**UGANDA NATIONAL EXAMINATIONS BOARD**

**DRAFT MARKING GUIDE 2018**

**UCE COMPUTER STUDIES 840/1**

SECTION A: MULTIPLE CHOICE QUESTIONS

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

**SECTION B: STRUCTURED**

1. (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***

1. (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***

1. (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)

1. 5 records ***1 mark***
2. 4 fields ***1 mark***
3. 0027200190653 ***2 marks***
4. Number in stock ***1 mark***
5. - Because it would uniquely identify the specific products and procedures.

- No different item would share a barcode

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

1. (a) **Describing the terms**
2. **Repeater**

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

***2 marks***

***Or***

***1 mark***

1. **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***

1. (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***

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

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

***2 marks***

1. 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***

1. **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**

1. **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***

1. **Keyword**

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

***2 marks***

**SECTION C**

1. **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
* Removable drives/storage capabilities
* Battery life
* Documentation
* Safety and security

**Any 5 x 4 = 20 marks**

**Mentioning a specification = 2 marks**

**Relevant Explanation = 2 marks**

**Total = 4 marks per specification**

1. **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

Workstation

Terminator



Printer

Backbone cable

**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



Printer



Workstation



Hub/Concentrator/Server/Switch

**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



Workstation

Cable

**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



Workstation

Cable

**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

1. (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) **AN ALGORITHM /A PSEUDO CODE TO PROMOTE, MAKE REPEAT OR DISMISS A STUDENT**

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***

INPUT NAME BOT, MOT, EOT

PRINT NAME, BOT, MOT, EOT

SUM=BOT+MOT+EOT

AVERAGE=SUM/3

IS

AVERAGE>60

IS

AVERAGE>50

PRINT PROMOTED

PRINT REPEAT

PRINT DISMISS

***1 mark***

***2 marks***

***2 marks***

***1 mark***

***1 mark***

**YES**

**NO *1 mark***

***1 mark***

***1 mark***

**YES**

**NO**

***1 mark***

***1 mark***

***1 mark Direction of flow***