.
- Gives businesses a competitive edge
- The costs of promotion are reduced
- Businesses have access to millions of customers
- Feedback is immediate
- manufacturers can sell directly to customers avoiding the cost of middle men.
- Distribution costs for information is reduced or eliminated.
- Consumers have got an opportunity to view products before buying
- Provides for online tracking of products in transit
- Allows for electronic transfer of money
- Businesses can share resources

Any3x1= 3marks

Disadvantages of the method

- Fraud by hackers
- Frequent servicing reduces the profit margin
- Frequent break downs in network affects transactions
- Non-existing online companies may cone people
- Online advertised items may not be of the expected quality
- Caters for the urban person who has access to the internet and a computer.
- Limits face-to-face interaction between sellers and buyers
- Credit card predators
- Faster spread of negative feedback

Any1x1= 1mark

TOTAL=10 MARKS

25. (a) Wrap text is a feature in a word processor that enables a user to surround an image/picture with text.

Or A wrap text is a word processing feature/facility that allows/enables a user to automatically align and place text in relation to an image.

While

Word wrap is a feature in word processor that allows text/cursor or word to automatically move to the next line when it gets to the right margin.

Or

Wrap text word with objects while word wrap works with the cursor.

Any1x1= 1mark
(for both parts correct)

(b) Advantages of using word processor over typewriter

- Errors can easily be identified and corrected
- The work can be saved and got later
- The work can electronically be edited which is not the case with a typewriter
- Produces neat work
- The work can be displayed in different formats like font face, size
- Spell checks/gramma can be done to improve accuracy
- Data can be imported/exported to another application
- Security of document is assured through passwords
- Very silent during working
- Allows for automatic generation of figures, indices, groceries etc,
- Offer easy and readymade templates e.g. macros, CV formats
- Letters/documents can be produced and sent to many people at ago saving time

Any3x1= 3marks

(c) Why sound may be added to a presentation

- Make impact and grab attention of the audience
- To cater for people who cannot see
- Play a sound to reflect corporate image-like a melody
- To indicate the start and end of a presentation
- Appealing to emotions

Any1x2= 2marks

(d) A slide master is a slide that holds all the formatting features for the title, text and any other background items that appear on all slides in the presentation.

Or

A slide master is a slide that controls or manages effects or appearance of a particular slide in a presentation

2marks

(e) Example of presentation software

- Microsoft PowerPoint
- Harvard Graphics
- Adobe Persuasion

- Corel presentation
- Freelance Graphics

Any1x1= 1mark
TOTAL=10 MARKS

26. (a) A **utility program** is a system software program that helps in servicing other programs or devices for purposes of enhancing the performance of computer system.

2marks

(b) Examples of utility programs

- Screen saver
- Debugger
- Data compressor
- Anti-virus
- Diagnostic tool
- File viewer
- Disc degragmentor
- Disk cleaner
- Backup utility
- Uninstaller

Any3x1= 3marks

(c) Advantages of off-shelf software

- They are cheap
- Few cases of errors
- They have documentation and help provided/tutorials/user manuals
- They can easily be got online
- User friendly since they made to serve/benefit a bigger market
- Flexible
- Can be customised to suit user needs
- Can do several tasks
- Can be acquired for free
- There is online software support
- No need for specialised skills
- Less time consuming in acquiring the software.

Any2x1= 2marks

(d) Consideration to be made for developing a program

- Cost of the software
- Nature of business/needs
- Available skills or personnel available
- Compatibility/flexibility
- Platform/portability
- Time
- Number of users/capacity of the program
- Hardware e.g. hard disk capacity, RAM size
- Future needs/scalability or expandability

- Legal framework off the country
- Security level
- Portability
- Copyright
- Quality of the software
- Availability of software or software integration

Any 3x1= 3marks
TOTAL=10 MARKS

SECTION C

27(a) the help of a laboratory technician can give when the following error messages appear.

(i) Non-system disk error when the computer system is switched on

- He would eject the disk from the drive press any key on the keyboard to enable the boot process to continue
- Restart the computer
- Check hardware connection
- Reformat the hard disk

Any 1x2 = 02 marks

(ii) Low disk space and computer is slow

- He can fix this by deleting some files using disk cleaner utility
- He can close some files which are open and would occupy the Ram
- Back up and delete from computer
- Use of cloud computing
- Increase the Ram
- Defragmenting the hard disk
- File compression
- Run anti-virus to scan the device
- Increase/slave/add new HDD

Any 1x2 = 02 marks

(iii) Access denied when a user wants to access a particular file

- Exit or stop programs that are running and could be blocking the users' tasks from running
- Install and run the anti-virus
- Adjust users setting to allow access
- Provide password
- Adjust windows firewall and allow access

Any 1x2 = 02 marks

(iv) Our of memory

- Exit or stop programs that are running and could be blocking the user's tasks from running
- Install or upgrade the Ram by buying another Ram chip and fixing it on the memory slot of the mother board and restarting the computer to implement the upgrade
- Run a virus scan
- Restart the system

Any 1x2 = 02 marks

(v) Device not ready

- Disable particular disk drive from the device manager
- Give it time to activate
- Re-install drivers
- Check and change power connection points e.g. USB
- Restart the device
- Re-install the Operating system
- Scan for viruses/malware
- Uninstall and or deactivate software blocking the hardware by Deep freeze
- Changes ports where applicable
- Disable and enable the device

Any 1x2 = 02 marks

(b) Reasons why Adania's laptop started to slow down

- Not enough Ram
- Virus attack or malware infection because of connection to the internet
- Low disk space due to many programs stored
- Some system files being corrupted
- When there is any scanning program runs in the background eg anti-virus
- When files on the disk are fragmented and access time is reduced
- Automatic updates
- Wear and tear

Any 5 points x 2 = 10 marks

28 (a) Possible observable symptoms that a computer has a malware

- Freezing is very often
- Unfamiliar graphics /images on the screen
- Pop up of scary /warning messages
- Posts which you did not post appears on your pages
- Denial of access to some system tools
- Files disappear mysteriously
- Disks change volume e.g. volume name
- System speed reduces
- Alteration of files
- The computer shut down and restarts without any command from user.
- Un expected anti-virus disabling
- Un precedent loss of memory
- Change of keyboard stroke
- Corrupting of files
- Duplication of files
- Creation of shortcuts

Any 5 points x 2 = 10 marks

(b) Explain five measures to put in place to safeguard computers against malware.

- Install anti-virus and regular updating
- Activate firewalls
- Enforce strict policies on malware
- Block unwanted file types at the email gateway
- Password computers to stop unauthorised users
- Downloading attachments whose source you know
- Educate or train users on what to be done in case of misuse
- Minimise foreign storage media
- Join/connect to secure networks
- Buy software from genuine sources
- Regulate automatic updates

Any 5 points x 2 = 10 marks

TOTAL=20 MARKS

29(a) Benefits of networking computers in school

- It lowers expenses on hardware and software eg printer, anti-virus
- Software is easily upgraded via the server
- Allow multiple access to the school database or internet
- Easy sharing of files and file transfer
- Allow flexible access to the as students and teachers can logon and access their work from any work station
- Collaborative learning is made possible
- It enables easy and faster communication
- It enables easy access to the internet resources by many students at the same time
- Improved security through centralised administration via the server

Any 5 points x 2 = 10 marks

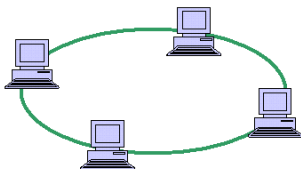
(b) Definition

Computer network topology is the way various components of a network (like nodes, links, peripherals, etc) are arranged. Network topologies define the layout, virtual shape or structure of network, not only physically but also logically.

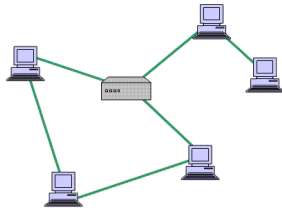
1 mark

1 Ring: The ring network connects each node to exactly two other nodes, forming a circular pathway for activity or signals - a ring. The interaction or data travels from node to node, with each node handling every packet.

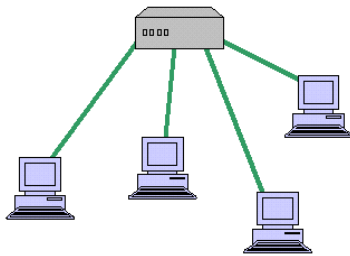
Diagram of ring topology



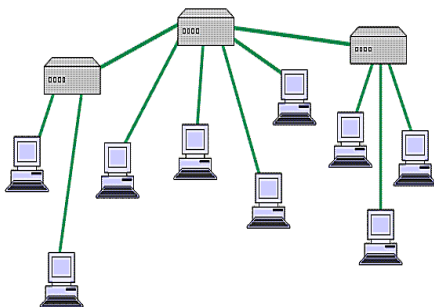
2 Mesh is a way to route data, voice and instructions between nodes. It allows for continuous connections and reconfiguration around broken or blocked paths by “hopping” from node to node until the destination is reached.



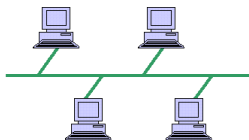
3 Star: The star network consists of one central element, switch, hub or computer, which acts as a conduit to coordinate activity or transmit messages.



4 Tree: This consists of tree-configured nodes connected to switches/concentrators, each connected to a linear bus backbone. Each hub rebroadcasts all transmissions received from any peripheral node to all peripheral nodes on the network, sometimes including the originating node. All peripheral nodes may thus communicate with all others by transmitting to, and receiving from, the central node only.



5 Bus: In this network architecture a set of clients are connected via a shared communications line, called a bus.



Any 3 x3 =9 marks

Mentioning =2mark

Explanation=1 mark

Any one diagram =1mark

TOTAL=20 MARKS