# UGANDA NATIONAL EXAMINATIONS BOARD

**DRAFT MARKING GUIDE 2018**
**UCE COMPUTER STUDIES 840/1**

SECTION A: MULTIPLE CHOICE QUESTIONS

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

**SECTION B: STRUCTURED**

21. (a) A computer is an electronic device which accepts, processes, stores and outputs data/information

**Or.**
An electronic device that manipulates data.

**Or.**
An electronic device with hardware and software.

**Or.**
An electronic device with a monitor, system unit, printer, keyboard, mouse, etc.

**Or.**
An electronic device which accepts data & output information.

**Or.**
It's a programmable machine/device.

(b) (i) - Enter key.
- Return key
- Arrow key
- Tab key

***Any 1 x 1 = 1 mark***

(ii) - Caps lock key

***1 mark***

(iii) - Backspace key

***1 mark***

(c) Contributions of computers in teaching and learning

- Computer aided research
- Computer aided teaching and learning/distance learning
- Computer aided assessment for grading and positioning of learners
- Computer aided academic planning for timetabling, scheming, lesson planning, drawing of academic budgets, etc
- Edutainment
- Storage of academic records
- Monitoring students and teachers attendance and academic programs
- Creation of visual learning aids
- Loss of productive academic time in playing computer games
- Loss of educational materials
- Promotion of examination malpractices

***Any 2 x 1 = 2 marks***

(d) (i) Tasks done by a computer programmer

- Create software/designs programs/writing codes/coding
- Debug
- Test programs
- Upgrade programs
- Educate and advise on which program to use
- Install /uninstall/implements programs
- Program consultancy
- Writing program manuals(documentation)

***Any 1 x 1 = 1 mark***

(ii) Tasks done by a computer technician

- Service and repair (e.g upgrades software/hardware/trouble shooting/dust blowing *any other activity done in service and repair)*
- Maintain standards like rules and regulations (e.g locking the lab)
- advise users on basic procedures, regulations and specifications to use
- Writes reports on computer performance to managements

***Any 1 x 1 = 1 mark***

(iii) Tasks done by a database administrator

- Creates databases/linking databases
- Maintains/updates/delete/backup/restore/manages/decodes databases/controls archives
- Ensure database security(ensures data integrity/data redundancy)
- Availing required data/information to users
- Decides on the specific database software to use

***Any 1 x 1 = 1 mark***

22. (a) (i) **Explanation of functions of an input device**

- To feed/enter/give/capture/input data/information and instructions/commands to the computer

***Any 1 x 2 = 2 marks***

(ii) **Examples of input devices**

- Scanner(OCR, OMR, Barcode reader)
- Microphone
- Light pen
- Joystick
- Keyboard
- Mouse
- Touch pad
- Tracker ball
- Digital cam
- Dance pad
- etc

***Any 1 x 1 = 1 mark***

**Examples of output devices**

- Monitor
- Printer/plotter
- Speaker
- LED
- Projector etc

***Any 1 x 1 = 1 mark***

(b) **Definition of a device driver**

- A program that allows the operating system to communicate/interact with specific system devices/peripherals e.g. printer driver, scanner driver, VGA drivers, System board drivers etc.

***2 marks***

(c) **System considerations before installing windows operating system**

- System type based on bit/bus architecture (Type, Function, Purpose, Nature) e.g 64bit/32 bit
- CPU specification (type, speed)
- System manufacturer
- Size of hard disk
- Internal memory (RAM) size or capacity
- Disc drive and other ports

***Any 3 x 1 = 3 marks***

**(d) Reasons why a computer may be restarted**

- To clear a malware from memory/check for a virus
- To configure new software settings such that they interact well with the operating system
- To enable the system to recognize new hardware specifications/settings after installation
- Refresh the system
- To enable a hanging program to reorganize itself for a task

***Any 1 x 1 = 1 mark***

23. (a) **What is a formula in spreadsheet**
A user defined expression/statement used to manipulate data for returning some desired output/result.

***2 marks***

(b) **Describing how to sort names in ascending order**

- Highlight/select content to sort
- select data on main menu
- click on A-Z sort icon

**Or.**

- Highlight/select content to sort
- select data on main menu
- select sort
- on the sort interface/ dialog box select name from column
- select A-Z order
- click ok

**Or.**

- Select data to sort
- select home from main menu
- select sort & filter from home ribbon
- click option A-Z

**Or.**

- Highlight data to sort
- right click on the selected data
- select sort
- click sort A-Z /ascending order

***2 marks***
***Or***
***1 mark***

(c)

(i) 5 records ***1 mark***

(ii) 4 fields ***1 mark***

(iii) 0027200190653 ***2 marks***

(iv) Number in stock ***1 mark***

(v) - Because it would uniquely identify the specific products and procedures.
- No different item would share a barcode

***Any 1 x 1 = 1 mark***

24. (a) **Describing the terms**

(i) **Repeater**

Devices with ability to regenerate/amplify/energize/electronic signals along a transmission channel in a LAN or WAN.

***2 marks***
***Or***
***1 mark***

(ii) **Gateway**

A device with the ability to link/interconnect/enable interface between networks of different configuration/protocols.

***2 marks***
***Or***
***1 mark***

(b) **Types of transmission media**

- Wired/cabled/bounded or guided (Coaxial, fiber optics, twisted pair/untwisted pair)
- Wireless/unbounded or unguided (radio waves, infrared & micro waves)

***Any 2 x 1 = 2 marks***

(c) **Website design considerations**

- Layout/frames/layers(banners, content areas)
- Navigation provisions
- Content
- Graphics/images
- Feedback
- Site management tools (hit couters, tracking of site visitors etc)
- Color/font contrasts
- Number of pages
- Security provisions
- Type of website

***Any 4 x 1 = 4 marks***

25. (a) A footnote is a referencing feature that appears in the last line of the page where the referenced text or phrase is located.

***2 marks***

***Or***
***1 mark***

(b) **Types of page orientation**

- Landscape orientation
- Portrait orientation

***2 marks***

(c) **Action cut and paste**

Refers to moving/transferring/changing/relocating selected content from one place to another

***1 mark***

(d) **Presentation software**

- Ms. power point
- Apple keynote
- Open office impress
- Corel presentation
- Adobe persuasion
- K-presentation
- Lotus freelance **etc**

***Any 2 x 1 = 2 marks***

(e) (i) **Differentiating slide transition from slide animation**

Slide transition is movement/control/effects from one slide to another.

**while**

Slide animation is effects/controls of elements within a slide

**Or.**

Slide transitions link one slide to another **while** slide animations manage effects within a slide.

***Any 1 x 2 = 2 marks***
***For both sides corrects***

(ii) **Purpose of slide sorter view**

- Delete or to add slides
- To give an over view of the whole set of slides in a presentation
- Reorganize or rearrange slides

***Any 1 x 1 = 1 mark***

26. (a) (i) **Explanation of application software**

A program designed to meet specific end user or user tailored tasks.

***2 marks***

(ii) Examples of application software

- Word processors e.g Ms. word, Abi Word, Word perfect
- Spreadsheets software e.g Ms Excel, Lotus 1-2-3, VisCalc, SuperCalc, Calc
- Presentation software e.g Ms. PowerPoint, Apple Keynote, Open Office Impress, Corel Presentation, Adobe Persuasion
- Database management software e.g Ms. Access, DBase I, II or III, SQL, MySQL, Sea Sharp, MS Visual Basic
- Web authoring software e.g Dream weaver, Ms Publisher
- Communication software e.g Yahoo mail, Hotmail, WhatsApp
- Desktop publishing software e.g Ms. Publisher, Adobe PageMaker, Corel Draw
- Gaming software
- Video editing software
- Photo editing software
- Accounting software
- Architectural software e.g Arch card, AutoCAD

***Any 2 x 1 = 2 marks***

(iii) **Factors to consider before buying application software**

- Upgradeability
- Purpose
- Security/safety provisions
- Free bugs/errors
- Flexibility
- Cost of the application program
- Compatibility
- easy to learn
- documentation
- self-help menu
- Accuracy/efficiency (how fast the **sw** is)
- After sales service (delivery, install)
- Storage space (portability)
- reliability
- Past experience of the app. **sw**
- Nature of organisation

***Any 2 x 1 = 2 marks***

(b) **Define the terms given in relation to computer programming**

(i) **Source code**

- A collection of computer instructions (possibly with comments) written using some human readable and usable language such as text.
- A collection of computer instructions ready for compiling and are written in text format.
- Is a raw form (not yet changed into machine readable format) of a computer program in text form.

***Any 1 x 2 = 2 marks***

(ii) **Keyword**

A word that is reserved by the program because it has a special meaning/purpose.

***2 marks***

**SECTION C**

27. **Specification to consider when buying a laptop computer**

- CPU specifications e.g type and speed
- Provisions for a local disc and local disk specifications e.g type, disc space
- RAM size or capacity
- The brand
- Generation
- Nature of operating system
- Networking capabilities
- Nature of the monitor and specifications (Size, touch capability, VGA card specifications)
- Nature and number of ports
- Provision and number of pointing devices
- Laptop color
- Provision for data capture
- Laptop size

o Removable drives/storage capabilities
o Battery life
o Documentation
o Safety and security

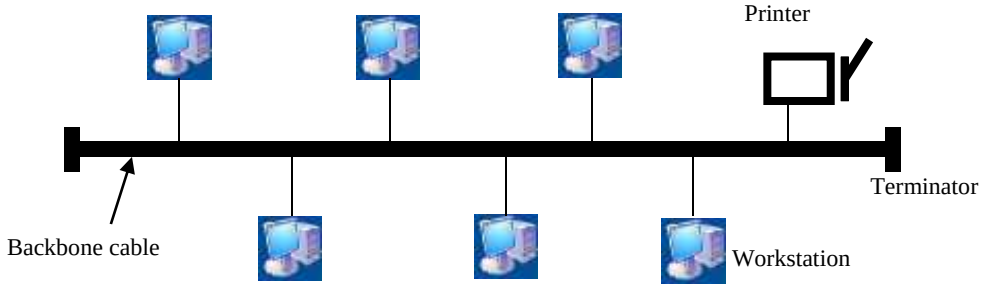
**Any 5 x 4 = 20 marks**
**Mentioning a specification = 2 marks**
**Relevant Explanation = 2 marks**
**Total = 4 marks per specification**

28. **Sketch and explanation of network layouts**

**Bus or linear topology**

A topology in which each node is connected in series along a single conduit or main cable called a bus.

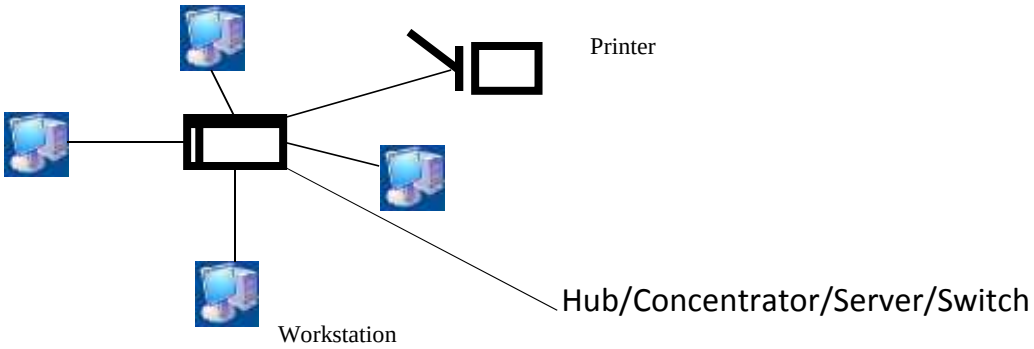
A sketch diagram of a bus topology



**Star topology**

A topology in which all the nodes are connected to a central hub. Each node has an equal right of transmission of data.

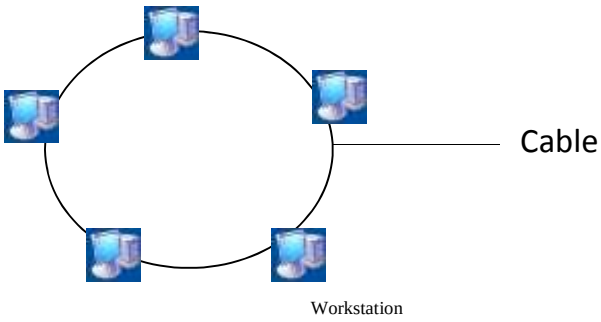
A sketch diagram of a star topology




**Ring Layout/topology**

A ring topology is a network layout in which each node has exactly two neighbours connected to it for communication purposes. For each node to communicate, it must make a request for a token be able to send a signal along the path.

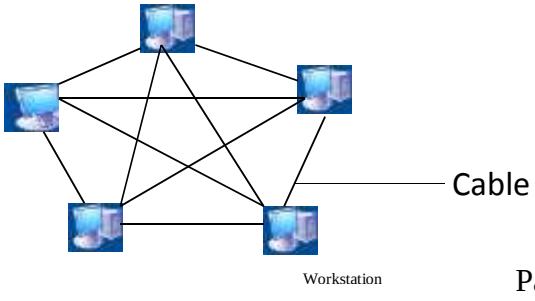
A sketch diagram of a ring topology




**Mesh network layout/topology**

A network topology in which at least each node has two or more paths between them.

A sketch diagram of a mesh topology



**Any 4 x 5 = 20 marks**
**Mentioning = 1 mark**
**Sketch diagram = 1 mark**
**Labeling = 1 mark**
**Explanation = 2 marks**
**Total = 5 marks per topology**

- **Extended Star/Tree/Hybrid topology**
  - It's a combination of two or more topology
  - The same network topology to be distributed in different segiments
  - It's the extended star Or a combination of two or more star topology
    Or. it's a combination of two or more topologies

29. (a) **Reasons for using a flowchart other than a pseudo code for solving a problem**

- A flowchart is easy to interpret and understand
- A flowchart provides a better/easier understanding of the problem processing logic Flowcharts provide more detail yet readable structure of analyzing a problem.
- Are more capable of showing the overflow of instructions or data from one process to another.
- One can easily conceptualize the whole program at just a glance from a flowchart.
- A flowchart provides an easier way of error identification and rectification. They offer/give more efficient program maintenance as they give the programmer which part of the program logic to put emphasis on and can be edited to suite new changes.
- With flowcharts information needs or problems are analyzed in a more effective way that reduces costs and time wastage
  - Makes results look attractive and organized

**Any 3 x 2 = 06 marks**

(b) **<u>AN ALGORITHM /A PSEUDO CODE TO PROMOTE, MAKE REPEAT OR DISMISS A STUDENT</u>**

1 mark

```
1.  START                                                    1 mark
2.          INPUT NAME, BOT, MOT, EOT                        1 mark
3.          PRINT NAME, BOT, MOT, EOT                        1 mark
4.          PRINT BOT, MOT, EOT                              1 mark
5.                                          THEN             1 mark
6.              SUM = BOT + MOT + EOT                        1 mark
7.              AVERAGE = SUM/3                              1 mark
8.          IF AVERAGE > 60,                                 1 mark
9.              PRINT "PROMOTED"                             1 mark
10.         IF AVERAGE > 50,                                 1 mark
11.             PRINT "REPEAT"                               1 mark
12.         ELSE
13.             PRINT "DISMISS"                              1 mark
14.         END IF                                           1 mark
15.  END IF
16. STOP                                                     1 mark
```

**OR.**

(b) **AN ALGORITHM/A FLOW CHART TO PROMOTE, MAKE REPEAT OR DISMISS A STUDENT**

***1 mark***