

Third Edition 2019

UCE
COMPUTER STUDIES REVISION
QUESTIONS AND ANSWERS
FOR UGANDA

UCE Computer Studies Paper 840/1 (Theory).

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ABOUT THIS BOOK

- This book has been compiled to help candidates as they prepare for their examinations. The book contains over 1000 Past Examination Questions and Answers compiled from marking guides of past papers 2000-2018.
- The UCE Computer Studies Syllabus outline, including the question allocation per topic has been included to further guide the candidates on which topics to concentrate on most. The book also include a sample Exam Blue Print (2015). Teachers are encouraged to use blue prints when setting in order to ensure a balanced paper. An Examiners Report for UCE 2017 has been also included to highlight the common areas of weakness and strategies for improving.
- Teachers can also make use of this book as a question bank for assessing their candidates. New revised editions of this book will be released periodically with new questions and answers for various examinations as they become available.

Other books by the same author include:

- Computer Studies *for Uganda*
- Subsidiary ICT *for Uganda*
- Computer Practical Applications Lab Activities *for Uganda*.
- Subsidiary ICT Revision Questions and Answers *for Uganda*

DISCLAIMER: Some of the marking guides compiled together in this booklet were made and shared by distinguished teachers. Some answers may not be the most appropriate and are subject to discussion. This booklet should therefore just facilitate the revision and discussions – the author is not entirely liable for all data contained herein. In case of any errata, concerns or feedback, please leave a comment on the product page at books.mukalele.net or email us at books@mukalele.net.

TABLE OF CONTENTS

About this Book.....	2
Table of Contents	3
Computer Studies Syllabus Outline	4
2016 UNEB Circular to all Schools Offering Computer Studies 840	10
Past Paper Questions and Answers	13
Final Paper 2000	13
Final Paper 2002	27
Final Paper 2003	44
Final Paper 2004	56
Final Paper 2005	65
Final Paper 2006	77
Final Paper 2007	97
Final Paper 2009	111
Final Paper 2010	123
Final Paper 2011	133
Premock 2011.....	141
Resourceful Mock 2011	158
JJEB 2011	167
Final Paper 2013	174
External Mock 2014	182
Wakissha 2014	192
External Mock 2015	196
For Teachers: Sample UCE Exam Blue Print (UNEB 2015) and Blooms Taxonomy	211
What is Bloom's Taxonomy?	211
Blue Print and Question Paper UNEB 2015	212
Question Paper UNEB 2015.....	215
Final Paper 2016	222
ACIETKA 2017	232
JJEB MOCK 2017.....	242
Final Paper 2017	256
Examiners Report 2017	264
Final Paper 2018	274
Extra Objectives Compilation One.....	286
Extra Objectives Compilation Two.....	301

COMPUTER STUDIES SYLLABUS OUTLINE

1. The computer studies teaching syllabus serves to standardize the teaching of Computer Studies in all schools.
2. It also serves to leverage the use of software through suggesting solutions that can be achieved with use of more than one type of software.
3. The Computer Studies teaching syllabus intends to encourage a lot of practical work and hand-on practice and with much accommodation of changing and emerging technologies in ICT.
4. It also serves to provide a platform for easy assessment of skills and other areas of knowledge.
5. The Computer Studies syllabus serves to promote scientific, technical and cultural knowledge, skills and attitudes needed for development.

TIME ALLOCATION

Computer Studies is allocated three (3) periods per week for the 12 school weeks in a term from Senior One to Senior Four and thus has a total of 36 periods per term in the school calendar year. The time allocation given provides adequate time for hands-on practice. Therefore it is the duty of the teacher to make better use of this time by providing enough resources for practice to the learners.

COMPUTER STUDIES CURRICULUM SEQUENCE

S 1	TERM 1 – 2	TOPIC 1: INTRODUCTION TO COMPUTERS	1.1 Computers Today 1.2 Evolution of Computers 1.3 Uses and Functions of a Computer 1.4 Computer Care and Safety 1.5 Keyboard and Navigation 1.6 Categories of Computers 1.7 Classification of Computers 1.8 The Computer System
	TERM 2 – 3	TOPIC 2: COMPUTER HARDWARE	2.1 Components of Computer Hardware 2.2 Application of Hardware Components
S 2	TERM 1	TOPIC 3: COMPUTER SOFTWARE	3.1 Introduction to Software 3.2 System Software 3.3 Application Software
	TERM 2	TOPIC 4: WORD PROCESSING	4.1 Introduction to Word Processing 4.2 Word Processing
	TERM 3	TOPIC 5: COMPUTER PRESENTATION	5.1 Introduction to Presentation Software 5.2 Presentations
S 3	TERM 1	TOPIC 6: SYSTEM START-UP AND CONFIGURATION	6.1 Computer Booting 6.2 System Configuration 6.3 Software Installation 6.4 Computer Troubleshooting

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		TOPIC 7: COMPUTER COMMUNICATION AND NETWORKING	7.1 Introduction to Computer Communication 7.2 Computer Networks
	TERM 2	TOPIC 8: SPREADSHEETS	8.1 Introduction to Spreadsheets 8.2 Spreadsheets
	TERM 3	TOPIC 9: WEB DESIGNING	3.1 Introduction to Web Design 3.2 Web Design
S 4	TERM 1	TOPIC 10: DATABASES	10.1 Introduction to Databases 10.2 Database Design
	TERM 2	TOPIC 11: ELEMENTARY COMPUTER PROGRAMMING	11.1 Introduction to Programming 11.2 Developing a Simple Program
	TERM 2 – 3	TOPIC 12: TRENDS IN COMPUTING	12.1 Computer Integrity and Security 12.2 Computer Ethics 12.3 Computers and Society 12.4 Emerging Technologies 12.5 Systems Analysis 12.6 Computer Professions

Additional Syllabus Considerations for Specific Topics

Computers today:

- You should give guided introduction to aspects of computing, occupations and application
- You are encouraged to invite resource persons to enlighten students in the field of ICT.
- You should mention and show / demonstrate physical computer parts

Evolution of Computers:

- Focus should be on characteristics of the era
 - Physical
 - Software
 - Set-backs
 - Technology

Uses and functions of a Computer:

- Focus on identifying and describing the uses of the computer

Computer care and safety:

- You should explain in the simplest terms possible or according to terms already learnt.
- On Maintenance: general guidelines for maintenance of computers should be discussed or taught

Keyboard and Navigation:

- Utilize typing tutors and word pad, to develop skills of typing
- Tools e.g. Paint-brush, should be used to help students to develop skills in navigating and using the mouse
- Give as many examples of key-combinations especially the most important (2-key & 3-key combinations)
- Practical work on Keyboard skills and navigation should be given to every student and should be continuous.

Categories of computers:

- Focus should be on the operations and examples of the categories.

Classification of computers:

- Endeavour to provide more information on other classifications not mentioned here in the syllabus

Computer system:

- Focus should be on distinguishing hardware, software, data and communication components.

Components of computer hardware:

- When teaching storage devices, it is important to note and discuss Primary & Secondary storage components.

System software:

- Focus should be on general functions of systems software
- Observe that system software is not an Operating system.
- Students should practice on functions of system software.

Application software:

- You should not limit to only Office packages but others like Desktop Publishing, Imaging programs e.t.c.
- A clear distinction of types of application software is expected.
- Focus on types of application software should be on Off-shelf, Custom-tailored, Shareware, Freeware and Open-source.
- Emphasis should be placed on demonstrations

Word processing:

- Focus is on document production with emphasis on skills outlined in the syllabus
- Much more practice should be done with related documents
- Creativity and maximum use of available features is encouraged at this level
- Tasks to students should be time-bound

Presentations:

- Where options are provided, all the commands / tools should be used.
- The "School advert" and "short stories" are progressive activities that will generate / develop skills over a number of slides.
- The "School advert" should be handled / taught from scratch (black slides); templates and wizards should not be used at this stage.
- Using skills gained out of practice in the school advert and short stories, learners should be made to explore through the themes provided and make presentations in classroom / lab.
- You should encourage students to practice and gain skills in:
 - a. Mail merge
 - b. Hyperlinks
 - c. Inter links
 - d. Mathematical features
 - e. Document security
 - f. Import and export options.

System configuration:

- You should make use of the technical and user manuals provided with the computers and software respectively.

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- Consult / Research more from the Internet
- A lot of hands-on practice should be given to students
- At least two (2) computers should be put aside for practice
- Extra periods have been allocated to system configuration and another 2 for Troubleshooting for purposes of providing students with more hands-on practice time in the classroom.

Computer networks:

- You should limit configuration to dynamic IP addressing when setting up the SOHO Network
- You should cover as many terminologies as possible under computer communication.
- Internet will be treated on one of the types of Networks and the following should also be emphasized:
 - History of Internet
 - Uses of the Internet
 - Types of Internet connection
- You should demonstrate Internet use and endeavor to make students practice in the use of the Internet.

Spread Sheets:

- Start off with a simple mark sheet and progressively move towards an advanced worksheet.
- Limit the learning scope to the following:

Functions:	Operations:
SUM () , AVG () , COUNT () , MIN () MAX () , IF () , Cell referencing , Absolute (Fixed) , MODE , MEDIAN ,	+ ; - ; * ; / ; ; ()

Web design and publishing:

- A personal web page should have:
 1. A header
 2. Images and graphics
 3. Tables
 4. Bio-data
 5. Hyper links
- When conducting practice with other tasks, involve use of a resource person (like web designers / masters)
- Limit the scope of designing to the following areas:

Web Page Components:

- a. Page titles
- b. Text headings and main text content
- c. Buttons and icons: navigation tools
- d. Lists: ordered and unordered lists
- e. Line separators
- f. Graphics (images)
- g. Tables
- h. Frames

- i. Specific relative text size and flow in a document.

Linking Options:

- a. Relative pathnames and absolute pathnames b. URLs
- c. Integration of images into the page
- d. Alternate text for images
- e. Images as hyper links

Colour Options:

Data base design:

- a. Specify a colour by name
- b. Specify a colour by RGB Value
- c. Colour of text, background and links
- You should limit the design scope to a flat database file.
- You should make use of resource persons in database development and design.

Trends in computing:

- In teaching "Developments in application" the following areas should be addressed:
 - a. Growth of the Internet
 - b. Virtual Reality
 - c. Education
 - d. Health
 - e. Military
 - f. Commerce
 - g. Industry
 - h. Home
 - i. Government
- Computer Intrusion; the following should be taught,
 - a. Hacking
 - b. Electronic trespass
 - c. Viruses
- Computer protection; the following should be taught,
 - a. Firewalls
 - b. Data encryption
 - c. Physical protection
- You should limit the teaching to issues of copyright concerning computers, when handling Copyright Law in Uganda.

MODE OF ASSESSMENT

Assessment of Computer Studies will be handled in two modes, that is, continuous assessment and summative assessment.

CONTINUOUS ASSESSMENT:

This shall be carried out by the subject teacher within the provided teaching time in form of practical sessions or exercises, tests, class and student projects, study reports, open quizzes, oral questions and answers and experiments. For this subject, it is advised that assessment be done at the end of each subtopic, so that achievement of the specific objectives under question is adequately checked against each learner.

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This mode of assessment shall be the core of assessment from senior one to senior four and thus no time for assessment or examining shall be put aside for this subject in the said period. It therefore means that all school terms with the exception of Senior Four - Term 2, shall carry continuous assessment marks.

SUMMATIVE ASSESSMENT:

This shall be conducted at the end of four years of the ordinary level of education; in the same way as has been the practice over the years. The same examination formats that have been in existence shall still be maintained. Computer Studies shall be examined in two major papers, with Paper 1 covering theoretical and applied sections of the syllabus and Paper 2 covering the hands-on aspects of the syllabus.

PAPER I (2½ hours): This shall be a theory and practical theory paper with three sections.

Section A (20 Marks)

Will consist of 20 multiple choice questions drawn from the whole syllabus

Section B (60 Marks)

Will consist of 6 structured questions drawn from the whole syllabus

Section C (20 Marks)

Will consist of three (3) equally weighted practical theory questions and a candidate will attempt only one (1) question carrying 20 marks; questions will be drawn from the following topics:

- i. Elementary Programming
- ii. Trends in Computing
- iii. Systems Start-up and Configuration
- iv. Computer Communication and Networking
- v. Computer Hardware

PAPER II (2½ hours): This will be a practical paper with two sections.

Section A (40 Marks)

This section shall be compulsory and questions will be drawn from Word Processing and Spreadsheets

Section B (60 Marks)

This section will consist of three (3) equally weighted questions of which a candidate will attempt two (2) questions, each carrying 30 marks. The questions will be drawn from Databases, Web Design and Computer Presentations.

2016 UNEB CIRCULAR TO ALL SCHOOLS OFFERING COMPUTER STUDIES 840



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CIRCULAR TO ALL UCE SCHOOLS OFFERING COMPUTER STUDIES (840)

REMINDER OF COMPUTER STUDIES EXAMINATIONS (840) BASED ON THE 2008 COMPUTER STUDIES TEACHING SYLLABUS

The Computer Studies (840) examination based on the 2008 teaching syllabus started last year 2015. Teachers are therefore, expected to deliver the curriculum based on only the 2008 Computer Studies teaching syllabus. This is to remind schools of the examination format:

EXAMINATION FORMAT

The following is the examination format as in the 2008 syllabus:

PAPER I (2½ hours)

This will be a theory paper with three sections:

Section A (20 Marks): Will consist of **twenty (20) compulsory** Multiple Choice Questions (MCQ) drawn from the whole syllabus.

Section B (60 Marks): Will consist of **six (6) compulsory** equally weighted structured questions drawn from the whole syllabus.

Section C (20 Marks): Will consist of **three (3)** equally weighted theoretical practical questions.

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A candidate will answer only **one** (1) question carrying 20 marks. Questions will be drawn from the following topics:

- i) Elementary Computer Programming
- ii) Trends in Computing
- iii) System Start-Up and Configuration
- iv) Computer Communication and Networking
- v) Computer Hardware.

PAPER II (2½ hours)

This will be a practical paper with two sections:

Section A (40 Marks): Will be *compulsory* and questions will be drawn from Word Processing and Spreadsheets.

Section B (60 Marks): Will consist of **three** (3) equally weighted questions of which a candidate will answer **two** (2) questions, each carrying 30 marks. The questions will be drawn from Databases, Web Design and Computer Presentations.

NOTE:

1. Two programming languages **C** and **Visual Basic** shall be used during the teaching of elementary computer programming.
2. The time for the practical paper is **2½** hours not **2¼** hours.
3. All candidates should have **new** blank Compact Discs (CD) provided by the school.
Flash Disks will no longer be accepted.
4. The CDs of the candidates should be packed in smaller boxes and the printed copies of the candidates to be sealed in the return envelopes. These should then be sealed together in another properly labeled bigger box to avoid the separation and misplacement of the printed copies.

Please find attached the reviewed minimum requirements for teaching Computer Studies.


Dan N. Odongo

EXECUTIVE SECRETARY

Copy to: Permanent Secretary MoES
Director BSE
Director NCDC
Director DES

Enc.

MINIMUM REQUIREMENTS FOR 840

For a school to successfully implement the UCE Computer Studies Curriculum and for the students to attain or achieve the expected skills and competencies in computing the following basic minimum requirements need to be instituted in the computer lab/ or in the classroom

1 Desktop Personal Computers or laptops (*for students and teachers' use*)

- Intel Pentium 4(2.0 GHz +) OR AMD processor (1.5 GHz+)
- 512 MB RAM
- 80GB HDD
- DVD/CD-RW Combo Drive
- 17" / 19" CRT Monitor
- Computer Speakers, keyboard and Mouse.

2 A closed and simple Computer Network with at least one network hub.

3 Computer Maintenance tools and /or kit.

4 Fire Extinguisher.

5 Safe Electrical Installations (*provide a socket for each computer set*)

6 Uninterruptible Power Supply (UPS) Units and a stable power source.

7 Teaching Syllabus (2008) NCDC.

Must have appropriate software for:

- (a) Word Processing.
- (b) Spreadsheet.
- (c) Presentation.
- (d) DBMS.
- (e) Web design software
- (f) Compilers for C and Visual Basic

- Software versions should not be more than ten (10) years old from the year of examinations.
- Internet Connectivity.
- Printer accessible on a network.

It is important to keep the ratio of computers to students as favourable as possible (*recommended for this subject is a ratio of 1 computer: 2 learners per stream*)

Note also that this syllabus requires a school to have computers (old or obsolete and working but not used for student software practice) for teacher's demonstration and students' hands-on practice in classroom/computer lab. These will cater for hardware set up and configuration, software installation, troubleshooting, and other hardware demonstrations the teacher has to do.

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PAST PAPER QUESTIONS AND ANSWERS

FINAL PAPER 2000

1. John Napier invented calculating rods called
 - A. Calculators
 - B. Napier's Bones
 - C. Arithmetic machine
 - D. Napier's rods
2. Which of these generations in the evolution of computers is characterised by the use of very large integrated circuits?
 - A. First generation
 - B. Second generation
 - C. Third generation
 - D. Fourth generation
3. Which of these is the easiest to carry from one place to another?
 - A. Super computer
 - B. Main frame
 - C. Mini computer
 - D. Laptop
4. The ability of computers to handle more than one task is called
 - A. Mobility
 - B. Velocity
 - C. Analogy
 - D. Multiple
5. Tangible components of a computer are called
 - A. Equipment
 - B. Hardware
 - C. Software
 - D. Live ware
6. How many bits are found in the word MAD?
 - A. 3
 - B. 8
 - C. 12
 - D. 24
7. Which of the following is a group of operating systems?
 - A. DOS, Windows NT and UNIX
 - B. Lotus, Windows 98 and Excel
 - C. Spreadsheets, Linux and DOS
 - D. Windows NT, DOS and Word
8. Formatting a disk does one of the following
 - A. Makes the letters bold
 - B. Changes the font type

- C. Erases the contents
- D. Increases the indent
- 9. Which of these are done in word processing
 - A. Writing letters, formatting disks and processing graphics
 - B. Creating, saving and printing of documents
 - C. Printing of documents, information sharing and processing work
 - D. Documenting, processing and sending information
- 10. Which of the following utilities can provide words that have the same meaning?
 - A. Spell checker
 - B. Auto correct
 - C. Thesaurus
 - D. Grammar checker
- 11. In spreadsheets, rows and columns intersect to form
 - A. Cells
 - B. Work area
 - C. Cell pointer
 - D. Cell areas
- 12. in spreadsheets, Row 6 and Column D form a cell reference
 - A. 6D
 - B. D6
 - C. 6: D
 - D. D: 6
- 13. The electronic transfer of text message from one geographical location to another using computers is referred to as:-
 - A. Internet communication
 - B. Electronic mail
 - C. Down loading
 - D. Uploading
- 14. Which one of the following statements best explains the term "internet"
 - A. E- mail
 - B. International connections
 - C. Global connection of computers
 - D. Globalization
- 15. Which one of the following is a primary database structure?
 - A. Form
 - B. Query
 - C. Report
 - D. Table
- 16. What is the most appropriate data type for a photograph in a database?
 - A. OLE objects
 - B. Text
 - C. Hyperlink
 - D. Field
- 17. Which one of the following software displays slides as an output?

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- A. Internet explorer
- B. Word processing
- C. Presentation
- D. Spreadsheet

18. What does a slide master do?

- A. It controls sound and transition
- B. It controls animation
- C. It controls graphic and movies
- D. It controls certain text characteristics and background

19. Which one of the following can be used in web publishing?

- A. Slide master
- B. E- mail
- C. Hyper links
- D. LAN

20. As a computer technology advances

- A. The size of computers also advances
- B. The size of computers reduces
- C. The size of computers remains normal
- D. The cost of computers will be high

ANSWERS TO 840/1 – 2000

SECTION A

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

SECTION B (60 Marks)

21. (a). RAM and ROM are two different types of memory found in the computer.

(i) What do the abbreviation ROM and RAM stand for?

ROM- Read Only Memory

RAM- Random Access Memory

(vi) State two differences between ROM and RAM

RAM	ROM
i) RAM is volatile	ROM is non volatile
ii) RAM is read and write	ROM is read only
iii) RAM is temporal(not permanent)	ROM is permanent
iv) RAM can be increased	Rom is normally not increasable

(vii)Where is each one of this applied?

ROM is used to store software and configurations used in booting the computer.

RAM is used to store programs apparently used by the user when the computer is working

(b) Compact Disk-ROM devices are now used to store games, state three advantages and one disadvantage of supplying games on the above mentioned devices.

Advantages

- A compact disc is more portable than other storage devices

- ▢ The games are permanent (ROM can't be rubbed off)
- ▢ Can be stored for a long time
- ▢ A CD-ROM can hold up to 700MB of data, instructions and information
- ▢ A CD-ROM however can contain text, graphics, video and sound
- ▢ Most manufactures guarantee that a properly cared for compact disc will last up to 50 years.

Disadvantages

- ▢ Can be attacked by a virus
- ▢ Can be scratched and hence a distortion
- ▢ Some kinds of compact discs are read only (CD-ROM and DVD-ROM)
- ▢ The average access time of a compact disc is faster than that of a floppy disc
- ▢ One problem with CD-RW is that they cannot be read by all CD-ROM drives

(c) (i) State four precautions which should be taken to prevent virus from affecting computers.

- 1 Ensure that the e-mail is from a trusted source before opening or executing any e-mail attachment
- 2 Install an antivirus utility and update its virus definitions frequently for detecting and removing viruses.
- 3 Never start up a computer with a floppy disk in the floppy drive
- 4 Scan all floppy disks and files for possible virus infection before opening them.
- 5 Set the security level for macros in an application so that the user can choose whether or not to run potentially unsafe macros
- 6 Write-protect the recovery disk before using it
- 7 Back up important files regularly
- 8 An antivirus utility is a program that prevents, detects and removes viruses from a computer's memory or storage device

One popular anti-virus program is Norton anti-virus

An antivirus utility scans for programs that attempt to modify, boot program, the operating system and other programs that are normally read from but not modified.

- 9 Install a virus guard
- 10 Avoid using external peripheral devices e.g. diskettes

(d) Explain the term computer virus

A virus is a program that copies itself into other programs spreads through

Multiple computers. Viruses are often designed to affect, or infect, a computer negative by altering the way it normally works without the knowledge permission of the owner.

22. Staff in a firm of solicitors uses typewriters for all letters and forms. The firm decides to introduce word processors to take the office work more efficient.

(a) State three reasons why this change may worry some office staff

- 1 It could cause unemployment to them
- 2 They could not be having computer literacy
- 3 The maintenance costs are high

(b) After some time, most of the staff finds out that the word processors make their job easier. Mention three reasons why their jobs are made easier.

- 1 It makes work faster

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- 2 It can store work for future use
- 3 It can print work of better quality

(c) What word processor function, would you use to?

(i) Make headings more obvious

Bold

(ii) Type an address at the right of a document

Right align

(viii) Produce a draft document with space between the lines

Line spacing

(ix) To make changes to a document in the following ways: italicising, changing font colour and underlining.

Formatting

(d) is a word processor that uses ONLY a key board in its operations?

- Word perfect

(e) What is the difference between lower case and upper case?

Upper case is composed of capital letters

Lower case is composed of small letters

(f) Explain what is meant by the term "Save As"?

This is a command used to affect the process of saving documents from the memory temporal storage to a permanent storage or from one drive to another and also when changing a name of a document to another.

23. The spreadsheet below shows "THE KATUNKUMA COLLEGE SCHOOL SALES"

A	B	C	D	E	F	G	H
1							
2							
3	Day	L.C	Sales	Costs	Income	Profit	Profit
	Donation						
4	Monday	William	45	\$15.50	\$15.50	\$4.20	\$27.10
	\$1.05						
5	Tuesday	Katherine	53	\$18.63	\$18.63	\$5.85	\$31.24
	\$1.46						
6	Wednesday	Jennifer	37	\$11.80	\$11.83	\$3.97	\$31.24
	\$0.99						
7	Thursday	Christopher	-	\$21.20	\$21.20	\$5.45	\$34.58
	\$1.36						
8	Friday	Joanna	64	\$19.25	\$19.25	\$5.65	\$25.71
	\$1.41						
9	<u>Total</u>	271	\$86.06	\$86.06	\$25.09	\$29.35	\$6.27
10	<u>Average</u>		54.1	\$17.21	\$17.21	\$5.02	\$29.15
	\$-						

THE SHOP sales spreadsheet showing the result of changing a charity percentage to 25%

(a) State the entry for the cell below G5

\$31.24

(b) (i) What is the formula used to calculate the total cost

=SUM (D5:D9)

(ii) Find the entry in C8

=SUM (C4:C8) - (C4 + C5 + C6 + C8)

(c) If the range of cells from A4 to A8 is A4:A8, give the ranges for

(i) The four cells below G7

G7:G11

(ii) The four cells to the left of G7

G7:K7

(iii) What else can you put in spreadsheets cells besides text and numbers?

-Formulas

-Alpha numeric

(d) Name three different operations, which you would expect in a spreadsheet cell.

SYMBOL	DESCRIPTION	EXAMPLE
()	Parenthesis	=B2*(C4 + D5)
*	Multiplication	=B2*C4
/	Division	=B2/C10
+	Addition	=(B2 + C4)
-	Subtraction	=(B2 - C4)
%	Percentage	= C5*60%
^	Exponential	=C5^2

(e) Name three different types of number format you would expect in a spreadsheet cell.

-General

-Number

-Currency

-Accounting

-Date

-Time

-Percentage

-Fraction

-Text

-Special

-Custom

24. (a) What is meant by the following terms?

(i) E-mail

This is the transfer of electronic messages from one geographical location to another using computers and related computerized devices.

(ii) Internet

Is the global connection of computers where by access to information is world wide enhanced

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(b) Explain briefly how the internet can be used as a learning tool

- 1 Computer assisted instructions (CAI), so that teachers use computers and other IT equipment to present teaching materials a more interesting way.
- 2 Computer assisted learning (CAL), so that students use computers and appropriate software to learn at their own pace.
- 3 Computer assisted assessment (CAA), which may reduce time and labour to mark the answer scripts
- 4 Distance learning through computer based training and based training
- 5 Simulations of experiments or real life situations that make hazardous
- 6 Electronic library system for searching, borrowing and read books
- 7 The school administration and management system for keeping records of students and producing report cards or related documents
- 8 Edutainment, which is a type of educational software that combines education with entertainment.

Advantages of using IT in teaching and learning include

- 1.CAI and CAL packages that usually contains multimedia effectively make learning more interesting and interactive
- 2.Students can learn by themselves when the teacher is not available
- 3.Students can learn and proceed at their own pace
- 4.Students can usually get their results or feed back immediately after they have answered the question or taken an action.
- 5.There are rich educational resources on CD-ROMS and internet.
- 6.Teachers can present subject matter and explain abstract concepts clearly with multimedia
- 7.Teachers can now show experiments that are difficult to perform or dangerous in nature through simulations software
- 8.Advanced instructions can be given to students in areas where the teacher may not be qualified

(c) Mention:

(i) Four advantages of the internet

- 1 Enhancement of communication
- 2 Access to information (world wide)
- 3 Shop for goods and services
- 4 Provide information to others

(ii) Four disadvantages of internet

- 1 There is no privacy for information
- 2 Information control is limited
- 3 Illegal material are plenty
- 4 Piracy

25. (a) List five examples of data types that can be used in record

- 1 Text
- 2 Memo
- 3 Number

- 4 Date/time
- 5 Currency
- 6 Auto number
- 7 Logical data types
(Yes/No, True/False)
- 8 OLE object
- 9 Hyperlink
- 10 Lookup Wizard

(b) Outline the function of each of the data types listed in (a) above

1. **Text**, which may hold letters, numbers or special characters
2. **Memo type**, which contain text of any type or length
3. **Number type**, which may hold numbers only
4. **Date/time**, which may hold month, day and year information
5. **Currency type**, which may hold dollar and cents amounts
6. **Boolean type**, which may hold values that are either true or false
7. **OLE object**- OLE (Object Linking and Embedding) objects, graphics or other binary data.
Field capacity is up to a gigabyte (GB) or limited by space available disk space
8. **Lookup Wizard**- when the value that you need exists in any table or from a list of static values, you use the lookup wizard to help you establish a link to the table or to define the combo box that display the list of values on a form or report
9. **Validation** is the process of comparing the data entered with a set of predefined rules or values to check if the data is acceptable. Manipulation of data in a database included

(c) Differentiate between a field and an attribute, give an example of each

Field is a unit of data yet on attribute is a group of field or column in table.

Examples

Field

A field is a unit of data consisting of one or more characters. An example of a field is your name address. Or your social security number.

Attribute. In a relation database, a table is called relation (not to be confused with a relationship) A row is called a tuple (which rhymes with couple) and A column is called an attribute .Some relationship DBMS these terms : Others use file (For tuple) and field (for attribute)

(d) Outline the importance of a primary key in a database

- A primary key used to ensure that there are no duplicate fields in a table
- It avoids redundancy in tables since it can be represented as a foreign key in other tables.

26. (a) What is meant by the following terms:

- (i) **HTML** – hypertext mark-up language is a language (text codes). Is a format in which web pages are created.
- (ii) **Website** is an electronic page that has links with other pages and contains information, data etc.

(b) State three advantages of web publishing

- Easy accesses to information.
- Electronic commerce(E- commerce)

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(c) Describe how a web page is a source of information

- It is a source of information in terms of research of getting information on the internet.
- Education, (on in connectivity)
- Advertisement
- Entertainment

(d) What is the difference between WWW and web page?

The internet is a worldwide connection of networks linked together. It is the largest wide area network (WAN) in the world.

The World Wide Web is only one of the most popular service available on the internet.

The World Wide Web (WWW) also called the web consists of worldwide collection of electronic documents.

Each of these documents on the web is called a web page.

Web page is a file of information stored on a web server

Website is an electronic page that has links with other pages and contains information, data etc.

WWW is a web server in which or where information of a particular organization or company or subject is stored.

SECTION C: (20 MARKS)

Answer only one question in this section.

27. You are given an assignment to create, design and present a polio awareness presentation. How do you carry out the above?

Introduction - Define presentation software.

Name the presentation software being employed. (i.e. Power Point).

Body;

- 1 Mention how one gets to a new slide
- 2 Set a design out lay of the slide 1.
- 3 Describe how you, the topic section to be handle
- 4 In (Check on the creativity) slide 1.
- 5 (Elaborating on)
- 6 Arrange format and (preferably a paragraph). Editing, Graphics.
- 7 Mention how one inserts a second slide.
- 8 Follow the guideline as laid out in section A
- 9 Follow till slide.
- 10 Mention the looping and transition of slide and the timing.
- 11 Presentation it to the public with the use of a projector, a computer and screen.

28. "Computers have changed today's ways of life". Discuss

Definition of computer

(Positive effects)

- 1 Accuracy and rating, editing, and manipulating
- 2 Improved communication facilities (e-mail virtual education institutions of texts) reliability
- 3 Recreation (entertainment industry)
- 4 Employment opportunities have increased.

- 5 Large data storage and analysis and easy retrieval. (Improved file management).
- 6 More information
- 7 Stronger and more reliable defence systems have been built.
(Defence of security.)
8. Improve research work.
9. Information of industry(less production costs hence less costs of products to consumers)
10. Ease in trading across continent. (Trading on a P.C)

(Negative effects)

- 1 Less of sight due to over
- 2 Unemployment.
- 3 to ill material (moral degradation)Users have been exposed
- 4 Loss of information due to break down of systems.
- 5 High rate of forgery.
- 6 Expensive involved – maintenance.

29. “Computers are required both as a tool and as an occupation”. Discuss

Issues resulting from use of computers.

Today, there are a number of issues which have risen as a result of use of computer as a tool. These issues include entertainment and breakthroughs in field like health care education, communication, research, commerce, arts, transport, automated production employment, and other various cultural effects health issues.

Breaking-through

Due to development in information and technology there are lots of discoveries Which have made in almost all sphere of human life in health care, education Communication, research, commerce, arts, entertainment and transport.

(i) Science

In our professional live, a computer is an integral too in performance of many jobs. The computer application is science has over years taken much emphasis among the computer itself is scientific in nature, and so are all Its functions.

Scientist has used computers in manufacture of different tools, equipments.

They have also used computers in verifying scientific things, theories and laws.

In science, computers have been used manufacture of heavy machines like plane, automobiles, etc.

(i) Health care

There has been tremendous improvement in health care in the recent past due to development in information and communication technology .there numbers of breakthroughs which have been made; they include improved surgery and heart surgery.

Crowns can also be made by a computerized methods that eliminates the need of Impressions and plaster models, this methods is called computer-aided design and Computer –aided manufacturing (CAD/CAM). The dentist uses an optical probe system to record electronic images of the tooth. This information is entered into a

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computer, which designs an electronic model of the tooth. The design is then transferred through the computer to lead of a cutting tool. Which prepares the crown to extract fit the tooth.

(iii) Communication

Many people use personal computers of computer terminal to contact other Computers to communicate over other telephone lines requires advice called and Special communications software. A modem translates incoming telephones Network can use, and it translates incoming telephone signals into computer Signals, special modems can connect portable computers with the cellular network Once equipped, a computer can use the telephone network to contact Computerized information services. called on-line services. This breakthrough has facilitated the flow of information greatly. Some on-line service offer undated news bulletins, shopping service and games. Others feature issues of newspapers magazines and other research materials. A subscriber to a bulletin board system (BBC) electronically "posts" messages and announcements, making them available to all other subscribe. Another on-line services electronic (e-mail), through which individual users communication with each other.

(iv) Research

In medical research, tiny computer will control mechanical device that replace Organs that have ceased to function. It is believe that computerized nervous System will assist paraplegics to with again.

In agriculture, researchers use computer to determine to fertilization program that optimize yields of various crops.

Computers have become the most vital tools in commerce

(v) Computer networks

Enable people in business to send and receive electronic data with little regard for time or distance. Today many business us electronic data exchange methods that alternates and standardizes translation between retailers and suppliers to conduct business translations electronically, transferring information such orders and invoices between one computer and other. Another area that has a wide usage of computer is telecommuting. The technique allows workers to work at home and use computers communicate with an office computer.

(vi) Entertainment

Computers are playing a very important role in entertainment A Musical instrument digital interface (MIDI) exists to link a musical instrumental Sounds.

The background music in many movies, televisions, shows, and commercial is electronically generated.

(vii) Transport

With rapid development information and communication technology, computers have found their way in transport. today computers have found their way in transport today computers are used in air, road and water transport. In all terminals

transport, entry pertaining entries and departures and even personal information are recorded. In many countries transport are recorded and even personal information are also recorded .In many countries transport system has been computerized and has facilitated efficiency in the sector.

viii) (Automated Production)

It involve computerizations of production because in factories. In other words, It is computer-aided production which does not require high manpower.

Advantages

- 1 It reduces the cost of production because of the efficiency of machines
- 2 It reduces fewer employers and this reduces the production costs.
- 3 It leads to improved quality of services and better range of products.
- 4 It indirectly helping jobs creation since it improves overall production and profits
- 5 Has helped in reduction of accidents in sectors like mining and chemical production where much work is potentially hazardous

Disadvantages

In the short run, it leads to job displacement

Effects on employment

Evolution in information and communication technology has had its effect in Employment though job creation, job replacement and job displacement

Job creation

Thousands of jobs have created in ICT sector especially in the production of Vital electronic components that are the building block of computer. These components include the microchip, resistors and transistors.

Once the computer has been built a variety of personal are needed to get them to do some useful work. System analysts are required to do analysis and design of systems which will run computers. Programmers are needed to implement the design computers. Data entry operators are needed to prepare data through verification and validation for computer processing .Technicians are required for maintenance and repair of hardware. Data processing managers are needed to ensure the smooth running of the systems and trainers to train users on computer and their opportunities in the society today.

Job replacement.

Computerization brings about elimination of jobs in most cases these jobs are replaced with those that have greater responsibilities requiring high level training.

Job replacement therefore is a situation where by certain disappears in an organisation but reappears in another requiring more and high skilled man power. For example, cleric staff in an organisation filling forms in departments is now called data entry because they now use mobile phones and email facilities send and receive mails. These jobs are still in existence but required accounting program to do all the jobs

Job replacement is the process of replacing man power with computerized machines, either their own or with the help of a free skilled and highly trained people. In most cases, the eliminated jobs are those involving monotonous and un skilled labour. For instance factory jobs can be displaced by machines called robots.

However on a negative note: computers affect the people who use them physically,

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economically and socially.

Computers as an occupation include the following Career opportunities in information and communication technology.

Description of career opportunities in the field of ICT.

Information and communication technology [ICT] has created new jobs titles such as computer operators, computer technicians, system analysts, computer programmers, software engineers, computer engineers, information system manager, data base administrator, computer trainers, website administrators, computer graphics, designers and network administrators. This section explains some responsibilities of these professionals who are generally called information technology workers and these include the following⁴

- 1 Computer operators,
- 2 Computer technicians,
- 3 System analysts,
- 4 Computer programmers,
- 5 Software engineers,
- 6 Computer engineers,
- 7 Information systems manager,
- 8 Data base administration,
- 9 Computer trainer,
- 10 Website administrators,
- 11 Computer graphics designers
- 12 Network-administrators.

This section explains some responsibilities of these professionals who are generally called Information technology workers.

Computer operators.

Some of the responsibilities of a computer operator include

- (i) Entering data into the computer for processing.
- (ii) Keeping up-to-date records (log files) of all information process activities

Computer technician

Given that computers require regular maintenance, upgrade as well as emergency repairs, demand for computer technician continues to grow as more and more computerize their work place and homes.

Some of the responsibilities of a computer technician are:

- i. Troubleshooting computer hardware and software related problems
- ii. Assembling and upgrading computers and their components
- iii. Ensuring that all computer related accessories such as printers, modems, storage media and devices are in good working condition
- iv. In developed countries, technicians help hardware engineers designing and creating some computer components such as storage devices, motherboards etc

Systems analyst

This is a person who is responsible for analysing a company's needs or problems then designs

and develops a computer batch information system. A good system analyst is one who has the following attributes.

- i. Good problem solving skills and creativity i.e. must have the experience in solving problems
- ii. Good communication skills: the analyst must be able to communicate clearly and precisely both in writing and in a speech
- iii. He/ she must be able to talk to different groups of people e.g. managers, operators, attendant and general public.
- iv. Must have business knowledge. The analyst must be well trained in relevant areas of computer science such as hardware, software and programming knowledge.

Some of the responsibilities of a system of a system analyst include

Reviewing the current manual or redundant information system and making recommendations on how to replace it with a more efficient one

Working with programmers to construct and test the system co-coordinating training for users of the new system

Computer programmer

Large organisations such as insurance companies, banks, manufacturing firms and government agencies hire programmers to work together with system analyst in order to write in-house application programs or system programs.

Customise commercial application package to suit the organisation needs.

Test, debug, install and maintain programs developed or customised for the organisation.

Software engineer

A software engineer is one who is skilled in software development and technical operation of computer hardware.

Some of the responsibilities of the software engineers are:

- 1 Developing system and application software
- 2 Developing user and technical documentations for the new software.
- 3 Maintaining and updating the software to meet day to day requirements while overcoming challenges.

Computer engineer

Computer and electronic engineers are coming up with and more efficient technologies in information and communication technology almost daily. Since computers are electronic devices, hardware designers must be good in electronic engineering in order to be able to:

- (i) Design and develop computer components such as storage devices, mother boards and other electronic components
- (ii) Determine the electronic power requirement of each computer component.
- (iii) Re-engineer computer components to enhance its functionality efficiency.
- (iv) Design and develop engineering and manufacturing computer controlled devices such as robots.

Information system manager

The information system manager controls, plans, staffs, schedules and monitors all the activities of the ICT department in the organisation. Using computerised management information system (MIS), the manager can test the impact that an alternative cause action

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might have on the business.

Other responsibilities of an information system manager include:

- (i) Making sure that all tasks in the IT department are done correctly and on time in order to support business planning, and control decision making processes.
- (ii) Preparing budgets for the department.
- (iii) Keeping the department inventory records up-to-date.
- (iv) Managing the human resource within the department.

Database administrator

The major purpose of computerising organisations or institutions is to store data in an organised way for easy access, retrieve and update. The organisation requires a person who should be responsible for updating records in an information system database.

For this reason, database administrator is responsible for:

- (i) Designing and developing database applications for the organisation.
- (ii) Setting up security measures needed to control access to data and information.
- (iii) Keeping the database up-to-date by adding new records, modifying or deleting unnecessary records.

Computer trainer

Due to dynamic nature of computers and information technology, there is a high demand for qualified ICT trainers. Some the responsibilities of an ICT trainer are:

- (i) Training people on how to use a computer and various applications programs.
- (ii) Developing training reference materials.
- (iii) Guide learners on how to acquire knowledge through carrying out research.
- (iv) Advising the learners on the best career opportunities in the broad field of ICT.
- (v) Preparing learners for ICT examinations.

Web administrator/Webmaster

Internet is one the areas of information and communication technology that has drawn the interest of most people. These people are able to exchange messages, search for information and business through the internet.

Business organisations, educational institutions and individuals put information on the internet by developing websites. Most organisations hire the services on a web developer who is given the role of the company's web administrator also referred to as webmaster. A web administrator is responsible for:

- (i) Developing and testing websites.
- (ii) Maintaining, updating and modifying information on the websites to new demands by the use.
- (iii) Monitoring the access and use of internet connection by enforcing security measures.
- (iv) Downloading information needed by an organisation or institution from internet websites.

END

FINAL PAPER 2002

SECTION A (20 Marks)

1. Which of these best characterizes the mechanical era (1623-1945) of computer evolution?
 - A. Napier's bones.
 - B. Programming languages.
 - C. Leibniz calculator.
 - D. Multics
2. A person who accesses computer systems illegally is referred to as:
 - A. Criminal.
 - B. Pirate.
 - C. Hacker.
 - D. Wizard.
3. Which of these best describes categories of computer system?
 - A. Analog and Digital computers
 - B. Micro and Analog computers
 - C. Windows and DOS
 - D. Digital and main frame computers
4. The following are possible with a computer except:
 - A. Speed and versatility.
 - B. Documentation and report making
 - C. Scheduling.
 - D. Thinking.
5. Is the permanent type of memory found in computer systems.
 - A. RAM.
 - B. ROM.
 - C. CPU.
 - D. ALU
6. How many bits are found in the word INPUT?
 - A.5
 - B.35
 - C. 40
 - D. 56
7. Which of the following is a system software?
 - A. Spreadsheet
 - B. BASIC
 - C. Linux
 - D. Microsoft word
8. The following are storage media except
 - A. Printer
 - B. CD-ROM
 - C. Tapes
 - D. Diskettes
9. Which of the following is an application soft ware
 - A. Windows
 - B. Computer games

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C. COBOL

D. DOS

10. In word processing the feature where a word which does not fit on a line

A. Carriage return

B. entering

C. Scrolling

D. Word wrap.

11. Is the intersection of a row and column in spread sheet:

A. A pointer

B. An address

C. A cell

D. A record

12. is an address that does not change when a form copied to another location in spread sheet.

A. Absolute address

B. Relative address

C. Mixed address

D. Formula address

13. A computer service that enables users to and receive messages is called:

A. Internet

B. WWW

C. Browsing

D. e-mail

14. A net work that connects computers in the same building is called.

A. BUS

B. LAN

C. WAN

D. MAN

15. Is best for creating, storing and retrieving large volume of related Information.

A. A Microsoft word

B. A Data base

C. An e-mail

D. A word file

16. Identify one of the following that is an odd operation of data base:

A. Creating slides

B. Creating a data base file structure

C. Defining fields

D. Calculating statistics for group of records

17. The following are done using presentation software except:

A. Creating an organisation chart

B. Creating graphic objects

- C. Creating a query
- D. Adding video clips
- 18. Identify one these that represents an application of presentation soft ware:
 - A. Displays e-mail messages
 - B. Desktop publishing
 - C. Printing and addressing a set of letters.
 - D. A visual aid to enhance communication
- 19. The following best describes the purpose of a web page.
 - A. Making money on the internet
 - B. Creating awareness about some thing on the internet
 - C. Uploading files on the internet
 - D. Downloading files on the internet
- 20. Which of these is likely to happen in future about internet?
 - A. Very expensive
 - B. Faster connections
 - C. Fewer users
 - D. Extensive use of wires

SECTION C (20 MARKS)

Attempt any one question from this section.

- 27. What are the advantages and disadvantages of Internet in business today?
- 28. Explain briefly five advantages and five disadvantages of computers.
- 29. (a) What is a computer virus?
(b) Explain how computer viruses are spread?

END

ANSWERS TO UNEB P840/1 2002 - SECTION A

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

SECTION B :(60 MARKS)

21. (a). What is meant by the computer generation?

Computer generation is the technological advancement which has been classified into four generation.

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(b). State five differences between first and fourth generation of computers

First generation	Fourth generation
Vacuum tubes for Internal operation	Large scale and very large scale Integration for internal Operations
Magnetic drums for primary Memory	SDRAM chips for primary Memory
Limited primary memory	Pentium iv have minimum of 128MB of memory
Heat and maintenance problems Punched cards for input and Output	Four generation computers have internal fans to cool the CPU and send out the warm air .and input and output is done
Low input processing speed and reliability	Fourth generation computers have high speeds of processing ranging from 2.0 MHZ to 3.0 MHZ.
Increase use of high-level languages	A variety of high level programming languages and OOP languages
First generation	Fourth generation
Programming system	Fourth generation computers Need no special language for Each processor
No operating system	Fourth generation computers Have a variety of operating systems (windows. Linux .UNIX etc)

(c). (i) Define, digital computer?

Digital computers are so classified because they process data that is presented in form of discrete values (discrete values are numbers that can be defined like 1,2,3 etc)

(ii) Give two main differences between digital and analogy computers.

	Digital computers	Analogy computers
1	Not continuous(discrete) Pulse	Continuous voltage
2	Can only have one of two voltage levels	Can have one voltage
3	Voltage jumps between levels	Wavy" voltage as time progresses

(d). (i) What is computer hardware?

- Hard ware comprises of the physical electronic and electro mechanical parts of the computer
- These are the tangible components of a computer.

(ii). List five examples of hardware devices.

1. In put hard ware(keyboard, mouse)
2. Storage hard ware (CPU)

3. Storage hard ware (primary-RAM, secondary storage hard disk, floppy diskettes, compact diskettes)
4. out put hard ware(printer, plotters screens)
5. Communication hard ware(modems, cables, fax modem etc)

22. (a) Write DOS in full.

Disk operating system

(b). State four differences between DOS and Windows.

DOS - command line interface	Windows - Graphical user interface
Operation is fast because commands can be entered directly through the keyboard.	Graphical user interface needs or requires more memory as well as a faster processor.
Many commands can be grouped together as a batch file so that repetitive tasks can be automated.	It is difficult to automate functions for experts' user.
Commands have to be learnt.	Graphical user interface is user friendly because it is easy to learn and work with.
Commands have to be memorized.	Commands need not be memorized because the commands are represented in icons and pictures.

(c). Define an Application software.

Application software refers to programmes that perform specific tasks for users.

Most application software is available as packed software that can be purchased in retail stores or on the web

(ii).Give any two distinctions between word processing and Desk top publishing.

Word processing software, also known as a word processor, is used to create, edit, format, save, and print documents that contain text and graphics.

Text editors are simple word processors and are generally used to type without any special formatting. However the advantage is that the document can be saved, retrieved, and modified at all. Text editors are mainly used to write small notes, memos and programs.

Desktop publishing (DTP) software is used to design and produce complicated documents that contain text, graphics and brilliant colours.

DTP software is ideal for the production of high-quality colour documents such as newsletters, catalogues, textbooks, and annual reports. Popular DTP software includes MS Publisher, adobe page maker, adobe in design, quark press and Broderbund print shop pro.

Desktop publishing software combines word processing and graphics to produce high-quality documents with a laser printer. Components of a desktop publishing system-these include powerful microcomputers, graphics display, mouse, laser printers, scanners and desktop publishing software such as PageMaker, Microsoft publisher, print shop pro etc

Advantages of DTP

- 1 DTP software is specifically designed to support page layout which is the process of arranging text and graphics in a document on a page by page basis
- 2 DTP software includes colour libraries to ensure that colours will print exactly as specified.

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3 DPT software supports colours separation for producing the master copies used in the final press work.

(d). State four uses of a word processor.

- 1 Letters
- 2 Memos
- 3 Reports
- 4 Mailing reports

23.(a) What is the meaning of the terms?

(i). Work sheet

A work sheet is one sheet in a spreadsheet workbook. Each worksheet consists of 256 columns and 65536 rows. (For Ms Excel)

(i). Active cell.

A c e l l is the intersection of a row and a column. Each cell has an address that consists of the column letter and row number (A1, B3, C5 and so on)

An active cell is where the pointer is situated in a particular moment.

The spreadsheet below shows sales of a second hand cloth store in a given week.

Answer questions (b) to (d) on the spreadsheet.

Numb er	A	B	C	D	E	F
1	SECOND HAND-CLOTH STORE					
2	Day	Debt	Units sold	Costs price (\$)	Selling price (\$)	Profit (\$)
3	Monday	Shirts	46	16.50	20.00	3.50
4	Tuesday	Shirts	60	18.70	30.00	12.00
5	Wednesday	Shirts	36	11.40	16.60	
6	Thursday	Shirts		21.30	26.60	5.13
7	Friday	Shirts	60	19.25	21.90	2.65
8		Totals	300	87-15	115-63	29.43
9		Average	60	17-43	23-13	5-90

(a) **State the entry for cells E7** 21.9

(b) What is the formula used to calculate the:

(i) Totals for:

- Units sold =SUM (C3:C7)

-Selling price (sales) =SUM (E3:E7)

-Profits =SUM (F3:F7)

Average for:

-Units sold =AVERAGE (C3:C7)

-Cost price =AVERAGE (D3:D7)

(d) Find entries:

(i) F5 =F8-(F7+F6+F4+F3)

OR =SUM (F3:F7)-(F6+F5+F3+F2)

$$(ii) \quad C6 = C8 - (C7 + C5 + C4 + C3)$$

$$\quad \quad \text{OR} \quad = \text{SUM} (C3:C7) - (C7 + C5 + C4 + C3)$$

(e) State two examples of spreadsheet programs are:

- Microsoft Excel
- Lotus 1-2-3
- Quattro pro
- Super calc

24. (a). Define the following terms;

(i). Internet

Internet is a worldwide collection of networks combined together.

(ii) Intranet.

It is a small version of the internet used with an organization, (It's a LAN which covers a small geographical area for example a university or a hospital.)

Intranet uses TCP/IP protocols, supports multimedia web pages, and is accessible via a web browser.

Intranet generally makes company information accessible to employees and facilitates working in groups

(b). Give two differences between the intranet and internet

The internet is a worldwide collection of networks linked together while the **Intranet** is a small version of the internet used with organizations.

(c). Explain the following internet items:

(i) TCP - Transmission control protocol

FTP (File transfer protocol) is an internet standard that allows users to upload and download files with other computers.

An FTP server is a computer that allows users to upload and download files using FTP.

An FTP site is a collection of files that reside on an FTP server.

IRC– Internet Replay Chatting

A chat room is a location on an internet server that permits users to chat with each other by typing lines of text on the computer.

Some chat rooms support voice chats and video chats.

To start a chat session, a user must connect to the chat server through a chat client program on his or her computer.

Most web browsers also include a chat client

(d) State three factors affecting computer communication over the internet.

- Transfer rate is the speed of transmitting data and information.

Transfer rates are usually expressed in bits per second (bps), kilobits per second (kbps), or megabits per second (mbps).

The transfer rate of a transmission medium depends on its bandwidth and speed.

- Network topology- since data travels in both direction in a network, if data collides, then it has to be sent again and the network down. On the other hand, star networks have collisions and usually run faster.
- Capacity of hardware - hubs, switches and network internet cards have their own maximum speeds

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- The server - amount of RAM and speed of the hard disk
- Location of software and files – storing software on workstation hard disks reduce network traffic and speed performance.

(e) Mention four requirements needed to connect to the Internet.

- An ISP to supply the internet
- A PC (computer with a network card)
- Network operating system (an operating system)
- A browser (internet explorer or Netscape navigator)
- Communication media (physical cables – e.g. twisted pair, coaxial cable or wireless communication e.g. wireless antenna, micro wave, infra red)
- Technical know to configure the internet flow in your computer.

25.(a) Explain the meaning of the following data base terms:

(i) Forms

Forms provide alternatives to tables of data entry and view records. With forms, you arrange the fields as required on the screen – you design your form to look like the printed form (invoices, order forms etc.) that you use.

(ii) Query

Querying which is to use a specific set of rules (i.e. criteria) for retrieving data from the database.

Queries are used to locate specific records within the table or ask questions to your database.

You might want to extract records that meet specific selection criteria (e.g. all employees who earn above a certain amount of salary in the accounts department) when you run a query, the results are arranged in columns and rows like table

(b) Differentiae between,

(i) A field and a record in a data base

A field is a column in a table that contains a specific piece of information within a record (is a piece of information in a record)

A record is a row in a table that contains information about a given person, product or event (an individual entry in a table)

(ii) Give an example of each.

-field FIRST NAME

-record PATRICK

(c) How would you do the following using a word processor?

(i) Put space between sentences. SPACE BAR

(ii) Put a title/heading in the middle of a line. CENTRE

(iii) Make changes to a document. EDIT

(iv) Get a hard copy of a document: PRINT

(c) State three differences between floppy and compact disks.

	Floppy diskette	CD
1	Storage capacity 1.44 MB	Storage capacity 700MB
2	Access speed is slow compared to CD	Access speed is faster compared to floppy disks

3	Not durable	Durable if kept under the right conditions (no heat, dust, moisture and scratches)
4	Can not handle multi media because of access time	Popular in storing multi media

26.(a) Explain the following terms:**(i) HTML**

HTML is one of the main languages used to create web pages for internet or intranet. This language allows programmers to combine text (also known as ASCII) data, pictures, sound, animation, video for screen display.

It also allows programmers to add attachments to uniform resource locator (URLs) which enable the linking of different web pages other pages on the internet

HTML is a collection of platform independent styles indicated mark up tags

Mark up tag tells the internet browser that the file contains HTML coded information and is distinguished by file extension of .HTM

(ii) Website

Each of these documents on the web is called a web page

A web page can contain text, graphics, animations, audio, video (i.e. multi media elements) as well as built in connections called hyper links to other documents

A web site is a collection of related web pages

(iii) WWW

The **World Wide Web** also known as the web, consists of a world wide collection of electronic documents

A system of internet servers that support the hypertext mark up language documents

(b) (i) What is a web page address?

The uniform resource locator (URL) is the unique address of a web page

The URL tells the browser where to locate the web page

A URL consists of a protocol, a domain name and sometimes the path to a specific web page or location on a web page

(i) Give any two examples that would qualify as web page address

<http://www.nkpublishinghouse.com/internet/data.htm>

<http://www.seetahigh.co.ug/computerclub/wordprocessing.htm>

(c)(i) What is the difference between a web page and an HTML?**HTML is one of the main**

HTML is one of the main languages used to create web pages for internet or intranet. This language allows programmers to combine text (also known as ASCII) data, pictures, sound, animation, video for screen display.

It also allows programmers to add attachments to uniform resource locator (*URLs) which enable the linking of different web pages other pages on the internet

HTML is a collection of platform independent styles indicated mark-up tags

A web page can contain text, graphics, animations, audio, video (i.e. multimedia elements) as well as built in connections called hyper links to other documents.

(iii) Write URL in full.

Uniform resource locator

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(iv) Outline three precautions that should be taken in a computer laboratory.

- Like all electronic equipment, microcomputers need to be serviced regularly to maintain their operability some of the measures that should be taken are:
- Switch on your computer hardware system starting from the wall socket switch, UPS, or stabilize, computer then printer.
- Avoid making connections when the computer is on powered e.g. keyboard connections, mouse, printer, monitor etc.
- Avoid abrupt switching off and on of the computer system use the normal way of shutting on and off or closing down all the programs then shut down the computer form the start button.
- Place the microcomputer in a dust free environment with good ventilation.
- Dust covers should be used to cover the microcomputer when not in use and if you are using polythene covers then do not cover the computer immediately after switching off as it will trap heat.
- The microcomputer should not be exposed to direct sunlight
- Food or drinks should not be allowed near the computers
- The computers should be regularly serviced, at least once a year, or more frequently if the environment is dusty. The service should normally include blowing the dust from the system unit, cleaning of the floppy drives, keyboard, including all keyboard contacts also clean the monitor externally and the computer equipment regularly with a wet cloth.
- Make sure you do not drop water in the computer system. If water drops in accidentally do not use the computer immediately until water has completely evaporated.
- Do not open the computer for inside cleaning this should be handled by a qualified personnel
- It is good practise to keep a record of the daily condition in case of computer failure
- The peripheral devices, such as printers and mouse should be regularly serviced
- The floppy diskettes used for installation of programs and backups should be kept safely in disk banks and kept away from sunlight and magnetic media
- Floppy diskettes (using protection tabs) and remove the write protect when writing on the diskettes if they are used for backup
- In areas where the power fluctuates, it is important to use either a stabiliser or uninterrupted power supply source (UPS) to ensure a steady input power to the computer system

Software care

The vital part of a computer system is the data. In fact data is expected to a number of risks and great care be adopted to protect against them. The risks to data are:

- Accidental loss
- Accidental damage or corruption
- Theft
- Deliberate damage or corruption
- Authorised disclosure

To guard against these risks, the operator must make sure that:

- Makes backup copies of the data regularly. Before backing up make sure that the data is error free otherwise you might take up a back copy of corrupted data

- Minimize the number of visitors to your computer installation and do not allow any one to your server except the network administrator
- Avoid diskettes coming from different installations as your system might contract viruses
- If you have unwanted printouts, please destroy them because data is not supposed to fall in unauthorised hands
- Save data regularly as an abrupt power cut off may corrupt your data, if you have no UPS.

SECTION C : (20 MARKS)

Attempt any one question from this section.

27. What are the advantages and disadvantages of Internet in business today?

Amazon is an example of a company doing all its business over the internet, selling books, music, videos and more. Log on by typing in the address www.amazon.co.uk and you will see a screen showing the Amazon website.

Once you have purchased anything from Amazon, they use this information to suggest other purchases that you might like, or, as on the website. Also offer you the chance to sell the products back once you have finished with them.

Advantages to business

For a business such as Amazon, this way of doing business has numerous advantages:

- There is a huge saving on overheads: no costly warehouse space, rent, heating or employment facilities.
- The 'virtual shop' can stock every one of the 16,000 or so CDs produced in the year (a one stop centre for all the music) whereas a conventional store would stock only between 5 – 10,000.
- The shop has arrangements for 'Just In Time' delivery from its suppliers, so does not left with books and CDs which it cannot sell.
- It is a valuable market research tool – a list of customers' names and address, purchases, likes, dislikes and suggestion can be built up at absolutely no cost and used to improve the service provided.

Advantages to customers

There are advantages to the customers, too. They can:

- Visit the shop without having to leave home, at any hour of the day.
- Hear snatches of a song before dancing to buy.
- Shop without being jostled by crowds, having to listen to music that is not to their taste.

Amazon estimates that the proportion of visitors to offer site which make purchase is much higher than for those who respond to direct mail shot. Many of their customers return to make further purchases.

A company which operates like this in Uganda is True African.com which also deals in selling Ugandan music online.

The drawbacks of online commerce (Disadvantages of using internet for business)

Inevitably, there are drawbacks to buying goods online.

- For one thing, there worries about giving a credit card number over the internet. It is possible that hackers could retrieve thousands of credit card number and use them to order goods.
- Secondly, when companies post up information about new products and services, it is not their customers who will visit the site – competitors will also be regular visitors, indulging in a

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little industrial espionage to make sure that they do not left behind.

- Thirdly, because internet sites can be accessed from all over the world, companies have to be aware of the laws regarding data protection in every country. Different countries have different laws regarding the holding and passing on of personal information about individuals. Several companies have experienced problems with people who have set up websites using their own company's trademark. They then demand large sums of money for web address, or collect card numbers from unsuspecting visitors to the site.

Computers have also brought negative impacts on society, which include:

- Moral degradation – one finds that the youth spend most of the time glued on the internet watching moral degradation pictures, movies and more.
- Amongst the friends they find on the net some have acquired morals like lesbians, cults, hackers and others.
- Computers have also affected our sights. A bigger percentage of people who have been working with computers for years are now putting on glasses to support their sight and computers emit rays and heat which is not environmentally friendly to the surrounding and may be hazardous to human.
- Computers also consume power although now modern computers consume less power.
- Internet is good for communication but in case of a virus it can spread to millions of computers just in seconds.
- Hackers who usually work in groups can easily access and corrupt data records. Therefore computer owners must protect their computer systems, probably with some sort of passwords or a 'fire wall' which to a layman is not easy because this is beyond their understanding.
- Hire rate of forgery. People use high quality printers to try and fake money notes and passports.
- In case of the systems breakdown a lot of information may be lost which might be very disastrous to the organisation.

Other advantages of using internet include:

Business - to – business

- One of the major growth areas on the internet is trading between business – for example distribution and delivery of manufactured goods. International carries can make huge savings by taking orders over the internet, and customers cannot only make savings but also get online information about exactly what their goods are, and when they are delivered.

Finding new suppliers

- The internet is increasingly being used by business to find suppliers of goods and services. Japan Airlines, for example has used the internet to post orders for in-flight materials (as plastic cups must carry) in order to solicit business from firm that comes across its site, rather than the usual Japan suppliers.

Other interesting topics on the net include the following.

Virtual learning

- Virtual learning via the internet and e-mail are the latest address to a category called distance learning which has been dominated with correspondence classes through traditional post mail. Instead of packing briefcase and rushing off to school or college, students are logging

on to the internet to attend classes.

The major advantages of virtual learning are distance education, flexible to those working full time and extra revenue for the virtual school. Virtual learning courses provide another avenue of revenue to schools. Virtual learning is ideal to students who work full-time because they can work at their own pace and in own time. A learning institution gets students what they wouldn't otherwise have got because they don't have the time to sit in a classroom because of work or travel or whatever.

Open universities or Distance learning schools are of great help to many overseas students and now boast the largest number of university students. There are constant inquiries to these universities about availability of virtual courses being offered.

Books

- In the developing world, most schools lack libraries and where they are available, they lack relevant and up-date books and reference materials. In many instances, the few books and other reference materials available are too expensive for the schools and teachers or lecturers. Internet is giving these countries a new lease of life of being able to have access to current and up-date reading text for instructors and students.

In-service training for teachers or lecturers

- Lack of in-service training for teachers or lecturers have contributed to low- quality education in many developing countries. Internet will enable teachers or lecturers to have access to reference materials and self-natured "in-service" training to equip them with new technologies and up-to date skills.

Research

Journals and research literature

- Internet allows one to have access to libraries and databases. A researcher is therefore, able to review numerous journals and relevant up-to date literature required for his or her area of research.

Joint research

- Internet is increasing co-operation efforts in selected joint research projects of common interest, especially on basic technology. For example, use of telemetric technologies in the field of telemedicine in the fight against major health scourges such as Aids.

Health

- Internet provides daily news about health care as well as a number of health resources. Nutrition, fitness, and health information for just everyone is provided. You will also be able to locate a physical specialist and family doctors through the internet.

Internet today allows for access to otherwise inaccessible or prohibit expensive foreign expertise or labour and makes it possible for hoses in one country to use consultants or even surgeons in another country there by reducing travelling for patients, businessman and professional internet also allows one to have access today to first information on the latest development on medical research. For example, you can be updated on the currently available therapies and the HIV/AIDS epidemic.

In rural areas, telemedicine is now effectively used by assistant credit officers in the rural areas to seek expert assistance from their experienced colleagues or consulting doctors in urban centres.

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Sporting news

- Internet allows you to enter the news and scores as they happen in sports.
- It is possible to obtain particular sporting information by specifying information on your query.
For example, in-depth information found in.
- Internet provides sports fans with statistics on their favourite teams and players.

News and information

- Internet allows you to get headlines and in-depth stories on everyone from the latest political goings-on, to the hottest technology from source valley. By connecting to the internet, you will have access to valley of news, link, newspapers, periodicals and magazines.

Online shopping

- Internet allows you to browse online shopping at your leisure, and your shopping done fast, without ever leaving your home. You can use the web-based shopping to back – to – school shopping. Redecorate bathroom, build a doghouse, or get a jump on your Christmas list and without the hassle of going to the mail.

Online banking

- Internet enables you to check your bank statements from home, instead of going to the bank and lining up over 30 minutes only to be told that you have nothing in your account. It also allows you to remit and transfer funds from home.

Travel arrangements

- Internet allows you to book holidays, hotels and flights from your home and you can check out the latest travel news and confirm train and ferry times before you set out. There are several facets of travel on the internet, whether it may be by land, air or sea. Suggestions and tips on accommodation, dining, culture, entertainment, tours, sports, weather, money, maps and airport information (to name a few) or anywhere in the world are all at hand.

Software downloading

- There is a large variety of software on the internet that users can download and use. Most of the software available for downloading is public domain software (free). This is extremely helpful especially if you want new releases for anti-virus or some new software that you cannot obtain locally.

Leisure entertainment

- Internet allows you to explore restaurants and hotels guide. You can also find out the latest film releases and cinema details-even book tickets. It is also easy to stay up-to-date with music, the arts and theatre. You can also spend your free time with top magazines available on the internet. Internet also allows you to make new friends with similar interest via the connection café.

Funding and Investment

- Many NGOS have websites where information about their activities is availed. Donors therefore have access to information on NGOS and can easily decide on an NGO to support. Similarly, Investment promotion councils have information on various investment opportunities in every country. Using this information, investors world-wide can decide on their investment programmes.

Job Opportunities

- Internet can help you to land your first job or your next job. If you are a boss, then you can utilize sites designed especially to help you look for the perfect employee for your organisation. Also available are jobs and numerous job listing.

Newsgroups

- Newsgroups or electronic discussion groups allow people to discuss or exchange information on a vast array of topics. Discussion groups arrange from social issues to scientific and research. An article may appear like a single newsgroup, or it may be cross-posted to many newsgroups.

Finding people and Organisation

- One of the first things folks do when they get on the internet is to find relatives, friends and colleagues. Unfortunately, it is also one of the hardest things to do since there is no central directory of everyone with network account. Many people change jobs or internet service provinces frequently and that makes it even more difficult to track them down.
- Various search engines and the white and the yellow pages are good start points for searching for e-mail addresses. Yahoo search engines have a facility: Yahoo people search that searches for telephone, e-mail homepage addresses. Online white and yellow pages can be accessed by Big yellow (an info seek partner) that searches for both white and yellow page information.

28. Explain briefly five advantages and five disadvantages of computers.

- Since their development nearly thirty years ago, computers have now become the backbone of commercial and industrial activities, and permeated nearly every aspect of human end ever, offices, factories, hospitals, universities, schools, homes, mention it etc.
- Computers have had a revolution impact on industry, commerce, and our social life. There can be very few people, at least in industrial centres of the world, who have never had any contact with computers.
- In modern offices, computers are now routinely used for general office automation including text production, accounting services, client's information, Desk - top publishing, stock control, point-of sales systems in research, business, military and education to mention but a few.

Industry and Commerce

Computers have made the industry and commerce generally efficient, productive and reliable.

Almost every industry service provider uses computers in its day – to day operations.

ADVANTAGES

1. It helps you automate various tasks that you can not do manually.
2. It helps you organize your data and information in a better way.
3. It has much more computing and calculating power then an ordinary human.
4. It may help your work to be a lot easier.
5. It may be the storage of your important data and files.
6. It may be your handy book.
7. It may help you solve problems faster than an ordinary human being can do.
8. It has speed, storage, reliability, consistency and communications.
9. It helps you to find

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useful information using the Internet. 10. It helps in businesses, factories, offices, schools and homes.

Disadvantages

1. It destroys your social life and interactions with humans if you do not maintain the balance.
2. It may effect to the destruction of your eye sight due to radiation.
3. It may cause pimples and wrinkles.
4. It may damage your studies and life.
5. Too much time in front of monitor may adverse effect your eye sight and can also make you fat.
6. The way it distracts and can deviate our thoughts and activities towards unproductive activities.
7. It could cause violation of privacy, impact on labor force, health risks, impact on environment, distraction from work, and possible antisocial influences.
8. Getting away from their real life and getting into bad lines

29. (a) What is a computer virus?

(b) Explain how computer viruses are spread?

Software antivirus guards include the following

One popular anti virus program is Norton antivirus, others F-secure, MAC fee anti virus, Dr. Solomon, AVG, Penicillin anti virus, Kaspersky, internet security etc.

An anti virus utility scans for programs that attempt to modify the boot program, the operating system and other programs that are normally read from but not modified.

Anti virus utilises normally look for virus signatures to identify a virus. A virus signature or virus definition is known as specific pattern of virus code. Users of anti-virus utilities must update the virus definition files as often as possible to ensure that such files contain patterns for newly discovered viruses.

However, a polymorphic virus modifies its program code each time and attaches itself to another program or file, so that even an anti-virus utilities can not detect it by its virus signature.

Anti virus utilities may also detect viruses by inoculating existing program files. To inoculate a program file, the anti virus utility records its file size and file creation date in a separate inoculation file and uses this information to detect if a virus has altered the inoculated program file.

However, a stealth virus infects a program file, but still reports the size and creation date of the original, uninfected program. If an anti virus utility can not remove the virus, it often quarantines the infected file in a separate area of a hard disk until the virus can be removed.

Most anti virus utilities can create recovery disk to remove or repartee infected programs and files (e.g. boot sector virus). In extreme cases, a hard disk may need to be reformatted to remove a virus

Back up is a duplicate of a file, program or disk that can be used if the final is lost, damaged or destroyed. It can be restored by copying the backed up files to their original formation on the computer. Back up copies should be kept in a fire proof and heat proof safe or site.

END

FINAL PAPER 2003**SECTION A (20 MARKS)**

1. Which of the following best describes a computer?
 - A. A machine
 - B. Electronic device for input
 - C. Electronic device for input and processing
 - D. Electronic device for input, processing and output
2. How many generations have computers undergone?
 - A. One
 - B. Three
 - C. Four
 - D. Five
3. Which of the following are categories of computers?
 - A. Analogy and micro computers
 - B. Digital and mini computers
 - C. Analogy and digital computers
 - D. Mini and micro computers
4. Which one of the following is not a set of computer peripheral?
 - A. Hard disk and floppy diskettes
 - B. printer and modem
 - C. CD-ROM and magnetic tapes and wires
 - D. RAM and CPU
5. What is an operating system?
 - A. A computer system
 - B. A set of logical instructions directing the computer what to do
 - C. Software to produce documents
 - D. A set of people operating a computer system
6. Which of the following is a group of operating systems?
 - A. DOS, Windows NT, Windows 95/98 and UNIX
 - B. Lotus 123, Dbase III, MS Excel and UNIX
 - C. Sort utility, merge utility and DOS
 - D. Word perfect, back up utility and DOS
7. Which of the following procedures can be used to open an existing document?
 - A. Click the open button on the status bar
 - B. Choose file open
 - C. Double click the right column border on the worksheet frame
 - D. Dragging the column border on the worksheet frame
8. You can use the mouse pointer to place the insertion point anywhere in the document when it has the shape of:
 - A. Thumb
 - B. Cursor
 - C. Hand

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- D. Fist
- 9. Which of the following is not a method of adjusting column width in a spreadsheet?
 - A. Format, column width command
 - B. Edit, column width command
 - C. Double-click the right c
 - D. dragging the column border on the worksheet frame
- 10. If the signals (#####) fill a cell, it means
 - A. the cell is not active
 - B. the formula is impossible
 - C. the column is not wide enough
 - D. you must recalculate the formula
- 11. Internet is defined as a
 - A. Combination of nets inside each other
 - B. Connection of a computer to a printer
 - C. Source of knowledge
 - D. Connection of computers within or over long distances sharing resources
- 12. What is www?
 - A. world war winners
 - B. world wild wines
 - C. World Wide Web
 - D. world wide world processing
- 13. Which of the following is related to data base programs?
 - A. procedures, slide view and records
 - B. file, records, field and type
 - C. record and answers
 - D. slides and data pictures
- 14. A facility in presentation that determines how a slide is removed from the screen and another is presented is known as
 - A. animation
 - B. rotation
 - C. transition
 - D. slide show
- 15. The easiest way to create a presentation slide is by use of a
 - A. A slide viewer
 - B. auto content wizard
 - C. slide master
 - D. function wizard
- 16. A link is
 - A. bridge
 - B. path
 - C. finger
 - D. connection

17. What is HTML in full?
 A. Hyper transfer mark up language
 B. Hyper text material language
 C. Help to main line
 D. Hyper text mark up language
18. Artificial intelligence is
 A. the ability of computers to think and reason like humans
 B. the ability computers to do work
 C. man made brains
 D. making human brains
19. As a computer technology advances the physical size of computers
 A. also advances
 B. reduces
 C. remain normal
 D. enlarges
20. Which of the following is a characteristic of fourth generation of computer?
 A. vacuum tubes
 B. transistors
 C. Diodes
 D. integrated circuits

ANSWERS UNEB P840/1 2003

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

SECTION B :(60 Marks)

21.(a) Explain the following terms in relation to e-mail:

(i)Subject:

The theme of the e-mail message.

(ii)To:

Carries the address of the recipient.

(iii)Cc:

Enables copies of the email message to , be sent to the third Party while acknowledging other recipients.

(iv) Bcc:

Enables copies of the email message to be sent to a third Party with out acknowledging any other recipients (if present).

(b)State four advantages of e-mail communication over ordinary mail.

E-mail has many advantages over both ordinary mail and the telephone. For example,

- A message can be sent anywhere in the world at the price of a call without having to leave your desk.

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- Speed of delivery- The message will arrive in a few minutes and can be picked up the next time recipient looks at their e-mail.
- Ability to send to multiple recipients- the message can be sent simultaneously to a group of people.
- It is very easy to send a reply to an e-mail as soon as it is received using a 'reply' button.
- Large files such as spreadsheets and graphics can be sent as attachments.
- Low costs/cheap.
- E-mail is universal and ordinary mail one has to change addresses

(c)(i) Distinguish between internet and e-mail.

Internet is a global inter-connection of computers.

While

E-mail is a service that enables exchange of electronic message over ICT devices.

(ii) What do the following terms stand for in full?

FTP - File Transfer Protocol

TCP - Transmission Control Protocol.

(iii) Explain briefly FTP service

FTP enables large files transfer from a client computer to a remote computer and vice versa.

22.(a) Identify four tasks one can do with a computer

- Email communications.
- Word processing.
- Spread sheet Application
- Statistical Analysis.
- Entertainment
- Saving
- Printing
- Manipulating data
- Study guides

(b) List four requirements needed to set up a local area network (LAN)

- Hub or Switch
- Communication media (Wireless, wires-twisted pair, Coaxial, optic fibre etc)
- Computers
- Routers
- Computers with Networks cards
- Networking operating system software.
- Power to run the system.

(c) State any four functions an operating system

- Memory management.
- Process management
- File management

(d) List any three programming languages

- Pascal
- BASIC
- COBOL
- Java
- FORTRAN
- C+
- C++
- Small talk

23. (a) Identify three precautions a web designer should consider when designing a web page

- Precious contents
- Use minimal graphics
- Consumer requirements
- Copyright consideration
- Avoid use of frames

(ii) Why is it not good to have a lot of graphics on a web page?

- It may take too long to load
- Client computer may support different colour depth.
- Takes a lot of space

(b) List four qualities of a good Web page

- Should load quickly.
- Should have feed backs.
- Should have web page title and a brief summary about the page.
- Should have links (references) to other resources.
- Should have date of last up date
- Should have good navigation buttons

(c) List four qualities of good web page

1. It is more resistant to external interfaces e.g. noise
2. It transmits more data supports large band width
3. The signal is not attenuation (i.e. signal strength remains constant)
4. Faster data transmission

24(a) what is an application package?

(i) Application package is user software program designed to accomplish a given task

(ii) What is a custom package?

Custom made package an application program designed to meet a clients particular needs

(iii) Distinguish between custom made and off-application packages

Custom made program are developed to meet particular needs for ends user's

where as Off-shelves are of general nature and solve needs which are common in nature e.g.

Word processing, spreadsheet etc

(iv) State three advantages of off- shelf package

- Readily available

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- They can be customized
- Have less error
- Cheap

(c) (i) What is word processing?

It is a process where text is manipulated to form document, reports

(ii) List three word processing application packages.

- Micro Soft Word
- Word perfect
- Word star
- Lotus ami-pro
- Word pad

(c) Give three advantages of optic fibre cable over UTP (unshielded twisted pair).

Advantages of Fibre Optics

- ▢ System Performance
- ▢ Greatly increased bandwidth and capacity
- ▢ Lower signal attenuation (loss)
- ▢ Immunity to Electrical Noise
- ▢ Immune to noise (electromagnetic interference [EMI] and radio-frequency interference [RFI])
- ▢ No crosstalk
- ▢ Lower bit error rates
- ▢ Signal Security
- ▢ Difficult to tap
- ▢ Nonconductive (does not radiate signals) Electrical Isolation
- ▢ No common ground required
- ▢ Freedom from short circuit and sparks
- ▢ Size and Weight
- ▢ Reduced size and weight cables
- ▢ Environmental Protection
- ▢ Resistant to radiation and corrosion
- ▢ Resistant to temperature variations
- ▢ Improved ruggedness and flexibility
- ▢ Less restrictive in harsh environments
- ▢ Overall System Economy
- ▢ Low per-channel cost
- ▢ Lower installation cost

The disadvantages of structured UTP cabling:

- ▢ Because there can be different kind signals wired to different outlets and all outlets look the same, the user needs to be careful not to wire a device to an outlet where a wrong type of signal is wired. Wrong connection can lead to situation that the system does not work correctly or even to equipment damages.
- ▢ The application originally designed for some other type of cabling need usually special

adapters which cost money

- The current UTP systems (CAT5, CAT5e, CAT6) have quite limited high frequency performance, so they do not suit well for transmission of very high frequency signals like cable TV, TV antenna and radio antenna signals. There are product for this available, but the performance which can be got with those is generally quite limited

25. (a) (i) what is a virus?

Viruses are often designed to affect, or infect, a computer negatively by altering the way it normally work with out the knowledge or permission of the owner.

It is a program that copies it self onto files or programs and destroys software and the entire computer system (or causes undesirable effects

(ii) Outline the four common ways in which viruses are spread.

- Viruses are activated in three basic ways
 - ✓ Opening an infected file
 - ✓ Running an infected program
 - ✓ Starting up the computer with an infected floppy diskette
- Use of infected diskette
- Through e-mail/ internet
- Use of infected hard disk
- Through some down loads
- Through freeware/shareware

(b) State four ways used to protect your computer against viruses.

- Educating the organisation and making policies for users to follow
- Discouraging use of external diskettes
- Installing up-to-date anti- virus programs
- Scanning all down loads
- Educating the user about viruses and how they affect us
- Ensure that the e-mail is from a trusted source before opening or executing any e-mail attachment
- Install an antivirus utility and update its virus definition frequently for detecting and removing viruses
- Never start up a computer with a floppy disk in the floppy drive
- Scan all floppy disks and files for possible virus infection before opening them
- Set the security level for macros in an application so that the user can choose whether or not to run potentially unsafe macros
- Write protect the recovery disk before using it
- Back up important files regularly

(c)(i) Name any three virus scanning software.

- Norton anti virus
- Mac fee
- Thunder byte
- Dr. Solomon

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- Penicillin
- AVG
- F-secure
- Kaspersky

(ii) State three symptoms of viruses.

- Computers may freeze
- Computers may not start at all or boot
- Computers may be rude or display irritating messages
- Corrupted files
- A computer may fail to solve or accessing a file to save
- Failure to do print jobs

26(a) State four major characteristics of the third generation computers.

- Integrated circuits or IC semi conductor devices with several transistors built into one physical component.
- Use parallel processing
- Introduction of operating system o/s e.g. multics.
- Introduction of simple programming languages e.g. BASIC
- Low cost, high reliability, small in size.
- Low power consumption and computers become more popular
- Introduction of magnetic disk for storage purposes.
- They were much cheaper than the first and second generation computers.
- There was the introduction of remote processing. This allowed the user to remotely access the computer using a terminal.

(b)What do you understand by the following terms

(i)Command line interface

With command line interface, a user types keyboard or press special keys on the keyboard to enter data and instructions.

Provided with a virtually empty screen with a blinking cursor (prompt) where commands are keyed in and the computer executes them on pressing the enter key.

(ii)Graphical user interface

A graphical user interface (GUI) allows a user to use menus and visual images such as icons, buttons and other graphical objects to issue commands.

You are provided with a coloured screen with icons each representing a program. A mouse may be used.

(iii)Mechanical computer

Computers composed of mainly movable parts i.e. wheels and axles

(iv) Electro mechanical computers

Computers that are electronic and have movable parts

(iv) Give two examples of operating systems with the following;

Command line interface

- DOS

- UNIX
- LINUX

Graphical user interface

- Windows
- Susie Linux
- Nowel Netware

Electro mechanical computers

- Leibniz stepped reckoner
- Analytical engine

SECTION C:(20 Marks)

Approach to section c questions

27. A world without computers is no world at all'. Discuss.

- a) - Introduction
- Definition etc.
- b) Body (positive)
- Research

28. What merits and demerits of learning using internet over using textbook learning?

- Computer-based training, which include:
- Computer –assisted instructions (CAL), so that teachers can use computers and other IT equipment to present teaching materials in more interesting way
- Computer –assisted learning (CAL), so that students can use computers and appropriate software to learn at their own pace
- Computer-assisted assessment (CAA), which may reduce the time and labour to mark the answer scripts
- Distance learning through computer-based training and web –based training
- Simulations of experiments or real –life situations that may be hazardous
- Electronic library system for searching borrowing, and returning books

The school Administration and management system (SAMKs) for keeping records of students and producing report cards or other related documents.

Edutainment, which is a type of educational software that combines education with entertainment

Advantages of using IT is learning and teaching include

- CAI and CAL packages that usually contains multimedia effects make learning more interesting and interactive
- Students can learn by themselves when teacher is not available
- Students can learn and proceed at their own pace
- Students can usually get their results of feedback immediately after they have answered the question or taken an action
- There are rich educational resources on CD-ROMs and the internet.
- Teachers can present subject matter and explain abstract concepts more clearly with multi media.

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- Teachers can show experiments that are difficult to perform or dangerous in nature through simulations software.
- Advanced instructions can be given to students in areas where the teacher may not be qualified

Disadvantages of using IT in teaching and learning include

- Face to face interaction between students and teachers may be reduced
- Students can only follow what the CAL packages are predefined to offer
- Initial investment cost of this project is not affordable by many schools
- To run this kind of project there has to be power
- Need for trained staff to run the project
- It does not benefit the blind and the dumb
- It also benefits schools which have trained perfectly in English accent since the CD's come in American English etc.

29. Juma, a village boy exclaimed “Spreadsheet programmes are useless”. As a student of computer studies, convince him otherwise.

Spreadsheet software is used to organise data in rows and columns and perform calculations on the data.

Before the advent of computers, cash flows and budgets required for business planning had to be done by hand. These days there is no excuse for not having good information

Using spreadsheets

Sales can be recorded, invoices produced and statements compiled

Management can keep track of the current payments from customers in relation to goods dispatched

Regular printouts of aged debtors, that is people who have owed you money for more than in the period allowed in your terms of business can be detected.

Researchers can compile and analyze their results

Teachers can easily create tables of figures and manipulate them quickly as required. The use of spreadsheets in our normal life is numerous.

A spreadsheet document is often called a worksheet.

On each worksheet, data is organised vertically in columns and horizontally in rows.

Each column is identified by a letter (i.e. A, B, C...) and each row is identified by a number (i.e. 1, 2, 3 ...)

A cell is the intersection of a column and a row

Each cell has a unique cell address (e.g. A1) to define its location on the worksheet

The upper-left most cell is generally identified as A1

Each workbook may contain worksheets, charts sheets, macro sheets and visual basic programming modules. The number of worksheets you can create and store in a workbook is limited only by the memory with the computer.

Common editing features include:

Creating a document involves entering text or numbers, inserting graphics, and performing other tasks using an input device such as keyboard or a mouse.

Editing is the process of making changes to the existing content of the document

Inserting	When text is inserted or added to a document, the surrounding words automatically move to make rooms for the inserted text
Deleting	When text is deleted or removed from a document , the surrounding words automatically move to fill in the gaps left by the deleted text
Cutting	When text is cut, it is stored in a temporarily location called the clip board. The original text is removed from this place.
Copying	When text is copied, it is duplicated and stored in the clipboard. However, the original text remains in place.
pasting	When text is pasted, it is placed from the clip board into the document

Formatting involves changing the appearance of a document

Formatting characters involves changing the font, font size or font style of text

Formatting cells involves changing the justification or the alignment of text in a cell

Formatting values numeric formats improve the appearance and readability of numbers in a worksheet by inserting dollar signs, comas, percentage, symbols and decimal places

Format cells give you the category of general, number, currency, accounting, date, time, percentage, fraction, scientific, text, special and custom.

Formatting pages involves changing the margins (left, right, top, bottom) or the distances between the main body of text and the edges of the paper

Inserting of page numbers, headers and footers

Undo which allows actions that have been performed to be reversed such that if some text was accidentally deleted, then the action can be undone.

Saving is the process of copying a document from the memory to a storage medium such as a floppy disk or hard disk

Any document that has been saved exist as a file, which is a named collection of data, instructions or information.

Each file has a file name

Any document can be saved as a new file with another file name

Popular features of spreadsheet programs include

Ability to perform what analysis	Allows the user to perform what if analysis which can be used to find out effects of performances of companies
Solver facility	Allows the user to use a solver facility that helps uncover the best uses of scarce resources so that desired goals such as profit can be maximized or undesired goals such as cost can be minimized. It can be used to answer such questions as "what product price or promotion mix will maximize profit" or how can I live within the budget
Charting	Allows a user to display data in a graphical rather than a numerical form
Macro	Allows a user to record or save a sequence of key strokes or instructions that can be run later
Context-sensitive commands	Spreadsheets allow you to access context sensitive commands on a short cut menu by pointing at an item. Such as cell or chart with a mouse pointer and clicking the right mouse button. You no longer

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	have to search for commands in the menu bar.
Recalculation	Recalculates the rest of the worksheet whenever data in a worksheet changes (a valuable tool for what if analysis)
Built in functions	Allows the user to use functions to add, multiply, percentage counting and basic statistical functions
Adjusting columns	Allows the user the ability to adjust columns
Data sorting	Allows the user the ability to sort data accordingly
Data validating	Allows the user to ensure that correct data is entered in the spreadsheet
Printing	Allows the user to print the entire worksheets, portions of a worksheet and several worksheet
Templates and wizards	Allows the user to use the basis of other similar workbooks. This means that all the formulas and formatting for similar invoices can be saved as templates and then use to automate a task without having to create the new workbook again. E.g. business planner, loan manager, expense statement and purchase order
Summarizing data	Allows the user to summarize data using consolidation and pivot tables. Consolidation allows the merging of several work books into a summary sheet

Charting allows a user to display data in a graphical rather than a numerical form

Popular chart types include:

- Line charts which are effective for showing a trend over a period of time
- Bar charts which display bars of various lengths to show the relationship of data
- Pie charts which have the shape of round pies cut into slices and are best used to show the relationships of parts to the whole

Popular spreadsheet software include

- Microsoft Excel
- Lotus 1-2-3
- Corel quarto pro
- Visi calc
- Super calc

Advantages of spreadsheet software over manual worksheet include

- Easy to make changes and corrections to data on the worksheet
- The rest of the worksheet is recalculated whenever data on a worksheet changes
- Operation is fast with the help of built in functions and macros
- Calculation is always accurate, provided that data and formulae entered are correct
- Easy to create different kinds of charts or to change chart types
- Information on charts is updated automatically whenever related data on the worksheet changes
- Electronic spreadsheets are much larger than manual worksheets while manual worksheets are limited by paper size electronic spreadsheets typically contain hundreds of columns and

thousands of rows. This expensive area allows you to keep related information together and to produce reports that are larger than a normal report.

- Electronic spreadsheets can perform mathematical, statistical and financial calculations quickly and accurately. The primary use of a spreadsheet is to calculate formulas such as $200 + 350$ that are entered into cells.
- Cells in electronic spreadsheets can use information from other cells a formula may consist solely of numbers or it may refer to other cells in the spreadsheet. Rather than entering the values $200 + 350$, a formula can reference the cells in a worksheet that contain these numbers. With a manual worksheet changing a single number can mean hours of extra work in recalculating figures. Changing produces a ripple effect of recalculations for all formulas dependant upon the value.
- Electronic spreadsheets can be stored and retrieved for repeated use. You can permanently save electronic spreadsheet only diskettes, hard disks or other types of media for safe storage. Rather than searching through endless filing cabinets for handwritten worksheets, you can use your computer's electronic filing system to retrieve files instantaneously. An electronic spreadsheet can be retrieved, edited, updated, printed and then saved under a new name quickly and easily.

FINAL PAPER 2004

SECTION A. (20 marks)

1. The following is a group of processors
 - A. 80281, 80486, Pentium 0, Pentium 1
 - B. 80286, 80486, Pentium 1, Pentium 11
 - C. 1286, 1486, Pentium 0, Pentium 11
 - D. 1286, 1486, 80286, 80487
2. What is information technology?
 - A. It is the central processing system unit and monitor
 - B. It is the tangible components of a computer
 - C. It is all types of equipment and programs used in processing
 - D. It is the combination of software and programs
3. Which of these does not fully represent computer classification by function?
 - A. Mainframe, micro, mini computers
 - B. Mini, personal, Analog computers
 - C. Digital, mainframe, micro computers
 - D. Personal, Analog, micro computers
4. Which drive letter usually represents the hard drive?
 - A. A:
 - B. B:
 - C. C:
 - D. D:
5. Which one of these became used commonly in offices in the third generation of computers?

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- A. Mainframe computer
 - B. Anemometer
 - C. Super computer
 - D. Micro computer
6. What is the function of MODEM? it:
- A. Blocks digital signals from leaving the computer
 - B. Converts digital signals to Analog and vice versa
 - C. Converts Analog signals to the atmosphere
 - D. Modulates digital signals to mechanical motions
7. Back up refers to:
- A. Storage of files on secondary storage device
 - B. Taking in data for rearrangement in order
 - C. Programmes designed to check specific parts
 - D. Combining data from more than one file
8. Which one of the following is not an operating system?
- A. Windows 3.1
 - B. DOS version 6.22
 - C. UNIX
 - D. Microsoft word
9. Formatting in word processing refers to;
- A. Preparing new floppy diskette for use
 - B. Cleaning diskette for storage
 - C. Enhancing the appearance of text in a document
 - D. Erasing all data on a diskette
10. The back space key:
- A. Deletes any letter toward the right
 - B. Erases any character towards the left
 - C. Moves the cursor to the left without deleting any character
 - D. Deletes the character at the cursor position
11. A work book is a:
- A. Publication
 - B. Data type entry
 - C. Range of cells
 - D. Collection of work sheets in a single file
12. Which one of the following is not a characteristic of spreadsheet?
- A. Worksheet cannot be renamed
 - B. Can enter text, number or formula
 - C. Calculations can be done on the other side
 - D. Variety of operations can be carried out on rows or columns
13. E-mail stands for;
- A. Electronically mail
 - B. Surfing mail

- C. Electronic mail
- D. Browsing the net
- 14. A computer network refers to:
 - A. Information storage
 - B. Linking of computers for resource sharing
 - C. Connecting a computer system to a backup device
 - D. Sharing a computer by many people
- 15. In Database, a field is;
 - A. The way information is displayed
 - B. A particular listing with files
 - C. The entire collection of data
 - D. Each bit of information in a record
- 16. Database performs the following functions:
 - A. Storing of slide, retrieving and formatting
 - B. Formatting, organising and retrieving pictures
 - C. Creating, organising and managing collection of related data
 - D. Entering data, saving, retrieving and drawing graphs
- 17. URL stands for:
 - A. Uniform resource locator
 - B. Universal resource link
 - C. An e-mail
 - D. Web publishing software
- 18. Which of the following best distinguishes WAN from a LAN?
 - A. The number of computers connected
 - B. Distance between connected computers
 - C. Mode of computers connected
 - D. Type of operating system used in the net work
- 19. WWW refers to:
 - A. Web World Wide
 - B. World Words Web
 - C. Wild World Web
 - D. World Wide Web
- 20. A problem that is most likely to occur due to future advancement of computer is:
 - A. Under development
 - B. Under population
 - C. Unemployment
 - D. Insecurity

ANSWERS SECTION A

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

SECTION B: (60 marks)

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21. (a) Write the following abbreviations in full

i) **LSI** - Large Scale Integration

ii) **COBOL**-Common Business Oriented Language

iii) **BASIC**-Beginners All Purpose Symbolic Instruction Code

b. Distinguish between Main frame and Mini computers

Mainframe computers are physically large compared to mini computer

c. Name two types of instruction that computers use to do their works

-control signals

-data signals

d. List down any components that are part of the system unit

- i. Power supply
- ii. motherboards
- iii. CPU or processing chip
- iv. RAM chips
- v. Expansion slots

e. What is CD-ROM?

Compact Disk Read Only Memory is an optical disk format that is used to hold rerecorded text graphs and sound (multimedia)

ii. Mention one advantage of CD-ROM over a hard disk

Disks cannot be written on or erased by the users

22. a). Mention any three safety security measures taken in a computer laboratory

i. Dust free cover computer ventilations

ii. Switch on...your computer hardware system starting from the wall socket

b. What is system software in a computer?

Is a set of programs software that manages the operation of the computer itself.

c. Name three examples of system software

- i. Operating system
- ii. Programming language
- iii. System utility

d. Name any four functions of utility programmes

- File view
- File compression
- Diagonalistic utility
- Disk Defragmenter
- Uninstaller
- Antivirus utility
- Screen saver

e). What do you understand by the following terms

Editing -Correcting mistakes, formatting, improving on appearance

Saving- Is the transfer of data information from memory to secondary storage

Troubleshooting- Is the correcting and rectifying errors, mistakes

23). a. What is a spread sheet?

Computer spreadsheet is the application package used for manipulating of figures. E.g.

- MS Excel
- Lotus 123
- quarto pro
- Super cal.

(b). Name any 4 functions of spreadsheet software.

- (i) Data sorting, the ability to create, saves , edits, and retrieves worksheet.
- (ii) Charting facility to draw graphs, data source.
- (iii) Templates and built in function + formulae for adding.
- (iii) Data formatting, summering, ability to perform" what if analysis.

c). List 3 data types of entries in spread sheets

- (i) Labels
- (ii) Values
- (iii) Functions

(d). Mention 3 types of graphs created in spread sheet.

- (i) Line graph
- (ii) Pie chart
- (iii). Bar graph
- (ii) XY scatter
- (iii) 3D Pie chart
- (iv) 3D Bar chart
- (v) Bubble chart
- (vi) Area
- (vii) Doughnut
- (viii) Radar
- (ix) Surface
- (x) Stock
- (xi) Cylinders
- (xii) Cone
- (xiii) Pyramid

(e). (i) What is computer virus?

Computers virus is a soft ware or program that infects the computer negatively without the acknowledge of the owner.

(ii) Mention 2 ways which a computer can be affected by a virus

- Use of infected diskette
- Through e-mail/ internet
- Use of infected hard disk
- Through some down loads
- Through freeware/shareware

24. (a) Write the words below in full

- (i) **FTP**-File Transfer Protocol
- (ii) **WAN**-Wide Area Network

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(b). State any 3 factors that can affect communication speed on the internet

- Transmission (frequency and bandwidth)
- Line configuration (point to point and multipoint)
- Serial and parallel transmission (serial data transmission and parallel data transmission)
- Direction of transmission flow (simplex, half duplex and full duplex)
- Transmission mode (asynchronous versus synchronous)
- Packet switching (getting more data on a network)
- Protocols (the rules of data transmission)
- Type of processor

c) Distinguish between the e-mail and the internet

Email systems allow to send, letters and files containing data of all type from your computer to any other computer with e-mail address and a modem, simply by typing the recipients name and pressing the send button. The internet is the largest wide area network in the world, in fact it is not a single network of two types LAN and WAN

(d). What is a server?

A server is the host or central computer that manages the resources on

- A File server stores and manages files
- A print server manages printers and print jobs
- A database server stores and provides access to a database
- A network server (e.g. DNS) manages network traffic

(e). List any 2 functions of a server

- A server provides a centralised storage area for programs data and information
- A dedicated server is a server that performs a specific task

(f). Give 4 differences between a hard disc and a floppy disc

Hard disk	Floppy disk
A hard disk (HD for short)	Floppy disk (FD for short)
Holds more information	Holds less information i.e. 1.44 MB
Less portable	Portable
Access to its data is quick	Access to its data is slow

25.(a). What is a data base?

A database is a collection of data organised in a way that allows access, retrieval, and use of the data.

(b) Distinguish between Microsoft excel and data base

A database is a collection of data organised in a way that allows access, retrieval and use of the data. Common paper (databases) include telephone books, dictionaries, recipe cards, and television guides.

Computerised databases in Uganda include flight information phone inquiry system, and database systems in the public libraries.

Microsoft Access is one of the popular database software. Database software includes:

- Microsoft visual
- Fox pro

- Borland dbase
- Lotus approach
- Corel paradox
- Claris file maker

Pro corporate based systems include

- SQL
- Sybase
- Oracle
- Informix ingress
- progress

c) List 4 examples of data that can be used to create a data base

- Database system in the public libraries
- Computerised databases in Uganda include flight information, phone inquiry system

d) Mention 3 examples of data base management software

- School management system (SMS)
- Library system for keeping books
- Inventory systems
- Database for car number plates
- Database for insurance companies

e) Give 4 advantages of electronic databases over manual databases

- Reduction of data redundancy-storing most of data in one place means less duplication and less required space.
- Enhancement of data integrity- because data are centralised fewer updating errors occur and greater accuracy can be maintained
- Ensured data independence – data are entered, stored, modified and accessed by methods that are not affected by application programs. Also changes made to data structures usually do not require changes in programs that access the data base
- Facilities of data sharing and integration- database systems offer users the ability to combine or to cross reference data in many different ways.
- Improvement of access to data – data systems allow users to query the database directly, without necessarily using an application program
- Centralization of security- it is easier to limit access to information if it is grouped together instead of being kept in several scattered files. Many data bases must be protected and kept private
- Reduction of costs- data entry, data storage and the development of new application programs are all made more economical. By eliminating the duplication of data, many organisations can realize substantial savings.

26. a) Explain the following terms as used in presentation software.

i) Slide show

They display of slides in a sequence moving from one side to another

ii) Slide sorter

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This is a display where slides appear in a miniature form so that they can easily be arranged them/ or manipulated

iii) Slide layout

Refers to a single slide (format and design)

b) Explain the importance of presentations

- Used for visual aid communication
- Used for summarising content for presentation
- Used for advertising

c) Describe one function of a slide master

A **Slide Master** allows you to create a presentation with different types of slides but enable them to all have the same "look"

e) Outline how you would create a transitional loop

- Slide made
- Slide show
- Menu
- Transition sub menu
- Transition
- Windows
- Select timing
- Select condition
- Loop until escape key is pressed

SECTION C (20 MARKS)

27 "Computers have destroyed our culture" what are your arguments for and against this Statement

Against

- Destroyed crafts man-ship i.e. computers have taken over man's ability to execute tasks
- Working patterns i.e. change of work schedules
- Erosion of traditional religious norms i.e. exposure to ant religious material
- Erosion of traditional moral values, marriage values, sex values etc.
- Use of electronic or computer based communication systems as opposed to the traditional ways e.g. use of post office
- The security of the internet is so relaxed and piracy of peoples work (research) goes unchecked
- Exposure to illicit material has led to people's adopting negative behaviour

For

- Increased productivity through efficiency and effectiveness
- Improved communication i.e. widened ways of communication (diversified)
- Enhanced scientific research
- Improved on the ways of doing business
- Education has been boosted i.e. offering a new set of knowledge
- Promoted inter relationships

- Improved the process of data storage and manipulation and retrieval
- Provision of up to date information at the quickest time possible

NB

These points have to be explained they are only guidelines

28. Outline what you expect the role of computers to be in future

Outline what you expect the role of computers to be in future

- In business high tech management information systems, transactions
- In communication very fast and reliable systems (efficient) improved peer networks
- In education, virtual universities, very fast access to any topic, subject, electronic publications
- Manufacturing (industries) high tech manufacturing systems, increased use of robots, computer aided designs in manufacturing
- Creation of a virtual world where all aspects of life are computerised
- In homes increased use of Robots
- Internet will be so fast
- Computers are to become more smaller in size and more faster
- The price of computers is likely to go down as technology advances
- The software is likely to be more user friendly in that even the computer illiterates will be able to use it

29. “Information Technology has done more good than harm to education” give your arguments in favour and against the statement.

Advantages of using IT in learning and teaching include

- CAI and CAL packages that usually contains multimedia effects make learning more interesting and interactive
- Students can learn by themselves when teacher is not available
- Students can learn and proceed at their own pace
- Students can usually get their results of feedback immediately after they have answered the question or taken an action
- There are rich educational resources on CD-ROMs and the internet.
- Teachers can present subject matter and explain abstract concepts more clearly with multi media.
- Teachers can show experiments that are difficult to perform or dangerous in nature through simulations software.
- Advanced instructions can be given to students in areas where the teacher may not be qualified
- Once the package is paid for, it can be cost effective as fewer teachers are required
- The material is presented in a consistent way- you are not dependent on the skills of a particular teacher
- Computers are endlessly patient
- Links with other schools or colleges or with industrial or business organisations
- Students can work at their own pace, repeating sections they do not understand
- Special facilities available for students with disabilities- examples partially- sighted students

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may be able to change text size and background colour, blind people can use text-to- speech conversion packages, people with arthritis or cerebral palsy may control the computer by speaking to it instead of using the keyboard or mouse.

However there is a fear that IT technology will make teachers redundant and that path students will lose skills of social interaction as they become more isolated in their own little cyber-world. Computer aided learning packages have many advantages.

Disadvantages of using IT in teaching and learning include

- Face to face interaction between students and teachers may be reduced
- Students can only follow what the CAL packages are predefined to offer
- Initial investment cost of this project is not affordable by many schools
- To run this kind of project there has to be power
- Need for trained staff to run the project
- It does not benefit the blind and the dumb
- It also benefits schools which have trained perfectly in English accent since the CD's come in American English etc.

FINAL PAPER 2005

SECTION A (20 Marks)

1.All these are data storage devices except

- A. floppy diskette
- B. hard drive
- C. control unit
- D. zip drive

2.Which one of these is odd?

- A. Microsoft word
- B. Microsoft access
- C. Epi info
- D.UNIX

3.A..... is a primary database structure

- A. Table
- B. Report
- C. Form
- D. Query

4.The operating system is not directly involved in one of these tasks

- A. file management
- B. formatting a diskette
- C. scheduling of print jobs
- D. displaying a web page

5.Computer with aspecification will load programs faster

- A. 900 MHZ
- B.1 GHZ

- C. 700 MHZ
D. 600 MHZ
- 6.....is a popular 7-bit encoding system
A. ASCII
B. EBCDIC
C. Hexadecimal
D. Binary
- 7.This component of the central processing unit (CPU) carries out all the logic and mathematical operations
A. ALU
B. System clock
C. Registers
D. Control unit
- 8.....is a group of commands available to the CPU which determines the basic computer
A. Instruction set
B. Operating system
C. ROM BIOS
D. Hard disk
- 9.Which of the following is not computer peripheral?
A. Monitor
B. Printer
C.CPU
D. Keyboard
10. A..... is not an example of an output device
A. Printer
B. Plotter
C. Monitor
D. Keyboard
11. Which one of the following is not a programming tool?
A. Debugger
B. An interpreter
C. Note pad
D. A compiler
12. Okello intends to draw up an inventory. Which of the following is the most suitable software to use?
A. Ms-dos
B.C+ +
C. Ms-excel
D. Pascal
- 13.A.....makes it easy to find your way round the internet
A.net browser
B. microsoft word
C. computer

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D. a presentation

14. Slides as output are displayed using.....software.

A word processor

B an internet explorer

C. A spread sheet

D.A Presentation

15. Which of the following is not a storage device?

A disk drive A

B. disk drive B

C. Mother board

D.CD-ROM

16. The process of starting a computer is known as:

A. Surfing

B. Booting

C. Mother board

D. Clicking

17. The output displayed on the screen is termed as:

A. Photocopy

B. Softcopy

C. Master-copy

D. Hard-copy

18. One of these is a pointing device used to manipulate on screen objects:

A. CD-ROM

B. Digital camera

C. Scanner

D. Mouse

19 Which of the following devices can be used to convert an image or text on paper documents into electronic format that a computer can display, print and store

A. Track ball

B. Scanner

C. Monitor

D. CD-ROM

20. The option on the menu bar which enables one to name a document and store it on a storage device using another name is?

A. Save

B. Save as

C. Edit

D. New

ANSWERS SECTION A: (20 Marks)

1. C 6.B 11.C 16.B

2. D 7.A 12.C 17.B

3. A 8.C 13.A 18.C

- | | | | |
|------|------|------|------|
| 4. D | 9.C | 14.D | 19.B |
| 5. B | 10.D | 15.C | 20.B |

SECTION B**21. (a) Write the following abbreviations in full.**

- (i) **GUI** Graphical user interface
- (ii) **ASCII** American standard code for information interface
- (iii) **EBCDIC** extended binary coded decimal interchange code
- (iv) **URL** uniform resource locator

b. Explain the following internet services

- (i) **TELNET**-a terminal emulation protocol that allows a user to log onto a remote device
- (ii) **WWW**-(world wide web)- a system of internet servers that support the hypertext mark-up language documents
- (iii) **E-MAIL** (electronic mail)- the transmission of messages to one or more recipients over a network.
- (c)(i) **Computer file**- is a document containing tables or characters.
- (ii) **File name extension**- defines what type of file and may also define from which application it belongs

(iv) Specify the file types associated with the following file extension**Files types associated with the following file extensions:**

- .exe** - executive file
- .txt** - text file
- .doc** -document file

22. (a) Why is the binary number system used for computers?

It's used because the computer (CPU) understands only binary every character is represented in binary form in the ASCII table

(b) Convert the:**i) Binary number 10101010 to its decimal equivalent**

$$(1 \times 2^7) + (0 \times 2^6) + (1 \times 2^5) + (0 \times 2^4) + (1 \times 2^3) + (0 \times 2^2) + (1 \times 2^1) + (0 \times 2^0)$$

$$128 + 0 + 32 + 0 + 8 + 0 + 2 + 0$$

$$128 + 32 + 8 + 2 = 170$$

(ii) Decimal number 121 to its binary equivalent

121		
2	60	1
2	30	0
2	15	0
2	7	1
2	3	1
	1	1

1111001

(c) Explain the meaning of the terms:**i) Control unit as it is used in computer system**

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The control unit extracts the instructions from the main memory decodes them, and executes them.

(ii) Control unit

Functions of the control unit.

Decodes instructions (is the process of translating the instructions into commands the computer can execute)

Executes instructions (is the process of carrying out the commands)

(iii) Define a byte

A byte is eight digits grouped together. A byte is more informative than a bit because it can represent $2^8=256$ different things.

(d) Distinguish between ROM and RAM

RAM	ROM
Ram is volatile	Rom is non volatile
Ram is read and write	Rom is read only
Ram is temporally (not permanent)	Rom is permanent
Ram can be increased	Rom is normally not increasable

23(a)(i) Define the term band with

The rate of speed of data through a channel and is expressed in bits per second (bps)

Ranges of frequencies

The band width is the difference between the lowest and highest frequencies transmitted

(ii). List three communication media.

Communication media include the following:

Wire base communication media (twisted pair wires, coaxial cables, optical fibres.)

Wireless base communication media- (micro wave from land based antennas, micro wave from communication satellites, infra waves from infrared devices, radio waves from blue tooth devices)

(b). Below are specifications for two different types of

	Computer A	Computer B
RAM	64MB	42sMB
HARD DISK	700MB	20GB
SPEED	800MHz	1GHz
COMPUTER WORD	32-bit	64-bit
NETWORK CARD	NO	YES
VIDEO CARD	YES	YES

Study it and answer the questions that follow:

(i). Which computer is faster in processing data

Computer B (1GBz)

(ii). How many bytes can computer A handle at the same time?

32bit $32=4$ bytes

(ii). Which computer is most likely to be connected to a LAN and why?

Computer B because it's a Network Card (NIW)

c. Define the term:

(i). Software

Software is a program that consists of the step by instructions that tell the computer how to perform a task

(ii). Hardware

Hardware is the electronic, electronic, and mechanical components that make up a computer. The physical tangible parts of a computer system.

Hardware consists of all the machinery and equipments in a computer.

(iii). Application program

Application programme –software that can perform useful work on general purpose tasks.

Software that solves the needs of the end user.

(d). Distinguish between downloading and uploading a computer.

Downloading means that you retrieve files from another computer and store them in your computer on a network.

Uploading means that you send files from your computer to another computer on a network

24. (a). (i). Define the term computer virus?

Computer virus is deviant programmes that affects itself to computer systems and destroy or corrupts data.

(ii). Identify any three possible symptoms of computer viruses.

Symptoms of computer viruses

- less memory available than usual
- access lights turning on non-referred devices
- unfamiliar graphics or quizzical messages appearing on screens
- programmes taking long than usual to load
- disk accesses seeming excessive for simple tasks
- unusual error messages occurring frequently

(b). state two ways in which one can guard a computer system against viruses.

Ways of guarding computers against viruses.

- There must be a policy which educates the user's on the danger of viruses
- Not sharing diskettes
- Avoid suspicious users and untrusted users
- Ensure that the e-mail is from a trusted source before opening or executing any email attachment
- Install an antivirus utility and update its virus definitions frequently for detecting & removing viruses
- Never start-up a computer with a floppy disc in the floppy drive
- Scan all floppy disks and files for possible virus infection before opening them
- Set the security level for macros in an operation so that the user can choose if or not to run potentially unsafe macros
- Backup important files regularly

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An antivirus utility is a programme that prevents, detects, and removes viruses from a computer's memory or storage device.

One popular antivirus programme is Norton Antivirus programmes include: AVG antivirus software, f-secure, Kaspersky internet security, Dr.solomon, MacAfee antivirus

c. i) What do you understand by term screen saver as applied to computer?

- Screen saver is utility that supposedly prevents monitor display screen from being etched by an unchanging image(burn in)
- A screen saver is utility that causes the monitor's screen to display moving image or blank screen of no keyboard or mouse activity occurs 4 a specified time period

(i) Applications of a screen server programme.

- ▢ Screen savers originally were to presented a program called ghosting, in which images could be permanently etched on a monitors screen
- ▢ Screen savers may also be used 4 reasons of security Presents unwanted on lookers from accessing in4mation or data from your computer
- ▢ Business- advertisements on the screen
- ▢ Entertainment-digital photos can be put on your screen as your pictures
Prints burn in

iii). State two precautions that should be taken when cleaning a screen display area.

- Never use watery (wet cloth) to clean you screen
- You always ask a technician 4 help
- Never put your screen near magnetic media

d. State any two steps that must be followed to safely shut down a computer from the Microsoft word file

Steps that must be taken to safely shut down a computer from micro soft word file

- Click on file save as the document
- Click on file close
- Click on file exit
- Click on start-up, shutdown (2 shutdown the computer)

25. (a) Define the following terms:

(i) Warm booting

Warm booting is the process of restarting computer that is powered on

A warm boot is the process of restarting or resetting computer that is already turned on.

The warm boot sometimes the computer stops working or responding 2 the commands given by the user. In search cases we need not 2 switch computer off to restart the system. We can restart the system by pressing (ALT+CTRL+DEL) keys together on some computers, RESET switch is there, and the rest switch can be used to restart or reboot the system instead of pressing CTRL + ALT+ DEL keys.

(iv) Monitor(display screen)

- (v) Are output devices that show programming instructions and data as they are being input and information after it is processed

(vi) Folder

Folder (called also in command line interface) is where files are kept and subfolders

(iv) Artificial intelligence

Is a group of related technologies that attempt to develop machines to emulate human like qualities such as leaning ,reasoning , communicating, seeing, and hearing . E.g. (robots, expert system, natural language processing)

(b) (i) List any two ways of starting an application in windows

Ways of starting an application in windows

- 1 You can start by clicking on the icon programme on desk top.
- 2 You can start by clicking on start menu; programs choose the application (MSWord, MS Excel, and MS PowerPoint).

(ii) What are the windows utility used to view contents of a floppy, hard disk and network drives?

Clicking on the desk top

Clicking on start open, programmes the applications.

(iii) What must be done to floppy disks before they are used?

They're used -formatted

(iv) What do we call the basic application that is built into windows that allow us to perform tasks like drawing or text editing?

- Application software-editors
- Paint brush
- Word pad
- Word

(c) (i) CD-ROM stands for

CD-ROM-Compact Disc- Read Only Memory

(ii) State two ways in which CD-ROM can be useful in education.

- Storage purposes
- Educative C.D.

(iii) State three precautions for correct handling of diskettes.

- Spilling a coke or any liquid on it
- Keep diskettes out of moisture
- Keep diskettes from magnetic fields
- Avoid risky physical environment
- Diskettes don't do well in sun or heat (such as in glove compartments or top of heat vents)
- They should not be placed near magnetic fields (including those created by mobile phones)
- They should not be exposed 2 chemicals such as cleaning solvents or spilled coffee
- Keep diskettes in their jackets or disc bank

26 (a). Write the following abbreviations in full.

CAD-Computer Aided Design e.g. auto desk CAD

CPU -central processing unit

I.C - Integrated Circuit

IP -Internet Protocol

(b) Define the following terms:

Hard copy

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Hard copy -refers to printed output

Soft copy

Refers to data that is shown on display screen or is in audio or voice form (output is not tangible)

Bug

Bug is an error in a [programme that causes it not 2 work

(c) Explain the meaning of the following:

(i) HTTP (Hyper Text transfer protocol)

Is the language that web clients and servers use 2 communicate with each other called ALL web clients and servers MUST be able to understand **HTTP** in order to send and receive Hyper Media Documents.

(ii) HTML (Hyper Text Mark up Language)

It is a make up language that describes how a web page should be formatted and displayed in a web browser

HTML simple describes how a web page should be 4matted and displayed by a computer

(iii) Fill the gaps in the table below

Task	Type of software that can be used
(i) produce a document	Adobe photo shop paintbrush. MS-Word
Present a lecture	<i>Presents software e./g [power point]</i>
(ii) Do financial. accounting calculations	MS-Excel
(iii) Reading information on the internet	<i>Web browser e.g windows Explorer, Netscape e.t.c.</i>

SECTION C: (20 Marks)

27. Explain why a school should have a website.

A website is a collection of hyperlinked html documents (web pages) with related information, meant to creating awareness about something on the internet.

In a school setting, there is a lot of awareness required between the administration, staff, students and parents. Below are the major reasons why a school should have a website:

1. Making of a website quickens the publishing of information to the community such as abrupt announcements, circulars, results, etc. Once uploaded, it will be already accessible to the targeted readers
2. Through a website, the school can get feedbacks from the community through online user comments and questions.
3. If students are involved in the Website development process, this enhances skill building such as writing, editing, layout and design.
4. A school website provides motivation and pride of ownership. This can be evidenced through use of customized email. Eg xxx@abc.sc.ug instead of xxx@yahoo.com
5. Information listed on a school website removes doubt. Information such as school fees, and everything presented at the site appears in a positive light, as compared to information from other sites about the school which may be false.

- 6.If a school has a website, they can use the web mail service to send parents and other stakeholders items such as newsletters, reminders etc.
- 7.A website increases ways of contact. Once you have a website you can list your website address on your business cards, report cards, and even the school signpost.
- 8.Internet today is being used 24 / 7 and is accessible from every house. People are becoming highly dependent on the internet. By having a web presence, the market of the school expands your significantly.
- 9.A school website helps students and parents to make a wise academic choice after using the vast quantities of information about a given college or university.
10. In conclusion, a well-designed website is just as important a public relations tool as school catalogs and brochures. If a school has web presence, it can be listed in web search engines and know worldwide. Today everything you need is achieved at the click of a button.

28. (a) Outline the different forms of secondary storage.

- Diskettes
- Hard discs
- Flash memory
- Optical tape

(b) Describe the characteristics of each of the above forms of secondary storage.

Diskettes (characteristic)

Typical floppy disk

- A floppy disk in a thin, circular
- Flexible plastic disk disc with a magnetic coating enclosed in a square shaped plastic shell.
- If a computer has only one floppy disk drive, the drive is usually designed drive A (i.e. A:)
- If the computer has two floppy disk drives, the second one is usually designed drive B(i.e.B)
- The most widely used floppy today is 3.5 inches wide.
- Before anything can be written on the new floppy it must be formatted.
- Formatting is the process of preparing a floppy disk or hard disk for reading or writing by organizing the disk into storage allocation called tracks and sectors.
- For reading and writing process, sectors are grouped into clusters.
- The formatting process may also erase the file location information and redefines the allocation table for these items of a formatted disk.
- Today most floppy disks are high-density floppy disk.
- Floppy disk usually spins at about 350 revolutions per minute.
- The average access time for current floppy disk drive to locate an item on the disk 84 milliseconds, or approximately 1/ 12 seconds.
- To care for a floppy disk, it should not be exposed to heat, cold, magnetic fields, and contaminants such as dust, smoke, or salt air.

2.) HARD DISK (characteristics)

- A hard disk usually consists of several inflexible, circular called platter, on which items are stored electronically.
- A hard disk is also known as a hard drive.

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- The hard disk in most desktop and laptop computer is housed inside the system unity, and considered fixed disk because being not portable.
- Hard disks are sealed tightly to keep out of contaminants (e.g. dust and smoke particles), which may result in head crash.
- Hard disk undergo two formatting steps a low-level format and a high- level format.
- Some computers are able to improve the hard disk access time by using caching.
- The storage of data, instruction, and information to and from a hard disk is managed by a special purpose chip and its associated electronic circuits called the hard disk controller (HDC).
- Some manufacturers develop a type of hard disk system, called RAID, which connects several smaller disk into a single unit that acts like a single large hard disk.

3) A CD-ROM (compact disc read- only memory)

- Because CDM-ROM and audio CD use the same laser technology, a CD- ROM drive can also be used to play audio CDs.
- A CD- ROM (compact disk read-only memory) is a compact disk that uses the same laser technology, as audio CDs for recording music.
- A CD- ROM, however, can continue text. Graphics video and sound.
- The contacts of standard CD- ROMs are written or recorded, by the manufacture, and cannot be modified by the user.
- A CD ROM drives or CD –ROM player is required to read items on a CD- ROM.
- A computer disc (CD) is a flat, round, portable, storage medium that is usually 475inches in diameter and less than one-twentieth of an inch thick.

29. Give your arguments in favour and against the impact of computers in our society today.

Computers impacted many items in today's society.

Personal Impact

- Privacy and personal rights
- Data banks, computer terminals, data security
- Employment
- Job opportunities, new careers, the need for retraining
- Business transactions
- Automated billing, credit cards, consumer spending
- The replacement of people through automation
- Robots, word processing
- The impact that a machine has on a human - ergonomics

Community Impact

- Employment
- Traffic control
- Urban planning
- Law enforcement

National Impact

- Communications media
- The use of information for control
- Vote counting
- Electronic funds transfer
- Stock-market transactions
- Defense
- Surveillance
- National data banks
- Employment
- Shifting patterns
- Telecommunications
- Satellite broadcasting
- The possibility of fraud or theft using computer based systems
- Standards for computer hardware and software

Global Impact

- Reporting of current events
- Communications media
- World government
- International standards
- Exploration of space and sea
- World wide access to data

Future Impact

- Computers in the home
- Gaming
- Learning
- Electronic mail shopping
- Business transactions
- Information processing, storage and retrieval
- The home as a work center
- Effect on the family unit and on familiar patterns of life travel
- Computer communication as a replacement for travel
- The possible disappearance of hard copy as a medium of communication
- The cashless society
- Possible effects on the formal education system
- The use of robots in industry and in the home
- Teleprocessing networks
- Communications networks

FINAL PAPER 2006

1. The difference between hardware and software is
 - A. Tangible while software is intangible
 - B. Metallic while software is plastic
 - C. Permanent while software is temporary
 - D. Reliable while software is unreliable
2. Which of these components is the brain of a computer system?
 - A. main memory
 - B. The secondary memory
 - C. The processor
 - D. The power supply
3. Which of the following are the two general types of programs
 - A. Entertainment and productivity
 - B. Microsoft and IBM
 - C. Word processors and Databases
 - D. System software and Application software
4. A computer performs all the following functions except
 - A. Storage
 - B. Processing
 - C. Output
 - D. Thinking
5. Which of the following is used to give commands to the computer
 - A. Input devices
 - B. Storage devices
 - C. Output devices
 - D. Processing devices
6. A communications device enables a computer to connect a computer
 - A. System unit
- Software
 - B. Application
 - C. Network
7. A file is
 - A. A section of the main memory used to store data
 - B. A part of a program used to describe what the programme does
 - C. Another name for floppy disk
 - D. A collection of information that has been given a name and stored in secondary memory
8. An anti-virus is an example of
 - A. A user interface
 - B. An operating system
 - C. An application software
 - D. A utility program

9. A grid in a spreadsheet program where entries are made consists of
- A. Row, columns and diagonals
 - B. Columns and rows
 - C. Rows and diagonals
 - D. Column and diagonals
10. What kind of hardware would you use to put photos of your family into a file
- A. Printer
 - B. DVD player
 - C. Scanner
 - D. Power point
11. In a database, a collection of fields that contain data about a single activity or transaction is referred to as a
- A. File
 - B. Table
 - C. Record
 - D. Primary key
12. What type of object is used to find answers to questions about the data in a database
- A. Macro
 - B. Query
 - C. Module
 - D. Form
13. Which of the following is not an example of a programming language?
- A. COBOL
 - B. Visual basic
 - C. Lotus
 - D. Java
14. Kapere was doing his computer final examination when his computer hangs up. He lost everything he had been typing because he forgot to
- A. Copy
 - B. Save
 - C. Cut
 - D. Paste
15. The purpose of a screen saver is to
- A. Help prevent screen burn out
 - B. Brighten up the screen
 - C. Test the capability of the monitor to display various graphics
 - D. Entertain the computer user
16. HTTP stands for
- A. Hyper text transport protocol
 - B. Hyper text transport platform
 - C. Hyper text transfer platform
 - D. Hyper text transfer protocol
17. Which of following usually provides internet e-mail accounts and addresses?

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A. ISP

B. Internet Café

C. WWW

D. TCP/IP

18. Which of the following is the most promising use of a computer

A. Error-free software

B. Online education

C. Voice recognition software

D. Downloading music

19. Which type of software is used to request a specific resource from the server

A. Server software

B. Client software

C. System software

D. Messaging software

20. Which of the following is created using presentation software

A. A directory

B. A file structure

C. An organization chart

D. A e-mail message

ANSWERS SECTION A

1. A

5. A

9. B

13. C

17. A

2. C

6. D

10. C

14. B

18. B

3. C

7. D

11. C

15. D

19. B

4. D

8. D

12. B

16. D

20. C

SECTION B

21) (a) Give any three safety rules that should be followed in a computer laboratory.

- Avoid dust
- Proper shutdown of computers
- Temperature setting
- Proper air ration
- Back-up
- Moving equipment
- Avoid use of liquids
- Care for diskettes
- Moving equipment from place to place

Like all electronic equipment, microcomputers need to be serviced regularly to maintain their operability. Some of the measures that should be taken are:

- i) Switch on your computer hardware system starting from the wall socket switch, UPS or stabilizer, computer then printer.
- ii) Avoid making connections when the computer is on power e.g. keyboard connections, mouse, printer, monitor

- iii) Avoid abrupt switching off and on of the computer system use the normal way of shutting or closing down all the programs then shut down the computer from the start button.
- iv) Place the microcomputer in a dust free environment with good ventilation. Dust covers should be used to cover the microcomputer when not in use and if you are using polythene covers then do not cover the computer immediately after switching off as it will trap heat
- v) The microcomputer should not be exposed to direct sunlight
- vi) Food or drinks should not be allowed near the computers
- vii) The computers should be regularly serviced, at least once a year or more frequently if the environment is dusty. The service should normally include blowing the dust from the system unit, cleaning the floppy drives, keyboard, including all the keyboard contacts, also clean the monitor regularly with a wet cloth. Make sure you do not drop water in the computer system. If water drops in accidentally do not use the computer immediately until water has completely evaporated
- viii) Do not open the computer for inside cleaning, this should be handled by a qualified personnel
- ix) It is good practice to keep a record of the daily condition in case of computer failure
- x) The peripheral devices, such as printers and mouse should be regularly serviced
- xi) The floppy disks used for installation of programs and backups should be kept safely in disk banks, and kept away from sun light and magnetic media.
- xii) Floppy diskettes have to write protected all the time especially for installation diskettes(using protection tabs) and remove the write protect when writing on the diskettes if they are used for backup
- xiii) In areas where the power fluctuates, it is important to use either a stabilizer or UPS to ensure a steady input of power to the computer system

SOFTWARE

The vital part of a computer system is the data. In fact data is expected to a number of risks and great care can be adopted to protect against them. The risks to data are:

- i) Accidental loss
- ii) Accidental damage or corruption
- iii) Theft
- iv) Deliberate damage or corruption
- v) Authorized disclosure

To guard against these risks, the operator must make sure that:

- a) Makes back up copies of the data regularly. Before backing up, make sure that the data is error free otherwise you might take up a back copy of corrupted data
- b) Minimize the number of visitors to your computer installations and do not allow any one to your server except the network administrator
- c) Avoid diskettes coming from different installations as your system might contract viruses
- d) If you have unwanted printouts, please destroy them because data is not supposed to fall in unauthorized hands
- e) Save data regularly as an abrupt power cut off may corrupt your data, if you have no UPS

FILE AND DISK MAINTAINANCE

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- i) To minimize data corruption, the file and disk maintenance should be performed regularly. A lot of file deletion for instance causes file fragmentation that may lead to reduced access time, file cross linking etc
- ii) These are some of the operations to be performed for file and disk management.
- iii) Have proper subdirectory structure and avoid keeping a lot of files in the root directory.
- iv) Use CHKDSK command regularly to check on the lost clusters and convert them to files.
- v) Use of utilities like optimizer (scan disk, defragmenter, pc –tools NDD, speed disk) should be utilized to remove fragmentation and system tools in windows operating system.
- vi) A number of programs have been written to enhance the use of personal computer utilities

b) Define the following terms as used in computer

i) Directory

Directory is a collection of files on given storage media/given drive

ii) Modem is a communication device that converts between analog and digital signals OR

Modem-device that converts signals from computer into telephone and vice versa to enhance computer communication

c) Name any five peripheral devices of a computer

- Keyboard
- mouse
- trackball
- touchpad
- joystick
- touch screen
- light pen
- Stylus and graphics tablet
- Digital camera
- Optical character recognition reader
- Optical mark recognition reader
- scanner
- Bar code reader
- magnetic ink character recognition reader
- Magnetic strips reader
- Micro phone
- Voice recognition device
- MIDI Device
- Digital Video camera
- PC camera
- Web cam
- Sensor and remote sensor
- Terminal

Four common types of storage media are

- Floppy disk
- Hard disk
- Compact disk
- Tape
- Zip drive

Other types of storage media include

- MO disk
- PC card
- Smart card
- Microfilm and microfiche
- On line storage

Examples of output devices are.

- Display device
- Printer
- Audio Output device
- Data projector
- Facsimile machine
- Multi function machine
- Terminal

Common types of storage device include

- Floppy disk drive-read/write storage media
- Hard disk drive-read/write storage media/storage devices
- Compact disk drive read only storage media
- Tape drive read/write storage media
- Zip drive read/write storage media

Other types of storage media include

- MO disk-MO has the high storage capacity of an optical disk can be written over like a magnetic disk
- PC card a memory card has only storage capabilities
- Smart card a smart card which is similar in size to a credit card or ATM card , stores data on a thin microprocessor embedded in the card
- Microfilm and microfiche –Microfilm and microfiche are used to store microscopic images of documents on roll of sheet film
- Online storage –online storage , sometimes called an internet hard drive , is a service on the web that provides storage to computer users for free or for a minimal monthly fee

ii) Give the function of each device named in © (i) above**Output devices**

- Display device-is an output devices that conveys text graphics, and video information to a user.
- Printer – printing/ pricing hard copies
- Audio output devices – are the components of a computer that produce music, speech, or other sounds
- Data projector – takes the image that displays on a computer screen and projects it into a larger screen so that people can see the image clearly
- Facsimile machine –is a device that machine transmits and receives documents over telephone lines
- Multifunction machine –is a single piece of equipment that provides the functionality of a printer, scanner , copy machine, and a facsimile machine
- terminal- is a device with a monitor and a keyboard

Input devices

- i) key board-input data/information/instructions
- ii) Mouse-input data /information/instructions

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- iii) Track ball-input data/information pointing device
- iv) Touch pad-input data /information device sensitive to pressure and motion
- v) Joy stick-pointing device with vertical level for playing game ultrasounds scanners
- vi) Touch screen- is a touch –sensitive display used for information kiosk located in departments and ATM
- vii) Light pen –pointing devices that can detect the presence of light
- viii) Stylus and graphics table –is a pen like pointing device which uses pressure to write text and draw lines
- ix) Digital camera- takes pictures and stores the images digitally and cannot work separately
- x) Scanner – capturing is a light input device that converts printed text and graphics into digital form that can be further be processed by the computer
- xi) Optical character recognition reader - these include a small optical scanner for reading characters and sophisticated OCR software for analyzing what is read
- xii) Optical mark recognition reader – used to sense handwritten marks such as small circles or rectangles made on pre-printed forms in certain places
- xiii) Bar code reader magnetic ink character recognition reader – can input (read) text printed with magnetized ink
- xiv) Magnetic strips reader – are used to input (read) information contained in the magnetic strips on card (e.g. credit cards)
- xv) Micro phone – is an input device that allows a user to speak to the computer to enter data and instructions into the computer
- xvi) Voice recognition device – is the computers capability to distinguish spoken words
- xvii) MIDI device – is the electronic music industry's standard that defines how sounds are presented electronically by digital musical devices.
- xviii) Digital video camera – records video a s digital signals rather than analog signals
- xix) PC camera – is a kind of DV camera that allows home user to record, edit and capture video and still images and to make phone calls on the internet
- xx) Web cam – is a video camera whose output displays on a web page
- xxi) Sensor and remote sensor – is an input device that can detect external changes in an environment
- xxii) Terminal – is a device with a monitor and a keyboard

a) Explain the following terms as used in computer studies

i) System software

System software consists of programs that control the operations of the computer and its devices

System software also serves as the interface between the user, the application software and hardware

Underlying software that is used by the computer to manage its own internal activities and run applications software

ii) Application software

Application software refers to programs that perform specific tasks for users.

Most application software is available as packaged software that can be purchased in retail stores or on the Web

Software used to perform general purpose tasks e.g. word-processing, spreadsheet

iii) Utility programs

A utility program is a type of system software that performs a specific task, usually related to managing a computer, its devices, or its programs

Programs used to support, enhance, or expand existing programs in a computer

b) Outline four functions of operating system software

Functions of an operating system include

- Memory management
- Spooling print job
- Configuring devices
- Monitoring system performance
- Administering security
- Managing storage media
- File management
- User interface
- Booting
- Managing tasks e. g. processing

c) List any 5 operating system that you know

Popular operating systems for microcomputers include;

Operating system

- | | |
|------------------------------------|------------------|
| • DOS | • Windows CE |
| • Windows 3.x | • Palm OC |
| • Windows 95 | • Pocket PC 2002 |
| • Windows NT workstation | |
| • Windows 98 | |
| • Windows 2000 professional | |
| • Windows ME | |
| • Windows XP home | |
| • Windows XP profession | |
| • Mac Os | |
| • Os/2 Wrap | |
| • Novell net ware | |
| • Windows NT server | |
| • Windows 2000 server | |
| • Windows NET server | |
| • OS/2 wrap server for E- business | |
| • Unix | |
| • Linux | |
| • Solaris | |

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23.(a)Write the following in full in relation to computer

- i) RAM – Random Access Memory
- ii) ROM – Read Only Memory
- iii) EPROM - Erasable Programmable Read Only Memory

b) Distinguish between primary storage and secondary storage devices, giving an example of each.

Primary storage

- Memory is fast because it is accessed electronically and no mechanically components is involved
- Most memory is volatile and contents must be transferred to backing storage before the computer is turned off
- Memory is expensive and it's storage size on a computer system is usually limited when compared with backing storage

Secondary storage

- Secondary storage or backing storage is nonvolatile and contents stored is relatively more permanent when compared with memory
- Backing storage provides a cheap and almost an unlimited amount of storage
- Backing storage is slow because of the mechanical components involved

Primary storage		Secondary storage	
1	Internal storage	1	External storage (may still be inside the system unit)
2	Holds data and programs for immediate processing	2	Storage data permanently
	On the motherboard	3	Not on the motherboard

c)i)Name three major parts of the CPU.

- Memory
- ALU
- Control Unit

ii) Explain the function of each part in © (i) above

Main memory – also called memory, primary storage, internal memory, or random access memory (RAM) refers to working storage

Main memory:

- Holds data for processing
- Holds instructions for processing the data
- Holds data after it is processed
- The contents of main memory are temporary meaning that if you turn off your computer before saving your work , you will lose your latest edits
- It is characterized by fast access to information , low capacity and high costs

- The arithmetic and logic unit (ALU) performs the execution part of a machine cycle
- ALU performs arithmetic operations and logic and controls the speed of the operations
- Arithmetic operations include addition, subtraction, multiplication and division
- Comparison operations involve comparing one data item to or less than the other item
- Logic operation works with conditions and logic operators such as AND, OR and NOT
- The control unit directs and co-ordinates most of the operations in the computer
- For every instruction, the control unit repeats a set of four basic operations called the machine cycle or instruction cycle
- Tells the rest of the computer how to carry out a program's instructions

24(a) Explain the following

i) Telnet

- ✚ A terminal emulation protocol that allows a user to log onto a remote device
- ✚ A protocol that enables one computer establishing a connection is a local computer, and the computer accepting the connection is the remote computer

ii) FTP

File transfer protocol – is an internet standard to upload and download files

- ✚ File transfer protocol is a set of rules that enables files to be transferred from one computer to another

iii) Transmission control protocol/ internet protocol

- ✚ TCP/IP manages the transmission of data by breaking it up into packets. The protocol defines how to break the message into packets, provide routing information for messages, deliver and reassemble the message at the receiving end
- ✚ Transmission control protocol is a suite or family of protocols that governs the way data is transmitted across networks

iv) Intranet

- ✚ Intranet is an internal network of an organization that uses TCP/IP protocol, supports multimedia web pages and is accessible via a web browser
- ✚ Intranet generally makes company information accessible to employees and facilities working in groups
- ✚ Intranet – an internal corporate network. It uses the infrastructure and standards of the internal and world wide

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d) What is a web browser? Give one example of a web browser

- + A web browser is a software program that allows a user to access and view web pages
- + A web browser software program that acts as an interface between the user and the WWW
- + It sends requests for information that is available on the internet and displays the information for the user
- + Internet explorer
- + Netscape navigator
- + Mozilla
- + conqueror

(d) State four major components of an e-mail message

- + Subject/title
- + Address of recipient
- + Body
- + Sender's name and address
- + Cc: carbon copy
- + Bcc: blind carbon copy

25. a) Define the following terms in relation to database.

i) File.

- + Is a collection of many records
- + A collection of related records

ii) Records

- + A record is a collection of related data items concerning a person, product, or event
- + A collection of related fields
- + A row in a database table

iii) Field

- + A field contains a specific piece of information within a record
- + A unit of data consisting of one or more characters
- + It is a column in a database table

b) Name three functions of databases

- + Data storage
- + Data manipulation
- + Data retrieval
- + Data sorting
- + Data summary

c) Outline four steps taken to create a simple database

- + Planning
- + Design layout
- + File structure creation
- + Defining the field

d) With an illustration, explain how a shop keeper can use spreadsheet to run the business.

- ✚ The shop keeper creates a spreadsheet to show items stocked , cost price selling price profit earned or expected
- ✚ Can create an income /expenditure spreadsheet to help calculate profits / loss of the business

Item	Stock	Cost price	Selling price	Total cost	Total sales	profits
Sugar						
Salt						
Oil						
beans						

26.(a) Distinguish between the following as used in computers

Data and information

Data consists of raw facts and figures that are processed into information

While

Information is summarized data or otherwise manipulated data

Procedures are description of how thing are done steps for accomplishing a result

Information is processed data

data	Information
Letters(e.g. a b c d)	Words(e.g. apple boy cat)
Words and symbols	A report, a letter an essay
Numbers	A mathematical formulae
Examination scores	Comments, grades
Musical notes	A piece of music a song

ii) Domain name and IP address.

- ✚ It is the text version of an IP address
- Always to identify and locate computers connected to the internet uniquely for each organization
- ✚ IP address consists of four groups of numbers. Each separated by a period which uniquely identifies each computer or device connected to the internet

(b) State two undesirable behaviors involving internet

- ✚ Spam
- ✚ Pirating
- ✚ Watching immoral web sites before your of age
- ✚ Illicit material
- ✚ Abusive and threatening messages

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✚ Hacking and cracking

✚ Impersonation

c) i) **How does the use of the mouse make Windows easier compared to the use of the keyboard alone**

Advantages of using a mouse include

✚ A mouse is user friendly for computer beginners

✚ A mouse is easy and convenient to use with a graphical user interface

- Can move easier in any direction
- Convenient to use
- Save time
- Can be operated by one hand

ii) **State any two major problems that often affect the proper functioning of the mouse**

Disadvantages of using a mouse include

- It is not easy and convenient to input text with a mouse
- Issuing commands by using a mouse is slower than by using a key board
- It needs some practical in order to control a mouse properly
- A mouse usually requires a flat surface to operate
- A mouse needs more desk space to operate when compared with a trackball or a touchpad
- Dir disruption motion of ball
- Nature of surface need for mouse – must be suitable
- Should not be too rough and too smooth
- Disconnection of chords in case the mouse falls on humps
- Connecting the mouse to the system unit one must be very careful o follow the direction of the pins

iii) **Suggest any two ways the mouse can be protected from the problems in**

©(ii)above

- Clean the ball and rollers regularly
- Providing the correct roll surface or mouse pad
- Avoid mouse falling or hanging on the chord by tying twists on both the mouse and keyboard cables

SECTION C: (20 marks)

27) The Head teacher of your school wishes to buy computers for the school. As a student of computer studies, what type of computers would you advice the Head teacher to buy and for what benefits are they to your school?

- Speed
- Brands

- Storage capacity
- Amount of RAM
- Network card (NIC)
- CD-ROM, DVD Combo
- Multimedia
- Type of Monitor
- Warrant
- Pre-installed software
- Other extras e.g. printer, cameras, UPS
- Computer skills handling

BENEFITS

Computerization of the school will bring the following advantages

Using computers for information processing (computerized information systems)

- Computers with communicating capacity can share data and information with other computers
- Tasks can be completed faster because computers work at amazing speed
- Computer can process large amounts of data and generating error free results provided that the data is entered correctly
- Computers can store enormous amounts of data for future use
- The high reliability of components inside modern computers enable computers to produce consistent results
- Running cost become lower in the long term
- Tasks can be completed with little human intervention
- Overall security can be raised due to less human intervention
- The management can observe new information and new trends more quickly
- Customer services can be improved due to more efficiently management and operations

LAN will bring the following advantages:

Advantages of using a network

- Facilitates communications because people can communicate efficiently and easily via e-mail, instant messaging chatrooms, telephone, and video conferencing.
- Reduce costs by sharing hardware and software
- Sharing data and information stored on other computers on the network
- Allow tight control over who has access to what data.

If the school is connected to the internet the school will benefit from the following:

People have different reasons for connecting to the internet, which include the following:

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- Access a wealth of information, such as news, weather reports and airline schedules
- Shop for goods and services
- Use online banking services and manage investments
- Do research and take online training courses
- Download files, listen to music and watch movies
- Send and receive messages to and from other connected users
- Communicate with others around the world
- Access sources of entertainment and leisure, such as online games, magazines and vacation planning guides
- Globalization
- Education online
- Enhance communication
- Publication
- Exchange knowledge
- Advertising

28) Suggest reasons why there is an increase in the use of computers in most

organizations in Uganda today

Introduction

An increase of computers in Uganda means that Uganda is in the right direction because it is reducing the digital divides meaning that more ICT devices per person or the of increase of ICT devices used by every Ugandan is increasing. This has been brought about by the following

- The government policy of introducing the ministry of ICT has boosted the increase of computers in the country, because this is where the technocrats who advise the government sit.
- Taxes on imports of computers and computer related devices have been reduced
- Makerere university since 1995 has increased the rate of admission of students doing computer related courses thus more Ugandans are computer literates
- Uganda being a liberal economy many institutions have come up with computer related international courses and local courses thus more students or people are now able to use computers
- The computer business is booming in Uganda and the forces of demand and supply are taking their course thus computers have become cheap meaning that they are affordable
- Government policy of introducing computer studies at O-level and probably later in A-level has led to more Ugandans using computers

- People in the entertainment industry with technological changes dictating have switched drastically to using computers for presenting their shows and producing and storing music e.g. on CDs, DVDs, Projector shows and clip making, recording using computers to mention but a few in the music industry

Other fields which have caused increase of computers include areas where computers are applied in fields

- Health
- Education
- Research
- Entertainment
- Communication
- Police
- Industries

Advantages of using computers for information processing include

- Computers with communicating capacity can share data and information with other computers
- Tasks can be completed faster because computers work at amazing speed
- Computer can process large amounts of data and generating error free results provided that the data is entered correctly
- Computers can store enormous amounts of data for future use
- The high reliability of components inside modern computers enable computers to produce consistent results
- Running cost become lower in the long term
- Tasks can be completed with little human intervention
- Overall security can be raised due to less human intervention
- The management can observe new information and new trends more quickly
- Customer services can be improved due to more efficiently management and operations

Advantages of using a network

- Facilitates communications because people can communicate efficiently and easily via e-mail, instant messaging chatrooms, telephone, and video conferencing.
- Reduce costs by sharing hardware and software
- Sharing data and information stored on other computers on the network
- Allow tight control over who has access to what data .
- I therefore conclude that the good direction the government has played in putting Uganda afloat the ICT boat or ship and also be one of the crew

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members is one of the recognizable efforts thanks to the government of Uganda

29) “Total data security is not possible today”. Outline the areas where this has been achieved and challenged

- Threats of data privacy
- Theft of hardware
- Theft of software; copying use of diskettes etc
- Hackers
- Crackers
- Outside users
- Employers
- Ways of securing the system; to ensure privacy
- Physical security against theft
- Identification and access controls
- Use of cards, keys signatures
- Passwords, PINS
- Encryptions
- Audit controls

ESSAY

Data consists of raw facts and figures that are processed into information
Information is summarized data or otherwise manipulated (processed) data
Procedures are description of how things are done, steps for accomplishing a result.

Cyber crime refers to online or internet based illegal acts. Some of the more common computer security risks include:

- Computer viruses
- Unauthorized access and use of computer systems
- Hardware theft and software theft
- Information theft and information privacy
- System failure
- Threats of data privacy
- Theft of hardware
- Theft of software, copying, use of diskettes
- Hackers
- Crackers
- Outside users
- Employers
- Viruses are often designed to affect or infect, a computer negatively by altering the

way it normally works without the knowledge or permission of the owner
 A boot sector virus executes when a computer starts up because it resides in the boot sector of a floppy disk or the master boot record of the hard disk.

A file virus attaches itself to program files, and is loaded into memory when the infected program is run.

A macro virus uses the macro language of an application e.g. word processor or spreadsheet to hide the virus code.

A logic bomb is a virus that activates when it detects a certain condition

A worm copies itself repeatedly in memory or on a disk until no memory or disk space remains, which makes the computer stops working

A Trojan horse is a program that hides within or looks like a legitimate program, but executes when a certain condition or action is triggered

A polymorphic virus modifies its program code each time it attaches itself to another program or file, so that even an antivirus utility has difficulty in detecting it.

Type of destruction	symptoms
Massive destruction	Attacks and the formats of disks whereby any program or damage will be unrecoverable
Partial destruction	Erase and modification of a specific portion of disk affecting any files stored in that location
Selective destruction	Erase and modification of specific files or file groups
Random havoc	Randomly changing data or in memory during normal program execution or changing key stroke values or data from other input/ output
Network saturation	Systematically using up memory or space to impede performance or cause the system to crash

Viruses are activated in three basic ways

- Opening an infected file
- Running an infected program
- Starting up the computer with an infected floppy disk

Precautions to prevent virus infection include

- Ensure that the e-mail is from a trusted source before opening or executing any e-mail attachment
- Install an anti virus utility and up date its virus definitions frequently for detecting and removing viruses
- Never start up a computer with a floppy disk in the floppy drive
- Set the security level for macros in an application so that the user can choose whether or not to run potentially unsafe macros

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e) Write protect the recovery disk before using it

f) Back up important files regularly

An anti virus utility is a program that prevents, detects and removes viruses from computer's memory or storage devices

A popular anti virus program is Norton Anti virus

Unauthorized access is the use of a computer or network without permission

A cracker or hacker is someone who tries to access a computer or network illegally.

Unauthorized use of a computer or its data for unapproved or possibly illegal activities

Examples of unauthorized use of computers include

An employee using a company computer to send personal e-mail

Someone gaining access to a bank computer and performing an unauthorized transfer

One way to prevent unauthorized access and unauthorized use of computers is to utilize access controls

An access control is a security measure that defines

- Who can access the computer
- When the users can access the computer
- What actions the users can take while accessing the computer

Access control is normally implemented using a two phase process:

- Identification verifies whether the user is a valid one
- Authentication verifies that the user is really the one he or she claims to be

Four methods of identification and authentication exist, which include

- User names and passwords
- Possessed objects
- Biometric devices
- Call back system
- User names and passwords

A password is a combination of characters associated with a user name that allow a user to access a computer or a net work

A possessed object is any item that a user must carry to gain access to a computer or computer facility

A personal object is any item that a user must carry to gain access to a computer or computer facility

A personal identification number (PIN) is a numeric password, either assigned by a company or selected by a user

A biometric device authenticates a person's identity by verifying personal characteristics e.g. finger prints

It translates a personal characteristic into a digital code that is compared with a digital code stored in the computer

Examples of biometric devices include:

- i. A finger print scanner which captures curves and identifications of a finger print
- ii. a hand geometry system which can measure the shape and size of a person's hand

A call back system connects a user to a computer only after the computer calls the user back at a previously established telephone number to initiate the call back system

- a. The user calls the computer and then enter the correct user name and password
- b. The computer instructs the user to hang up and then calls the user back

Hardware theft is the act of stealing computer equipment

The act of defacing or destroying computer equipment is known as hardware vandalism.

- a. Use physical access controls, such as locked doors and windows
- b. Use cables to lock the equipment to desk, cabinet or floor
- c. Install alarm systems for additional security
- d. Never leave a note book computer or hand held computer unattended in a public place
- e. Use passwords, possessed objects and biometrics as a method of security
- f. Back up all the files stored on the computer regularly

Software theft

Two common forms of software theft are

- a. Physically stealing media e.g. floppy disk or CD-ROM that contains software
- b. software piracy which is the most common form of software theft

Information theft refers to someone steals personal or confidential information from others

Reasons for information theft include

- c. a company wants to learn about a competitor
- d. an individual steals credit card numbers to make fraudulent purchases

Preventions for information theft include

- a. Implement access control to computers and networks
- b. Use encryption techniques

Information privacy refers to the right of individuals or organizations to deny or restrict the collection and use of information about them

A system failure is a prolonged malfunction of a computer that can also cause hardware, software, data or information loss

- a. Aging hardware
- b. Natural disaster e.g. fire, floods, storms or earth quakes

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c. Electrical power variation

Electrical power variations can cause loss of data or equipment.

A single power disturbance can damage multiple systems in a computer network

Files should be backed up regularly to prevent against data loss caused by a system failure

A backup is a duplicate of a file, program or disk that can be used if the original is lost, damaged or destroyed

END

FINAL PAPER 2007

SECTION A (20 MARKS)

1. The scientific milestone of using integrated circuit (IC) was a characteristic of the:
 - A. First generation
 - B. Second generation
 - C. Third generation
 - D. Fourth generation
2. What major invention defined the second generation of computers
 - A. Magnetic cores
 - B. Machine language
 - C. Micro processor
 - D. Transistors
3. A device that interprets and executes the instructions in the computer and also called the brain of the computer is the:
 - A. System unit
 - B. Base unit
 - C. CPU
 - D. ALU
4. In which computer classification is a mainframe computer categorized?
 - A. Process
 - B. Size
 - C. Processor power
 - D. Purpose
5. Which of these factors does not affect internet speeds?
 - A. Band width
 - B. Type of media
 - C. Traffic
 - D. World wide web
6. Which one of the following is a set of impact printers?
 - A. Ink jet printers

- B. Bubble jet printers
 - C. Line printers
 - D. Thermal printers
7. One way of protecting the information on a computer is.....
- A. Defragmenting the disk
 - B. Formatting the disk
 - C. Sorting the data on the disk
 - D. Backing up the data onto different media
8. Computer programs used in tasks such as removal of viruses or data compression can be categorized as.....
- A. Word processors
 - B. Desktop publishing
 - C. Utility programs
 - D. Communication programs
9. Which one of the following is not a word processor?
- A. Microsoft word
 - B. Word wrap
 - C. Word perfect
 - D. Lotus word pro
10. The contents of an entire text file can be referred to as a ...
- A. Document
 - B. Word processor
 - C. Paragraph
 - D. Page
11. A mega byte is equivalent to.....kilobytes
- A. 1024
 - B. 1048576
 - C. 11534336
 - D. 104857600
12.are programs
- A. Word processors
 - B. Databases
 - C. Spreadsheets
 - D. Presentation
13. this networking protocol does not relay information out of a LAN
- A. HTTP
 - B. TCP/IP
 - C. TELNET
 - D. NETBEUI
14.is a local area network of computers whose users use web pages and transmission protocols to communicate with each other on the network
- A. Intranet

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- B. Extranet
 - C. Client server
 - D. Internet
15. The basic use of a primary key in a database is to
- A. uniquely identifies a record
 - B. act as an alternative identifier
 - C. sort records
 - D. modify a file structure
16. In.....software, a field is the entire column that contains similar data
- A. word processor
 - B. Database
 - C. Spreadsheet
 - D. Presentation
17. The primary purpose of presentation software is to.....
- A. creates awareness, documents, letters and reports
 - B. design, create and edit slides for overheads
 - C. creates and edits graphics
 - D. creates news letters, brochures and booklets
18. The process of comparing data entered in a data base with a set of predefined rules or values to check if the data is acceptable is known as
- A. Browsing
 - B. Validating
 - C. Sorting
 - D. Querying
19. Rights enforceable by the law accorded to a developer of software is called
- A. Copy right
 - B. Patent right
 - C. Trade secret right
 - D. Trade mark
20. The future generation of computers will be characterized by advanced robotics, computer vision based mobile robots and
- A. low processing systems
 - B. expensive computer systems
 - C. expert systems
 - D. mechanical systems

ANSWERS SECTION A

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

SECTION B (60 MARKS)

21. a) State any three advantages of dot matrix printers over jet printers.

Advantages

- They can withstand dusty environment, vibrations and extreme temperatures
- They can print on continuous paper or multi part documents
- They are the only printers which can use stencils
- They can print on a triplicate document because of the striking mechanism
- They are relatively cheaper compared to other printers

Disadvantages

- They are generally noisy because of the striking mechanism
- They give relatively poor quality print
- They are not readily available on the market
- They are not easily serviced because they are based on old technology
- Their colour print is limited to two (black and white)

b) Identify any three advantages of display devices such as monitors over printers.

Advantages

- They are generally quiet
- No need of paper
- Output can be modified or changed easily
- Scrolling enables focus on a particular or part of document
- Transmission to another device is faster e.g. on a LAN
- The display devices are the user's workplace, there making it easier to use
- The time taken to display the images is fast
- Screen displays can include text, graphics and colours

c) (i)Distinguish between primary and secondary storage devices.

Primary storage refers to temporary storage of information the computer is currently working on

OR

Primary storage can refer to basic storage when used to refer to RAM and ROM

WHILE

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Secondary storage is permanent storage of information for future retrieval or refers to backup storage facilities supplementing RAM

(ii) Give an example of each type of storage in c above.

Primary: RAM

Secondary: hard disk, floppy disk, CD ROM, flash disk, zip disk

(ii) Identify one disadvantage of a hard disk over a floppy disk.

Disadvantages

- Hard disks are not portable (except removable hard disks which are usually more expensive)
- Data becomes less secure if left on the hard disk
- Head crash may occur due to extreme shock or contaminants
- Since hard disks are metallic they expand and contract depending on changes in temperatures this may cause data loss. This is one of the factors that led to air conditioning of computer rooms
- Disks may fail due to violent shaking (vibrations)
- Disks are affected by magnetic fields since their storage media is made of the same material
- Hard disks are susceptible to virus attacks

d) State the device that should be acquired along with a computer to help a user save work when electricity is switched off.

UPS (UNINTERRUPTED POWER SUPPLY)

22 a (i) What do you understand by terms below in reference to word processing?

Formatting

Is making changes to the appearance of the document

Editing

Is making changes to an existing document

Saving

Is transferring of information / data in memory to secondary storage e.g. floppy, hard disk, tapes etc

(ii) Give two advantages of hard copy over a softcopy

Advantages

- It can not be easily changed without a computer
- It can be read offline mainly without a computer
- It is cheaper compared to softcopy which requires computer devices to be able to read the information/ data
- Hard copies last longer if stored in a safe place compared to soft copy which must be all the time changed with the technological developments taking place
- Hard copies are universal as both the rich and poor readers read them

b) Identify four advantages of using a word processing software instead of ordinary typewriter.

Advantages

- Easy and fast to make changes to a document
- Documents can be previewed before printing
- Documents can be saved for future use
- Convenient to create form letters and mailing labels
- Possible to create a new document from an existing one
- They offer additional features like
 - Word wrap
 - Find and replace
 - Spelling checker
 - Grammar checker
 - Automatic page numbering
 - Multi columns
 - Clip art gallery
 - Mathematical formulae type setting
 - Templates
 - Printing one, any page, whole documents and many documents

d) Name the labeled bars of word processing screen below.

X- Menu bar

Y- Scroll bar

Z- Status bar

23. The worksheet below shows company bills in dollars paid for months of July August and September

	A	B	C	D	E	F
1		July	Aug	Sept	Total(\$)	Average ()
2	Rent	72	72	106	250	83.33
3	Electricity	24	0	66	90	30.00
4	Telephone	96	00	114	300	100.00
5	Stationary	48	38	64	150	50.00
6	Total	240	200	350	790	

a) Write down the formulas to calculate

(i) Totals for the months of July, August & September.

Rent @ or = SUM(B2:D2) OR =B2 +C2 + D2

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Electricity @ or = SUM(B3:D3) OR =B3 +C3 + D3

Telephone @ or = SUM(B4:D4) OR =B4 +C4 + D4

Stationary @ or = SUM(B5:D5) OR =B5 +C5 + D5

(ii)Averages for the months of July, August and September

Rent @ or = AVERAGE(B2:D2) OR = AVG (B2 +C2 + D2)

Electricity @ or = AVERAGE(B3:D3) OR =AVG(B3 +C3 + D3)

Telephone @ or = AVERAGE(B4:D4) OR =AVG (B4 +C4 + D4)

Stationary @ or = AVERAGE(B5:D5) OR =AVG (B5 +C5 + D5)

(b)It was error to enter (0) in cell C3. State the cells in which the values would change automatically when the correct amount is put.

C6, E3, F3

C List the values in the rangeB3:D4 in the above table.

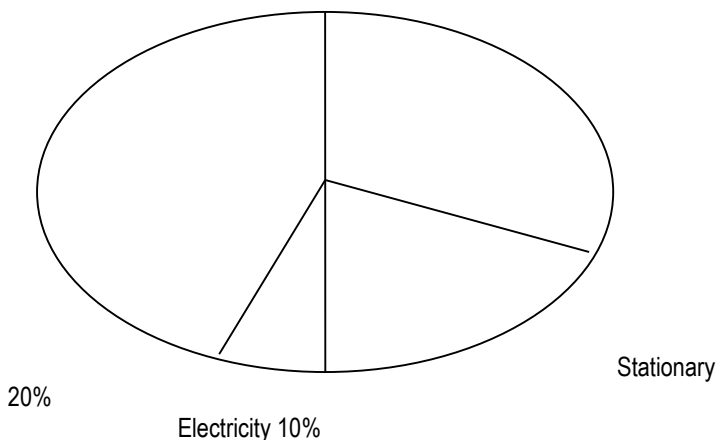
24, 0, 66

96, 90 and 114

(d) Shade on the worksheet above the cells that must be used to create the pie chart below.

Telephone 40%

Rent 30%



	A	B	C	D	E	F
1	July		Aug	Sept	Total(\$)	Average ()
2	Rent	72	72	106	250	83.33
3	Electricity	24	0	66	90	30.00
4	Telephone	96	00	114	300	100.00
5	Stationary	48	38	64	150	50.00

6	Total	240	200	350	790	
---	-------	-----	-----	-----	-----	--

24 i) Explain the following terms

(i)Hyperlink

Is an object in a web page that you can click to jump to another page or links within web documents that can take you to almost any resource on the net

(ii)Web browser (Give examples)

A **web browser** is a software application for retrieving, presenting, and traversing information resources on the World Wide Web.

A web browser can also be defined as an application software or program designed to enable users to access, retrieve and view web pages.

Examples

- Internet Explorer,
- Firefox
- Google Chrome
- Safari
- Opera.

(iii)Web master

A **webmaster** (from web and master), also called a **website administrator** is a person responsible for maintaining one or many websites.

The duties of the webmaster may include ensuring that the web servers, hardware and software are operating accurately, designing the website, generating and revising web pages, replying to user comments, and examining traffic through the site. Webmasters "must also be well-versed in Web transaction software, payment-processing software, and security software

(iv)Website

A **website**, also written **Web site**, **web site**, or simply **site**, is a collection of related web pages containing images, videos or other digital assets.

A website is hosted on at least one web server, accessible via a network such as the Internet or a private local area network through an Internet address known as a Uniform Resource Locator. All publicly accessible websites collectively constitute the World Wide Web.

(b) i Write URL in full and state its use

Uniform Resource Locator

URLs are used to 'locate' resources, by providing an abstract identification of the resource location. Having located a resource, a system may perform a variety of operations on the resource, as might be characterized by such words as 'access', 'update',

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'replace', 'find attributes'. In general, only the 'access' method needs to be specified for any URL scheme.

(C)What is an ISP in full in relation to Internet

Internet Service Provider

(iii) State the use of an ISP.

An **Internet service provider (ISP)** is a company that provides access to the Internet.

(iv) State any three factors that should be considered in choosing an ISP.

- Price and billing;
- Performance;
- Help and installation;
- Communication; and
- Security of service

25.a Describe briefly the function of the following views as used in presentation software.

(i) Outline view.

The **Outline View** shows the text of your presentation for easy editing

(ii) Slide sorter view.

Slide Sorter View  lets you see small versions of all the slides you have created. You can delete, copy, and move slides in this view

(iii)Notes page view

Notes Page View allows users to create speaker's notes for a presentation. This view provides a miniature version of the slide and space for creating and editing

Notes View shows a smaller version of a slide with an area below for **notes**. Each slide is created on its own **notes page**. The speaker can print these **pages** out

(b) What is Auto context Wizard in presentation?

The **AutoContent Wizard**, which you can open from the **New Presentation** task pane, is designed to make it easy for you to create your presentation by providing ideas and suggestions for presentation type, delivery format, and slide options

C (i) what is a slide show as used in present ion.

Slide Show  lets you see your presentation electronically as it will appear to an audience

(ii) Explain the following terms as used in a slide show.

Transitional effect.

Transitions determine the effects applied when you move from one slide to another during an on-screen presentation

Timing

Is the setting of PowerPoint presentation slides to **advance at specified intervals** of time

26 a (i) What is a Data base Mgt system (D B M S)

A Database Management **System (DBMS)** is a. software package designed to store and. manage databases

(ii) Give any three examples of (i) above.

- My SQL
- Postgre SQL
- Microsoft Access
- SQL Server
- FileMaker
- Oracle
- RDBMS
- Dbase
- Clipper
- FoxPro

(b Various DBMS use different data types, specify any five data types used in DBMS.

- Text
- Memo
- Number
- Date/time
- Currency
- Auto number
- Yes/No
- OLE objects
- Hyperlink
- Lookup wizard

(C) State any five disadvantages of using Data base Mgt systems instead of manual databases.

Advantages

- Reduced data redundancy
- Reduced updating errors and increased consistency
- Greater data integrity and independence from applications programs
- Improved data access to users through use of host and query languages
- Improved data security

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Reduced data entry, storage, and retrieval costs
Facilitated development of new applications program

Disadvantages

Database systems are complex, difficult, and time-consuming to design
Substantial hardware and software start-up costs
Damage to database affects virtually all applications programs
Extensive conversion costs in moving from a file-based system to a database system
Initial training required for all programmers and users

SECTION C (20 MARKS)

27. Describe the various categories of computer application software available today.

Application software, also known as an **application** or an **"app"**, is computer software designed to help the user to perform specific tasks.

Examples include;

1. Word processors.
2. Spread sheets
3. Data management software.
4. Desk top publishing software.
5. Communication software
6. Graphics software.
7. Draw programs.

Integrated package: a suite of applications programs with their associated data and documentation. Typically, it is usually much cheaper to buy an integrated package than individual applications programs, it is easier to copy data from one application in a suite to another (eg import a table of data or a chart from a spreadsheet into a word-processing document) and the user interface is similar for the programs in the suite.

- **Word-processor:** allows you to create, edit, store and print a range of different text documents; from letters and faxes to books and essays.
- **Spreadsheet:** enables you to use formulas to perform a large number of calculations on data stored in cells arranged in rows and columns. You can investigate a mathematical problem, create a budget plan to forecast how much you can save in a year or model the results of a science experiment and draw a chart of your results.
- **Database management :** uses forms to store data in tables made up of records and fields. The data can be searched using queries in order to find out useful information. It can be used to create anything from an address book to a complex application that produces end of year reports.

- **Graphics program:** can be used to create posters, perform image processing in order to improve or alter photographs or create original artwork.
- **DTP software:** Desk Top Publishing software allows you to manipulate text and graphics in frames on a page in order to create magazines, brochures and other complex documents.
- **Presentation Software:** allows you to create a slideshow to illustrate a talk, or a presentation for other people to investigate as a kiosk application.
- **Communications software:** could include a web browser or email client software as well as other programs that allow you to communicate with

28. Reasonably predict the future in computing from the perspective of the past and the present
developments in technology and use of computers

- Cloud computing and emerging IT platforms: Vision, hype, and reality for delivering computing as the 5th utility
- Over dependency on the internet e.g. shopping
- Computer tools becoming more user friendly
- Increase use of hybrid and neuron logic systems
- Computer use and programming are expected to be more and purely interactive or conversational
- More invasion of privacy of individuals
- Unemployment as more and more skilled people get retrenched and their roles taken over by more efficient IT experts
- Increased crime through IT related forgeries, piracy, internet, scams, plagiarism
- Continued isolation of man and erosion of the socio aspect of work
- Moral problems through access of pornographic materials or networked computers
- Increased instability in man being all the time insecure for her future and is compelled to learn new things every now and then
- Isolation of old people being hard for them to cope with the many IT changes
- The widening gap between the rich and the poor as the rich can now produce faster using IT technology e.g. robots and flood the markets
- IT related health problems e.g. eye sight, repetitive strain injury etc
- Computer addiction by young people e.g playing games and over surfing
- Virus threats making data storage on computers very insecure
- Installation and maintenance costs

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- The impact of data replication on job scheduling performance in the Data Grid
- Seamless live migration of virtual machines over the MAN/WAN

29. Describe the merits and demerits of using internet.

Advantages

Communication:

The foremost target of internet has always been the communication. And internet has excelled beyond the expectations. Still, innovations are going on to make it faster, more reliable. By the advent of computer's Internet, our earth has reduced and has attained the form of a global village.

Now we can communicate in a fraction of second with a person who is sitting in the other part of the world. Today for better communication, we can avail the facilities of e-mail; we can chat for hours with our loved ones. There are plenty messenger services in offering. With help of such services, it has become very easy to establish a kind of global friendship where you can share your thoughts, can explore other cultures of different ethnicity.

Information

Information is probably the biggest advantage internet is offering. The Internet is a virtual treasure trove of information. Any kind of information on any topic under the sun is available on the Internet. The search engines like Google, yahoo is at your service on the Internet. You can almost find any type of data on almost any kind of subject that you are looking for. There is a huge amount of information available on the internet for just about every subject known to man, ranging from government law and services, trade fairs and conferences, market information, new ideas and technical support, the list is end less. Students and children are among the top users who surf the Internet for research. Today, it is almost required that students should use the Internet for research for the purpose of gathering resources. Teachers have started giving assignments that require research on the Internet. Almost every coming day, researches on medical issues become much easier to locate. Numerous web sites available on the net are offering loads of information for people to research diseases and talk to doctors online at sites such as, America's Doctor. During 1998 over 20 million people reported going online to retrieve health information.

Access Information: The Internet is a virtual treasure trove of information.

Any kind of information on any topic under the sun is available on the Internet. The 'search engines' on the Internet can help you to find data on

any subject that you need

Entertainment

Entertainment is another popular *raison d'être* why many people prefer to surf the Internet. In fact, media of internet has become quite successful in trapping multifaceted entertainment factor. Downloading games, visiting chat rooms or just surfing the Web are some of the uses people have discovered. There are numerous games that may be downloaded from the Internet for free. The industry of online gaming has tasted dramatic and phenomenal attention by game lovers. Chat rooms are popular because users can meet new and interesting people. In fact, the Internet has been successfully used by people to find life long partners. When people surf the Web, there are numerous things that can be found. Music, hobbies, news and more can be found and shared on the Internet.

Services

Many services are now provided on the internet such as online banking, job seeking, purchasing tickets for your favorite movies, guidance services on array of topics engulfing the every aspect of life, and hotel reservations. Often these services are not available off-line and can cost you more.

E-Commerce

Ecommerce is the concept used for any type of commercial maneuvering, or business deals that involves the transfer of information across the globe via Internet. It has become a phenomenon associated with any kind of shopping, almost anything. You name it and Ecommerce with its giant tentacles engulfing every single product and service will make you available at your door steps. It has got a real amazing and wide range of products from household needs, technology to entertainment.

Shopping: Along with getting information on the Internet, you can also shop online. There are many online stores and sites that can be used to look for products as well as buy them using your credit card. You do not need to leave your house and can do all your shopping from the convenience of your home

E-mail: E-mail is an online correspondence system. With e-mail you can send and receive instant electronic messages, which works like writing letters. Your messages are delivered instantly to people anywhere in the world, unlike traditional mail that takes a lot of time.

Online Chat: There are many 'chat rooms' on the web that can be accessed to meet new people, make new friends, as well as to stay in touch with old friends.

Downloading Software: This is one of the most happening and fun things to do via the Internet. You can download innumerable, games, music,

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videos, movies, and a host of other entertainment software from the Internet, most of which are free.

Disadvantages

Theft of Personal information

If you use the Internet, you may be facing grave danger as your personal information such as name, address, credit card number etc. can be accessed by other culprits to make your problems worse.

Spamming:

Spamming refers to sending unwanted e-mails in bulk, which provide no purpose and needlessly obstruct the entire system. Such illegal activities can be very frustrating for you, and so instead of just ignoring it, you should make an effort to try and stop these activities so that using the Internet can become that much safer.

Virus threat

Virus is nothing but a program which disrupts the normal functioning of your computer systems. Computers attached to internet are more prone to virus attacks and they can end up into crashing your whole hard disk, causing you considerable headache.

Pornography:

This is perhaps the biggest threat related to your children's healthy mental life. A very serious issue concerning the Internet. There are thousands of pornographic sites on the Internet that can be easily found and can be a detrimental factor to letting children use the Internet. Though, internet can also create havoc, destruction and its misuse can be very fatal, the advantages of it outweigh its disadvantages.

FINAL PAPER 2009

NB: You can find the UNEB 2009 Computer Studies Question Paper in the official UNEB question bank which can be bought from UNEB. Below is just a draft answer guide:

DRAFT OF MARKING SCHEME FOR COMPUTER STUDIES 840/1 2009

SECTION A:

1	A	6	D	11	D	16	D
2	C	7	B	12	B	17	A
3	B	8	D	13	A	18	A
4	A	9	C	14	A*	19	B

5	C	10	B	15	C	20	C
---	---	----	---	----	---	----	---

SECTION B:

21. (a) Describe the following terms below:

(i) Line spacing

Line spacing - refers to the vertical distance between lines of text. The default line spacing is single spacing. This type accommodates the characters in a text leaving a small extra space between lines.

Character spacing on the other hand refers to the space between the characters in the text.

(02 marks)

(ii) Changing Case

Is when you type a text, there are a number of cases the user may intend to apply in order to create contrast within the text. These are:

(1.) **Sentence case**: All the first characters in a sentence are in uppercase (capitalized)

(2.) **Lowercase**: All characters appear in lowercase.

(3.) **Uppercase**: All characters appear in uppercase.

(4.) **Title case**: All the first characters of each word in a sentence appear in uppercase.

(5.) **Toggle case**: It changes upper case to lowercases and vice versa,

(02 marks)

(b) Explain the following terms in presentation software:

Transitional looping – Is a facility which sets up the presentation to run continuously until it is stopped by the presenter. Got through slide show – setup show – then loop continuously until Esc. under show options. (02 marks)

Slide Master – This is a single slide that controls all other slides in a given presentation. Any changes made to it affects the rest, respectively. (02 marks)

Slide Layout – This is the given design of a slide showing divisions/areas or sections of a slide where work can be done. E.g. title only and blank slide layouts. (02 marks)

22.(a) State any **two** functions of a central processing unit (CPU)

The **central processing unit (CPU)** is the electronic device that interprets/decodes, and carries out the instructions that tell the computer how to work.

Processing data

Fetching and sending of commands and instructions

Performs arithmetic and logic operations

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Temporary Storage/holding of data, instructions and results during processing. (02 marks)

(b) Define the following memory storage terms:

(i) Bit

o **Bit:** In binary system, each 0 or 1 is called a bit, which is short for binary digit. (I.e. a bit is the smallest unit of measurement of information).

(01 mark)

(ii) Byte

o **Byte:** A group of 8 bits is called a **byte**, and a byte represents one character, digit, or unique shape, according to ABCDIC coding system.

(01 mark)

(c) State **two** categories of computer memory giving an example in each case:

Primary memory

Memory unit that stores the program that is being executed holds data that the program is using and storage of OS programs that manage the computer.

(01 mark)

Examples:

RAM - Dynamic RAM, Rambus DRAM, Synchronous DRAM, Static RAM

Registers

ROM

(Any 01 x 01=01 mark)

Secondary memory

Relatively long-term and non-volatile storage outside the CPU and primary storage.

(01 mark)

Examples:

HARD DISC

Floppy disks • CD-ROM

Magnetic tapes

Digital video disks

Etc.

(Any 01 x 01=01 mark)

(d) Describe the major difference between the **two** categories of computer memory in (c).

Primary storage		Secondary storage	
1	Data can be processed from directly from storage	1	Data cannot be processed directly but must be moved into main memory

2	Located within CPU	2	Located outside the CPU
3	More expensive	3	Less expensive
4	Lower capacity	4	Higher capacity
5	Faster access time	5	Slow access time
6.	Volatile	6.	Non volatile

(Any 02 x 01 = 2 marks)

23. (a) Describe a 'relative address'.

Relative address is a cell reference which change accordingly as the formula is pasted to other cells in spread sheets. (e.g., in the formulae =B1*\$C\$1, B1 is a relative cell reference).

(02 marks)

(b) Give four advantages of electronic spreadsheets over manual spreadsheets

Advantages of spreadsheet software over manual worksheet include;
Easy to make changes and corrections (ease of edit and format) to data on the worksheet.

Electronic spreadsheets can perform mathematical, statistical, and financial calculations quickly and accurately. The primary use of a spreadsheet is to calculate formulas, such as 200+350, that are entered into its cells.

The rest of the worksheet is recalculated whenever data on a worksheet changes.

Operation is fast with the help of built-in functions and macros.

Calculation is always accurate, provided that data and formulae entered are correct.

Easy to create different kinds of charts, or to change chart types. ie they offer different options of data presentation.

Information on charts is updated automatically whenever related data on the different worksheet changes.

They are very useful for applications that require filtering, sorting, modeling and what-if analysis. **(Any 04 x 01 = 4 marks)**

(c) A teacher keeps a class list containing the following data for each student: Name,

Student index number, Text scores.

State the data type for each of these fields:

	Field name	Data type
1	Name	Text

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2	Student index number	Text
3	Test scores	number

(03x 01 = 03 marks)

Primary key field for the record is;

Student index number

(01 mark)

24.(a) What is a microprocessor?

Very large-scale integrated circuit technology that integrates the computer memory, logic and control circuits on a single chip.

A microprocessor usually contains the control unit, the arithmetic and logic unit, registers, and system clock.

On a personal computer, the CPU is usually contained on a single chip and is often called a **microprocessor**. **(Any 01x02=02 marks)**

(b) Difference between a digital computer and an analog computer.

Digital computers are so classified because they process data that is represented in form of discrete values, (Discrete values are numbers that can be defined like 1, 2, 3, etc). Digital watches are an example.

(01 mark)

	Computer	Examples
1	Digital	Digital watch
2	Digital	Digital calculator

(Any 01 x 01 = 01 mark for analog)

Analog computers process data in a continuous form or measurable quantities/ units e.g. thickness of steel plates. From strength of electricity currents. They can only be measured by comparing them to other specific units. Their uses are normally restricted to scientific work and to engineering functions.

(01 mark for analog)

Examples of analog computers;

1	analog	Voltmeter
2	analog	Speedometer

(Any 01 x 01 = 01 mark for analog)

(c) What electronic technology characterized each of the generation of computers?

	Generation	Technology
1	First	Vacuum tubes, valves, diodes

2	Second	Transistor
3	Third	Integrated circuits
4	Fourth	Very large integrated circuits

(Any 04 x 1 = 04 marks)

25. (a) Explain the following terms:

(i) Off-the-shelf software:

Packaged software is commercial software, which is copyrighted and designed to meet the needs of a wide variety of users. **(01 mark).**

Examples of off-the-shelf software:

MS-Office suite.

Computer games e.g. chess, cross word puzzle, etc.

Education software e.g. Encarta,

(Any 01 x 1 = 1mark)

Custom software is tailor-made software, which is developed at a user's request to perform specific functions. **(01 mark)**

(iii) Example of Custom software:

Locally made school management systems(SMS), • Inventory management systems.

Payroll management systems

Library management system

(Any 01 x 1 = 1mark)

(b) (i) What is a utility program?

Utility programs are part of system software used to support, enhance or expand existing programs in a computer system and make it more and more user friendly. **(02 marks)**

(ii) Functions of utility programs

Reduction and compression of files a through file compression utilities.

Compilation of technical information about a computer's hardware and certain system software programs and then prepares a report outlining any identified problems through diagnostic utilities.

A **disk scanner** is a utility that detects and corrects both physical and logical problems on a hard disk or floppy disk, and searches for and removes unwanted files.

A **disk defragmenter** is a utility that reorganizes the files and unused space on a computer's hard disk so data can be accessed more quickly and programs can run faster. When the contents of a file are scattered across two or more noncontiguous sectors, the file is **fragmented**.

An **uninstaller** is a utility that removes an application, as well as any associated entries in the system files

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A **backup utility** allows a user to copy, or backup, selected files or the entire hard disk onto another disk or tape.

Data recovery utility – recovers accidentally deleted files from your computer.

An **antivirus utility** is a program that prevents, detects, and removes viruses from a computer's memory or storage devices. One popular antivirus program is **Norton Antivirus**.

A **screen saver** is a utility that causes the monitor's screen to display a moving image or blank screen if no keyboard or mouse activity occurs for a specified time period.

Screen savers originally were developed to prevent a problem called **ghosting**, in which images could be permanently etched on a monitor's screen.

Screen savers can also be used for reasons of security, business, or entertainment.

(Any 04 x 1 = 04 marks)

26.(a) (i) Distinguish between Internet and World Wide Web.

The **Internet** is a worldwide collection of networks linked together.

The Internet is the largest wide area network in the world.

The **World Wide Web (WWW)**, also called the **Web**, consists of a worldwide collection of electronic documents.

Each of these documents on the Web is called a **Web page**.

(02 marks)

(ii) Mention any two services offered by the Internet.

People have different reasons for connecting to the Internet, which include:

Assess a wealth of information, such as news, weather reports, and airline schedules.

Shop for goods and services.

Use online banking services and manage investments.

Do research and take online training courses.

Download files, listen to music, and watch movies.

Send and receive messages to and from other connected users.

Communicate with others around the world.

Access sources of entertainment and leisure, such as online games, magazines, and vacation planning guides. **(Any 02 x 1 = 2 marks)**

(b) Define the following terms

(i) Band width

The width of the communications channel is called the **bandwidth**.

The higher the bandwidth, the more data and information the channel can transmit.

Bandwidth: - is the difference between the highest and lowest frequencies
– that is, the range of frequencies.

The rate of speed of data through the channel is expressed in bits per second (bps).

(01 mark)

(iv) Packet switching

Packet switching is a technique for dividing electronic messages into packets for transmission over a network to their destination through the most expedient route. **(01 mark)**

(c) Name four basic items that are required to gain access to the Internet

(i) Register with an ISP (Internet service provider) (ii) Network Interface Card (NIC).

Transmission medium (cables or wireless)

Network operating system (NOS)

Browser software. E.g. Internet explorer or Mozilla Fire fox. **(Any 04 x 1 = 4 marks)**

SECTION C:

27. A computer system comprises of hardware, software, users, data, procedures and communication. Describe the importance of each component.

Computer system

A computer system consists of interrelated organs or parts which function together for the same goal.

i) Hardware

iv) Procedures

ii) Software

v) User

iii) Data/information

vi) Communication

Hardware devices are the physical and tangible of a computer.

Hardware comprises the electronic and the electromechanical parts of the computer.

(01 mark) Examples;

Monitor, keyboard, mouse, system unit. Etc **(Any 01 x 1 = 01 mark)**

Hardware – is important because it carries out the
in putting,
processing,
storage,
out putting

Communications of the system.

(Any 02 x 1 = 02 marks)

- **Software** is a term for electronic instructions that tell the computer how to perform a task.

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These are a series of programs (instructions) that tell the computer what and how to work.

(Any 01 x 1 mark)

Examples

System software –

Operating systems - Windows XP, Vista, Windows 95

Programming languages – C+, Java Script, SQL

Utilities – ANTIVIRUS software, disk defrag mentors, data recovery.

Application software;

Off the shelf (packed software) – MSOffice suite

Custom (tailor made) – school management system SMS

(Any 01 x 1 = 01 mark)

- These are a series of programs (instructions) that tell the computer what and how to work.

System software manages the computer resources • Application software solves the needs of the end user.

The made the computer more user friendly case for utilities

Production of other programs (programming)

(Any 02 x 1 = 02 marks)

Data consists of raw facts and figures that are processed into information.

Data consists consist of basic facts and figures that are processed into information.

(Any 01 x 1 = 01 mark)

Data
letters (e.g., a, b, c, ...)
words and symbols
numbers
examination scores
musical notes
Names e.g. Moses

(Any 01 x 1 = 1 mark)

Data is the foundation for information.

(02 marks)

Information is summarized data or otherwise manipulated (processed) data.

Is manipulated/ processed data.

(01 mark)

Examples

Information
words (e.g., apple, boy, cat)
a report, a letter, an essay
a mathematical formula
comments, grades
A piece of music, a song

(Any 01 x 1 = 1 mark)

Importance

These are the basis of decision making.

Planning

Analysis

Forecast

Discovering the past, present and future.

(Any 02 x 1 = 02 marks)

User – the most important component of a computer system – used to design and develop computer systems, operate the computer hardware, create the software, and establish procedures for carrying out tasks.

Ordinary user - is someone without much technical knowledge of computers but uses computers to produce information for professional or personal tasks, enhance learning, or have fun.

A **computer professional** user -is a person in a profession involving computers who has had formal education in the technical aspects of computers; an example is:

(Any 01 x 1 = 1 mark)

Examples of users.

Computer programmer

System analyst

System administrator

Database administrator

Network administrator.

(Any 01 x 1 = 1 mark)

Importance of users – • Data entry

manipulating the computer system

programming the computer

administering the network

analyzing the computer system

(Any 02 x 1 = 02 marks)

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- **Communications hardware** facilitates connection between computers and computer systems over phone lines and other channels.

This is the linking of one device of a computer to another.

(Any 01 x 1 = 1 mark)

Examples are:

Modems

Cable

Computer

fax modems

routers

gateways

(Any 01 x 1 = 1 mark)

Importance of communications

Linking up computer devices and computers

Enabling the flow of data

Enabling the flow of information

Enabling the flow of instructions

Networking of computers

(Any 02 x 1 = 02 marks)

28. "The Internet is a harmful tool to man". What is your opinion?

Positive aspects of internet:

Personal/business connectivity – through E-mail, chatting, video conferencing, websites, etc

News updates through online news groups and news rooms.

Secure online data storage.

Internet based education and research e.g. online training, publications, .

Tool for entertainment and leisure through online games, music and video clips, visiting of electronic zoos, etc.

Promotion of business through internet based trade and commerce (Ebusiness and E-commerce). **Business-to-consumer (B2C)** e-commerce

consists of the sale of goods to the general public. **Consumer-to-consumer (C2C)** e-commerce occurs when one consumer sells directly to another, such as in an online **auction**. **Business-to business (B2B)** e-commerce consists of businesses providing goods and services to other businesses.

Promotion of medicine and health through online medication and health care.

Promotion of banking and finance through online banking.

Widened business investment opportunities and job opportunities through;
IPS's, internet service kiosks (café), online jobs, etc.

Etc

(Any 05 x 2 = 10 marks)

Negative aspects of internet:

Very high cost implications for initial capital outlay and maintenance costs.

Display of illicit/dangerous (pornographic) materials on grounds of health and materials.

Promotion of crime through Hacking, Piracy, and Money laundering.

Internet as a source of viruses through e-mail attachments, free games, etc.

Addiction where people waste a lot of time.

Loss of man-hours as employees waste company time on unproductive surfing.

Etc

(Any 05 x 2 = 10 marks)

29. Ways in which computers can be used in business and industry in Uganda include;

Computers in Business:

Document production and processing.

Data storage.

Data and information communication amongst departments and outsiders using E-mail and chat rooms.

Decision making and planning through decision support systems and management information systems.

Financial management through financial management systems/programs.

Stock and inventory management.

Security management for business and manufacturing installations through computer guided cameras.

Quality assurance and control.

Selling and buying of goods and services through networked computers (online buying and selling of products).

Banking services through online computers.

Etc

Computers use for industry specifically:

Computer aided design in manufacturing firms.

Computer aided manufacture through robotics. A **robot** is a computercontrolled device that can move and react to feedback from the outside world.

Data sensing and logging i.e. for mg't of temperatures in certain manufacturing areas

Clocking for employee man-hours through card reading computer systems.

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Accident arresting through smoke, fire, poisonous gasses emissions
detecting computer installations.
(Any 10 x 2 = 20 marks)

FINAL PAPER 2010

NB: You can find the UNEB 2010 Computer Studies Question Paper in the official UNEB question bank which can be bought from UNEB. Below is just a draft answer guide:

SECTION A

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

SECTION B

Qn. 21. Solutions

- (a) Characteristics of a computer;
- **Speed:** i.e. Computer operations are in millions or thousands of calculations per second.
 - **Accuracy:** i.e. Computers are thorough once the right instructions and data are entered.
 - **Storage:** i.e. Computer can store huge volumes of data without losing it through their storage devices like hard disks, flash disks, CDs, etc.
 - **Versatility:** i.e. Computers can handle many various tasks at the same time or one at a time. Capable of multitasking.
 - **Diligence/consistency:** i.e. Computers can execute tasks repetitively.
 - **Automation:** i.e. Computers work with minimal or no human intervention.
- (Any 3 x 2 = 6 marks)

(b) Examples of personal computers

- Hand held PCs; PDA like Palm VII, Sinclair 2481, TRS – 80, etc.
- Portable PCs like; Small laptops, Osborne I, Outran PCs, etc.
- Business PCs like; Apple Lisa, TRS-8011, DRC-300, etc.
- Professional PCs like; TRS-8011, HP 85/6, etc • Consumer PCs like; ATTARI 1400, TI – 99/41, etc.

(Any 2 x 1 = 2 marks)

(c) Uses of computers in the area of entertainment:

- Audio and video clips
- Playing computer games

- Chatting in cases of networked computers. (Any 2 x 1 = 2 marks)

Qn. 22. Solutions

(a) **Explanation of the following terms:**

- (i) **Character map:** Is a group of symbols not found on the keyboard. (1 mark)
- (ii) **Formatting:** Changing the appearance/parameters of a text or document. (2 mark)
- (iii) **Footer:** Is any text which is placed in the bottom margin of a page. (1 mark)
- (iv) **Page break:** A parameter that controls the number of lines to a page after which additional text will be placed onto the next page. (2 mark)

(b) **Uses of word processors in business include;** ⇒ Production of reports and business proposals.
 ⇒ Making of adverts and posters (a case for word and clip art application).
 ⇒ Production of business cards.
 ⇒ Form letters and mailing label
 ⇒ Publications
 ⇒ Payroll where tables can be used for simple calculations.
 ⇒ In built templates for curriculum vitae. (Any 4 x 1 = 4 marks)

23 (a) Ms Excel Super Calc Coral Quattro pro
 Lotus 1-2-3 Visi calc MultiMate

Any 2 x 1 = 2 marks

(b) (i) **F2 and H2** 2 mark

(ii) = or @ or + SUM (G3:G11) or =
 (G3+G4+G5+G6+G7+G8+G9+G10+G11) or
 = (G3, G4, G5, G6, G7, G8, G9, G10, G11) (01 mk)

(iii) = AVERAGE (B4:F4) or =(B4+C4+D4+E4+F4)/5 or
 = (B4, C4, D4, E4, F4)/5 (01 mk)

(iv) = MAX (G3:G11) or =MAX (H3:H11) (02 mks)

(v) = MIN (G3:G11) or =MIN (H3:H11) (02 mks)

24 (a) (i) **A browser** is a communication software that allows a user to access and view web pages on the internet while **E- mail software**

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enables a user to create, send, receive, forward, store and print email messages. (02 marks)

(ii) Examples of **browser**

- Ms internet explorer
- Netscape navigator
- Mozilla fire fox
- Google chrome
- Conqueror

Any 2 x1 = 02

marks)

Examples of **E- mail software**

- Ms outlook express
- Eudora light
- Web mail

Any 2 x1 = 02 marks)

(b) (i) **Search engine** refers to software program that can used to locate websites, pages and files on the internet. Or program that enables one to search for resources on the web (internet).

(01 mark)

(ii) **Multimedia** refers to using computers to integrate text, graphics animation, audio and video into pone application.

(c) Examples of webpage authorizing software. (01 mark)

- Micro media dream weaver
- Nets cape composer
- Front page
- Adobe go live

Ms Publisher 2007.

Any 2 (02 marks)

25 (a) (i) **BIOS** Basic Input and Out put System

(01 mark)

(ii) **CMOS** Complementary Metal- Oxide Semi conductor

(01 mark)

(iii)

ALU Arithmetic and Logic Unit

(01 mark)

(iv) **ICT** Information and Communication Technology

(01 mark)

(b) Function of the following

(i) **ROM- BIOS** Keeps the computer's basic start up information **OR**
Contains the sequence of instructions the computer follows to load the operating systems and other files when computer is turned **ON (01 mark)**

(ii) **CMOS** Used to store configuration information about computer.
(01 mark)

(c) (i) Term **Cache** refers to a high speed memory that a CPU can access quickly.
(02 marks)

(ii) **Buffer** is necessary to provide a **temporary** storage so that the **CPU** is set free to carry out other activities instead of waiting for all data to be entered or information to be output.

(02 mks)

26 (a) **Software suite** refers to a collection of individual application software

Sold as a single package e.g. ms office **(02 marks)**

(b) (i) features of **desktop publishing software**

- it includes color libraries
- supports color separation
- supports page lay out
- combines word processor and graphics to produce high documents. Any

2 **(02 marks)**

(ii) **Video conferencing** refers to the technology in which people in different geographical locations can exchange text, sound and video clips over a computer net work in real time as if they are in the same location.

(02 marks)

(c) Use of the following features

(i) **Radio button** – this a type of graphical user inter face element used to select or choose only one of a predefined set of options

(02 marks) (ii) Check box - this is graphical user interface used to select several

choices from the available options .

(02 marks)

Qn. 27. Solutions

Positive effects of using computers to society

- Created and widened employment opportunities e.g.; software engineers, computer teachers, technicians, etc.
- Improved education and research by simplifying teaching and learning.
E.g. abstract content can be made real through cyber science technology

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- others are computer aided teaching and computer aided learning, presentations software, etc.
- Improved entertainment and leisure through computer games, music, etc for people to refresh and make-up.
- Improved communication and collaboration through computer networks.
- Improved health services where computers facilitate recording, monitoring, and diagnosis for patients.
- Improved security through computer managed gates and monitoring of commercial and domestic premises, detecting and controlling crime by police.
- Reduced production time and manufacturing processes through computer aided manufacturing and computer aided designing which have greatly improved the quantity and quality of life.
- Improved customer services delivery and care eg networked computers provide 24/7 on-line services like credit cards
- Improved business and investment opportunities.
 - Improved data and document production, storage and manipulation.

(Any 5 x 2 = 10 marks)

Negative effects of using computers to society

- Computer related crime e.g. forgeries, computer based illegal funds transfers, etc
- Moral degeneration through morally dangerous clips, messages, etc
- Increased cost of production as computers are very expensive to buy and maintain. Computer experts can as well be expensive to hire.
- They are both health and environmental hazards e.g. can cause eye defects, and their disposal after use has got a lot of environmental concerns.
- Loss of employment as they take over job assignments for semi and less skilled job functions.
- Deaths and accidents due to computer malfunctioning or explosion.
- Virus threats which has made data storage and safety very vulnerable.
- Erosion of human integrity and creativity as even the smallest calculation is assigned to the computer. Other cases are GMFs, test tube children, etc.
- Loss of man-hours as some workers go for unproductive computer based leisure at the expense of their work.
- Cyber terrorism

(Any 5 x 2 = 10 marks)

A 28. Hardware devices for information processing

1. Input device

An Input device is any hardware component that allows a user to enter data and instructions into a computer.

Keyboard

A keyboard is an input device tat contains keys that allow a user to enter data and instructions into a computer.

Or

A keyboard is an input device tat contains keys which initiate programmed routines.

Mouse

A mouse is a pointing device that allows the entering of data and instructions by controlling a pointer on the screen which the user has to move on a smooth flat surface.

Trackball

A trackball is a stationary pointing device with a ball mechanism on its top.

Joystick

A joystick is a pointing device with a vertical lever mounted on a base to control the position of the cursor.

Light pen

A light pen is a handheld pen like pointing device that has a light sensitive point to select options on the screen.

Touch screen

A touch screen is an input device that permits the entering or selecting of commands and data by touching the surface of a sensitized video display device with a finger or a pointer.

Touch pad

A touch pad is a small flat rectangular pointing device that is sensitive to pressure and motion.

digital camera

A digital camera is an input device tha takes pictutre and store the images digitally rather than traditional films which image can then be transferred to the computer using a specialized cable or wireledd technology.

Scanner

A scanner is a light sensing input device that converts printed text and graphics into digital form for computer use.

Others include:

Optical character recognition reader

Optical maek recognition reader

Barcode reader

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Magnetic ink character recognition reader

Magnetic strip reader Sensors

Microphone

Microphone is an input device that allows a user to input voice or sound to a computer.

MIDI

MIDI short for musical instrument digital interface is an input device that defines how sounds are represented electronically by digital musical devices and connected to the sound card of the computer.

Digitizer

A Digitizer is an input device with a graphic tablet on which the user writes with a pen like device called a stylus.

A **terminal** is nay device that sends data and instructions to a computer.

2. Processing Hardware

This is a hardware component used to manipulate symbols, number and letters and controls the other parts of the computer system.

Alphanumeric logic unit (ALU)

Alphanumeric logic unit (ALU) is the hardware which performs the computers principal logical and arithmetic operations or calculations and logical operations.

Control unit (CU)

The control unit (CU) is the part of the processor which manages the other parts of the computer system.

Register

Register is the part which holds one piece of data and instruction one a time during processing by the CPU.

3. Output hardware

An output hardware is any device used to display or remove information from a computer to a user.

A monitor is an output device that provides a visual image of both the users input and computer output.

Or

A monitor or a VDU display information on its screen thus helping the user to monitor operations carried out by the computer.

Printer

A printer is an output device that produces text and graphics on a physical medium such as a paper.

Speaker

A speaker is an audio output device that produces sound signals.

Data projector

A data projector is an output device that takes the image that displays on the computer screen and projects it on a larger screen so that people can see the image clearly.

Facsimile machine

A Facsimile machine (Fax) is a device that transmits and receives documents over a telephone line and print it out on paper.

Other include:

Plotter
Terminal

4. Storage hardware

A storage hardware is any device designed to retain data and instructions in a relatively temporary or permanent form.

Primary memory

Random Access Memory(RAM) is where data and instructions are stored temporarily during processing.

Read Only Memory(ROM) is where programs are stored permanently.

Secondary storage

Floppy disk(Diskette) is a thin flexible device with magnetic coating enclosed in a square shaped plastic shell.

A zip disk is like a floppy disk but can store up to 100MB of data.

A compact disk (CD-ROM) is a flat portable storage media that is usually 4.5"(inches) in diameter used to store information using microscopic pits and lands that are in the middle layer of the disk.

Hard disk is a storage device composed of several inflexible circular disks called platters.

Magnetic tapes are magnetically coated ribbons of plastic cable of storing large amounts of data and information.

Flash disk is a storage device that operates as a plug and play device which is removable and connected using a USB port and usually have fast access to to data stored in large amounts.

Other include: Memory card, Jazz disk, Magnetic strip cards(ATM), plastic card Sim card

Sub-Total

=5marks x4

Total =20marks

A.29 (a) Advantages of Networking over stand alone computers

- Facilitate communications e.g. through electronic-mail, chatting in chat rooms
- Reducing on cost by sharing hardware like printers and software.
- It allows for tight control over who has access to what data.

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- It allows sharing of data and information stored on other computers on the network.
- It enables online learning and collaborative research
- It allows access to free common databases and databanks like free software, as in banks like ATM.
- It allows for advertising tools for products and services
- It allows access to more entertainment, leisure, clubs e.g. e-zoos.
- Has enabled improved travel service through e-books and e-reservation.
- News updates can be got on climate, weather, politics, and sports.
- Provides for online employment e.g. telecommuting.

Any 8x1=

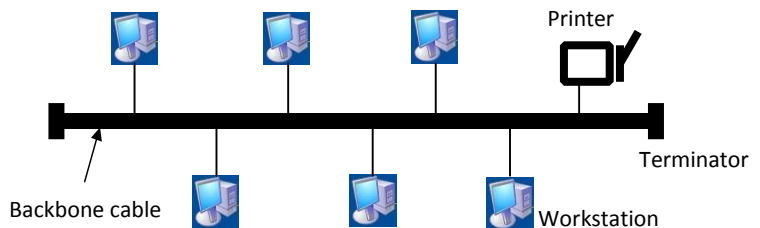
8marks

(b) Various illustrations of LAN topologies

Bus or linear topology

This is a LAN topology which consists of a single central cable that connects all computers and devices together.

Diagram to illustrate a bus or linear topology



Mention =1 marks
(labeled)

Explanation =1 mark

Diagram =1marks

Subtotal

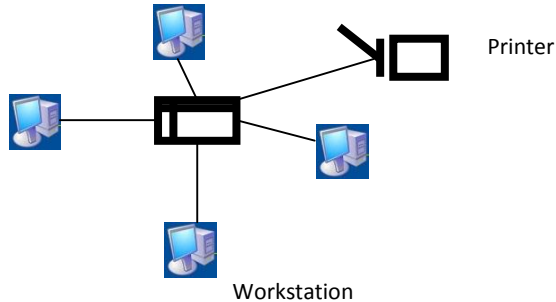
=3 marks

Star topology

A star topology is a LAN topology in which all the computers and devices are connected to a central computer thereby forming a star. **Or**

A star network topology is a network configuration where all communication to workstations on a network go through a common hub or switch.

Diagram to illustrate a Star topology



**Mention =1 marks
(labeled)**

Explanation =1 mark

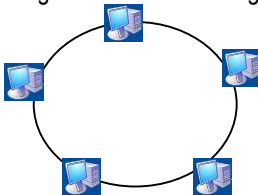
Diagram =1marks

Subtotal =3 marks

Ring topology

A ring topology is LAN topology which consists of a cable forming a closed ring or loop with all the computers and devices in a network.

Diagram to illustrate a ring topology



Workstation

Mention =1 marks

Explanation =1 mark

Diagram

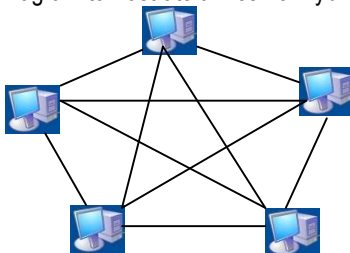
=1marks (labeled)

Subtotal =3 marks

Mesh or hybrid

A mesh or hybrid LAN topology is a network topology which combines the bus, star and ring network to form big network.

Diagram to illustrate a mesh or hybrid topology



Workstation

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Mention =1 marks Explanation =1 mark Diagram =1marks(labeled)

Subtotal =3 marks)

Total =20 marks

FINAL PAPER 2011

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DRAFT MARKING GUIDE

840/1 UCE 2011

SECTION A

1.B	6.C	11.A	16.D
2.A	7.C	12.B	17.D
3.A	8.C	13.C	18.C
4.B	9. "None" or Definition of bus (Data transmission Pathway.)	14.A	19.A
5.D	10.D	15.C	20.B

SECTION B

21 (A) Characteristics of the 3rd generation

- Integrated circuits
- Introduction of Operating systems e.g Multics
- Simple programming languages e.g Basic
- Low cost compared to 1st and 2nd generation computers
- Increased user friendliness.
- Parallel processing.
- Small size in size as compared to 1st and 2nd generation computers.
- Consumption of low electric power as compared to 1st and 2nd generation computers.
- Increased memory compared to 1st and 2nd generation computers.
- Introduction of mini computers.
- Generation of less heat compared to 1st and 2nd generation computers.
- Introduction of networking.

Any 3 X 1 = 03 marks

(b) (i) Hacking - Gaining illegal (unauthorized) access into computer installations. **02 marks**

(ii) Computer crime -

Any illegal actions involving the use of computers or against computers.

02 marks

(c) Preventing computer crime

- Physical security e.g bugler proofing, locked key system, security guards, CCTV Cameras.
- Encryption
- Passwords and usernames.
- Recovery plans/back ups
- Bio-metric devices e.g thumb print readers.
- Networks especially wireless networking and server – based networks.
- Call back systems
- Possessed objects – Items carried to enable the user gain access to the system e.g a card.
- Anti virus installation.
- Activating firewalls.

Any 3 X 1 = 03 marks

22. (a) (i) Word wrap. – A feature that automatically moves the cursor, or word/text that doesn't fit in the space left towards the right margin to another line. **02 marks**

(ii) Word processor applications.

- Ms Word
- Lotus Word processor
- Corel Word perfect
- Word star
- WordPad
- Abi word
- Mac write
- Ami pro
- Magic wand etc

Any 2X1 = 02 marks

b) (i)

Illustration

	A	B	C	D	E
1		House 1	House 2	House 3	House 4
2	Junior s				
3	Middle				
4	Senior s				

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5	Totals	=SUM(B2:B4)	=SUM(C2:C4)	=SUM(D2:D4)	=SUM(E2:E4)
---	--------	-------------	-------------	-------------	-------------

Or

	A	B	C	D	E
1		Juniors	Middle	Seniors	Totals
2	House 1				=SUM(B2:D2)
3	House 2				=SUM(B3:D3)
4	House 3				=SUM(B4:D4)
5	House 4				=SUM(B5:D5)

Explanation 02 marks

Spreadsheet 02 marks

(ii) By summing up all house scores in their respective teams.

Or Any other appropriate formular. e.g =SUM(B2:B4), =SUM(B2:D2) , =B2+B3+B4, =B2+C2+D2

02 marks

TOTAL 10 marks

23 (a)

(i) Backspace Key - To delete a character or space to the left of the cursor position.

Or Ctrl+ Backspace key removes the whole word to the left of the cursor. **1 mark**

(ii) Caps Lock Key - To facilitate continuous typing in upper case when activated. **01 mark**

(iii) Delete Key - To remove the character, space, text or word to the right of the cursor position. Ctrl+Del removes the whole word to the right of the cursor position. **01 mark**

(iv) Space bar - To create space .

- Alignment

- Moving the cursor to the next line.

- Pausing music in some music programmes e.g Power DVD,

- Playing games e.g in pinball

- Resizing or closing the current window with a modifier key e.g Ctrl Key +Space bar

- Helps in scrolling in some web browsers when used with Shift Key.

(v) Shift Key - Activates second function of different keys.

- Activates sticky keys

- Selects files and folders in specific order

- Modifies function Keys e.g Shift + F1 = F13 and Shift + F2=F14.
- Anchors the insertion pointer in word processors
- Used in modifying the mouse behavior while using a web browser.

b) (i) Booting Refers to the process of loading an operating system into a computers main memory to make a computer ready for use.

01 mark

(ii) Cold booting – Cold booting refers to turning on a computer after it has been off by loading the operating system.

02 marks

Warm booting - Resetting the computer when the Operating System is already running by using reset button or ctrl + Alt + Del.

02 marks

TOTAL = 10 marks

24. (A) (i) Web page. - It's a document that uses http on the website covering a particular topic/related topics.

01 mark

(ii) Website – A collection of related web pages. Or world wide web pages maintained by an organization or an individual.

01 mark

b) (i) IP Address - It uniquely identifies each computer/device connected to the network using the internet protocol.

02 marks

(ii) ISP - Internet Service Provider functions:

- A company which gives connectivity to the internet.
- Electronic mail services
- Leasing server space for small businesses.
- Web hosting services.
- Provision of virtual machines e.g storage space etc

Any 1X2 =02 marks

c) (i) Considerations when choosing a network topology.

- Cost of installation
- Number of computers and other devices
- Architecture of the building to be used.
- Purpose of the network.
- Distance of connectivity
- Safety provisions of the network
- Personnel provisions/technicalities involved
- Ease in accessing the network.

Any 2 X 1 = 02 marks

(ii) Advantages of star topology.

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- Breakdown of an individual station does not affect other computers on the network.
 - It is simple to install and maintain if compared to other topologies like mesh and tree.
 - There is less noise (electronic)
- Any 1**

X1 = 01 mark

Disadvantages of star topology.

- Breakdown of the central compute or hub leads to breakdown of the whole network.
- Leads to a "spaghetti" of cables for a large network since each workstation has two cables to and from the hub.

Any 1X1 = 01 mark

TOTAL =10 MARKS

25. a) Factors to consider when designing a database.

- Number of tables needed
- Number of fields and field names
- Unique identifiers on fields with unique values.
- Relationships between tables if any
- Practicability of the database.

Any 2

X 1 = 02 marks

b) Field - is a name given to a particular/specific piece of data/information about a record.

01 mark

c)(i) L4323 **01 mark**

(ii) - Air conditioner **01 mark**

- Garden **01 mark**

(iii) Text **01 mark**

(iv) Two validation checks.

- Data type check
- Number of characters (Length of sentence)
- Presence check/primary key
- Consistency Check/pattern matching
- Validation rule/range validation rule

Any 2X1 = 02 marks

(v) Reference number

01 mark

TOTAL =10 MARKS

26. a) System software – Programs that start up the computer and manage the general functioning of the system devices and activities.

02 marks

Application software – Computer programs designed to satisfy specific needs of the user. E.g excel, database, word etc.

02 marks

b) Functions of operating system

- Provides basic working environment/interface.
- Controlling the use of peripherals.
- Controlling the loading and running of application programs.
- Organizing the use of memory/Memory management
- Booting
- File management
- Protecting hardware and software
- Configuring devices
- Processor management e.g multitasking and time sharing.

Any 2X1 = 02 marks

(c)(i) A computer virus This is a program which attaches itself to the system and alters the normal functioning of a computer. **02 Marks**

(ii) Examples of anti viruses

- Norton Antivirus
- Panda Antivirus
- Avast Antivirus
- MacAfee Antivirus
- AVG Antivirus
- Eset-Nod 32 Antivirus
- Dr. Solomon's tool kit
- Avira Antivirus
- Kaspersky Antivirus
- Escan Antivirus
- F-secure Antivirus
- Netqin Antivirus

TOTAL=10 marks

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SECTION C

27. (i) Utility programs are part of system software which are designed to configure, analyze, optimize and maintain a computer in its working operations.

02 marks

(ii) Description of Utility programs.

- **Anti-virus** utilities scan for computer viruses and remove them
- **Backup** utilities can make a copy of all information stored on a disk, and restore either the entire disk
- **Data compression** utilities output a smaller file when provided with a stream or file.
- **Disk checkers** can scan the contents of a hard disk to find files or areas that are
- **Disk cleaners** can find files that are unnecessary to computer and can decide to delete.
- **Disk compression** utilities can transparently compress/uncompress the contents of a disk, increasing the capacity of the disk.
- **Disk defragmenters** increase efficiency by moving data to one side of the disk.
- **Disk partitions** can divide an individual drive into multiple logical drives
- **Disk space analyzers** to get the size for each folder/ sub folders & files in folder or drive. showing the distribution of the used space.
- **Disk storage** utilities
- **Archive** utilities output a stream or a single file when provided with a directory or a set of files. Archive utilities, unlike archive suites, usually do not include compression or encryption capabilities.
- **File managers** provide a convenient method of performing routine data management tasks, such as deleting, renaming, cataloging, uncataloging, moving, copying, merging etc.
- **Cryptographic** utilities encrypt and decrypt streams and files.
- **Hex editors** directly modify the text or data of a file.
- **Memory testers** check for memory failures.
- **Network utilities** analyze the computer's network connectivity, configure network settings, check data transfer or log events.
- **Registry cleaners** clean and optimize the Windows registry by removing old registry keys that are no longer in use.
- **Screensavers** were desired to prevent phosphor burn-in on CRT and plasma computer monitors Contemporary screensavers are used primarily for entertainment or security.

- **System monitors** for monitoring resources and performance in a computer system.
- **System profilers** provide detailed information about the software installed and hardware attached to the computer.
- Sorting utility for organizing files in any choose order
- Merging or combining different files in one.
- Diagnostic utility

Any 6 X 3 = 18

Mentioning 01

Explaining 02

TOTAL = 20 marks

28. Areas in which computers can be applied in society.

- Education and training
- Information and data storage
- Business – e-business where computers are networked
- Entertainment and leisure
- Health and medicine for medical tests, drugs and prescription
- Transport
- Communication
- Accounting and finance
- Banking
- Climate and weather
- Security and military
- Manufacturing – Robotics, CAD and CAM
- Hotel and institutional catering
- General management.
- Government uses computers to manage the government payroll
- Space exploration
- Research

29. Functions of word processors.

- Allow text to be edited easily e.g insert, delete and move text anywhere in the current document
- Mailing documents
- Mail merge.
- Graphics creating and handling e.g frames, shapes
- Mathematics formulae especially in tables.
- Creation of tables
- Sharing of documents.
- Comparison
- Word count

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- Creating web pages.
- Creation of foot notes and cross references.
- Creation of letters and document, memos etc
- Helps in saving on a storage device
- Helps in formatting and designing of simple office publications.

PREMOCK 2011

SECTION A (20 MARKS)

1. Which of the following is not an example of computer input?
A. OCR.
B. MICR.
C. OMR.
D. LCD.
2. The text you type using a computer is directly stored in
A. A word processor like Microsoft word
B. Local disk C.
C. A file.
D. RAM.
3. If the computer monitor does not come on when pressing the power button, it is quite possible that...
A. The keyboard is not connected.
B. The computer is not connected to a UPS.
C. A virus has deleted some of the files.
D. There are some loose or disconnected plugs.
4. is an example of a Boolean data type
A. 10001001.
B. \$ 200.
C. 26/Apr/2010.
D. On/Off.
5. Which of the following is a database file?
A. Talinamugongo.doc
B. Studentsdata.xls
C. MicrosoftAccess.ppt
D. InvitationLetter.mdb
6. As Juliet was typing a report using MS Word, the power suddenly went off and luckily enough she had a UPS installed. What will be her most appropriate action to do now?
A. Turn the lights on.
B. Turn the power switch off.

- C. Save the document.
 - D. Wait for the power to be back on.
7. To move a block of selected text to a new position, one must use...
- A. New position icon on the toolbar.
 - B. Paste special.
 - C. Cut and Paste.
 - D. Copy and Paste.
8. An example of a mixed cell reference in a spreadsheet is ...
- A. A1.
 - B. 2\$B.
 - C. \$A1.
 - D. \$B\$2.
9. The decimal form of 10001001 binary is
- A. 7.
 - B. 128.
 - C. 137.
 - D. 10001001.
10. The tracks on a disk are made of...
- A. Cylinders.
 - B. FATs.
 - C. Sectors.
 - D. Grooves.
11. To display Help on computer you would press:
- A. F5 key
 - B. F1 key
 - C. Ctrl+H key combination
 - D. The help icon on the standard toolbar
12. Which of the following word processing features enable a word that does not fit on the current line to automatically move to the next line of text entry?
- A. Carriage Return
 - B. Word wrap.
 - C. Auto Best Fit
 - D. Pressing the Enter key
13. Which of the following is **not** a computer system specification?
- A. RAM.
 - B. Cost.
 - C. Processor speed.
 - D. Hard disk capacity.
14. How many binary digits are in the word **X-MAS** ?
- A. 32.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- B. 40.
 - C. 4.
 - D. 5.
15. Which of the following **best** describes a folder on a computer?
- A. A yellow icon/graphic on the desktop
 - B. A directory where files may be kept.
 - C. A graphical user interface tool where files saved
 - D. An enclosure that is created to safe guard documents from being deleted.
16. What is an operating system?
- A. A software which provides an interface between hardware and user, and is responsible for the management and coordination of all computer system activities.
 - B. A software for the computer system
 - C. A formation of people operating the computer system
 - D. A huge complex computer system software
17. What happens when the "**Print Screen**" key on the keyboard is pressed?
- A. The image seen on the screen will be copied to the clipboard to be pasted later.
 - B. Whatever is on the screen will be printed.
 - C. The document seen on the screen will be printed.
 - D. What You See on the screen Is What You Get when printed.
18. One advantage of a LAN is to...
- A. Enable sharing of resources such as printers.
 - B. Enable the sharing of power source.
 - C. Help in forming a link between users.
 - D. Increase processor speed of standalone computers.
19. Which of these is a device which coverts analog signals to digital signals, and vice versa?
- A. Modem.
 - B. Scanner.
 - C. Signal Converter.
 - D. Internet – phone line digital device.
20. "Two thousand Uganda shillings" is entered in **Cell B2**. What is the entry in **Cell B2** known as?
- A. A label.
 - B. A value
 - C. A formula.
 - D. Currency.

TABLE FOR SECTION A ANSWERS

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

SECTION B (60 MARKS)

Answer all questions in this section. All the working must be done in the spaces provided.

21. The database below contains data about items that have been ordered from various suppliers

SUPPLIER	CODE	DELIVERY DATE	PRICE
AD12	2146	28/09/07	¥44.99
CO35	3724	30/09/07	¥249.50
MO18	5613	05/10/07	¥8.15
LO47	5613	11/10/07	¥102.15
PO29	7215	17/10/07	¥127.75
RO16	4639	19/10/07	¥22.89

- (a) State the data types of the fields in the given table.

(04 marks)

- (i) SUPPLIER*Text*..... [01 MARK]
 (ii) CODE*Number*..... [01 MARK]
 (iii) DELIVERY DATE*Date/Time*..... [01 MARK]
 (iv) PRICE*Currency*..... [01 MARK]

- (b) The following search condition is input

(CODE = 5613) AND (PRICE <100).

Write down the output using only the SUPPLIER field.

(01 mark)

.....*MO18*..... [01 MARK]

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(c) Write down a search condition that will search for all items with a price more than ₦50 that will be delivered in October.

(2 marks)

- (PRICE > 50) AND (DELIVERY DATE = Between #1/10/07# And #31/10/07#)
- (PRICE > 50) AND (DELIVERY DATE >=#1/10/07#)
- (PRICE > 50) AND (DELIVERY DATE >=#1/10/07# And <=#31/10/07#)
- (PRICE > 50) AND (DELIVERY DATE =Like "***10/**")

[ANY 1 x 2 = 02 MARKS]

(d) (i) What is a **primary key**?

(02 marks)

- A primary key refers to **one or more fields** whose value(s) uniquely identify each **record** in a table.
- A primary key is a column or combination of columns whose values uniquely identify a row in a database table. The primary key(s) have a unique value for each record or row in the table.

[ANY 1 x 2 = 02 MARKS]

(ii) Which field in the above database can act as a **primary key**?

(01 mark)

- SUPPLIER field. [01 MARK]

22. a) (i) What is a **browser**?

(2 marks)

- A browser is a computer application software for displaying WebPages.
- A computer a program used to view HTML documents
- A program used to view, download, upload, surf or otherwise access documents (pages) on the World Wide Web.

[ANY 2 x 1 = 02 MARKS]

(ii) Give **two** examples of browsers.

(2 marks)

- ¶ Mozilla Firefox,
- Internet Explorer,
- Safari,
- Opera,
- Google Chrome,
- Netscape Navigator
- Konqueror.
- Etc.

¶[ANY 2 x 1 = 02 MARKS]

(b) Mention **three** advantages of using email as a means of communication
(3 marks)

- **Easy to use.** Emails applications have user friendly tools that help during composing messages.
- Email supports sending of **attachments** like documents, zipped files, e.t.c
- It is very **fast in terms of speed**: The e-mail is delivered instantly, anywhere across the globe.
- Easy to **prioritize**: Since the mails have subject lines, it is easy to prioritize them and ignore unwanted mails.
- Email messages can be sent to **many recipients** at the same time
- Emails can also carry **hyperlinks** that lead to other webpages with just a click
- One can **subscribe** to news and other online services through email
- Email software have **management features** that help users to organize their messages in folders like inbox, sent, draft, etc.
- Easier for **reference**: When one needs to reply to a mail, there is a provision in the mailing system to attach the previous mails as references. This refreshes the recipient's knowledge, on what he is reading.
- **Environment friendly**: Postal mails use paper as a medium to send letters. Electronic mail thus, saves a lot of trees from being axed. It also saves fuel needed in transportation.
- Email software have **address book features** that may be sorted in alphabetical order.
- Email software has a good degree of **security features** such as username and password before sign in
- Email applications have inbuilt English dictionary which safeguards the sender from incorrect **spelling and grammar**.
- Email is a relatively **cheap** means of communication since there are no printing or postage expenses involved.
- There is **flexibility** in time of opening the e-mail for any time access. At any time of the day or night, one can communicate with friends, relatives, professors and business associates.
- Messages remain **permanent** for future and frequent accessing from anywhere.
- Use of **graphics** such as colorful greeting cards and interesting pictures can be sent through e-mails.
- **Advertising** tool: many individuals and companies are using e-mails to advertise their products, services, etc.

[ANY 3 x 1 = 03 MARKS]

- (c) Outline **three** limitations of using Email as means of communication.
(3 marks)

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- Emails can carry **Viruses**: The recipient needs to scan the mails, as viruses are transmitted through them and have the potential to harm computer systems.
- **Spam** and Junk: E-mails when used to send unsolicited messages and unwanted advertisements create nuisance called Spam. Checking and deleting these unwanted mails can unnecessarily consume a lot of time, and it has become necessary to block or filter the unwanted e-mails by means of spam filters.
- E-mail **spoofing** is another common practice. Spoofing involves deceiving the recipient by altering the e-mail headers or the addresses from which the mail is sent.
- **Hacking and email interception**: The act of unauthorized attempts to bypass the security mechanisms of an information system or network is termed as hacking. After the e-mail is sent and before it is received by the desired recipient, it "bounces" between servers located in different parts of the world. Hence, the e-mail can be intercepted by a professional hacker.
- **Misinterpretation**: One has to be careful while posting any kind of content through an e-mail. If typed in a hurry, the matter could be misinterpreted.
- Since the content posted via e-mails is **considered informal**, there is a chance of business documents going unnoticed. Thus, urgent transactions and especially those requiring signatures are not managed through e-mails.
- **Crowded inbox**: Over a period of time, the e-mail inbox may get crowded with mails. It becomes difficult for the user to manage such a huge chunk of mails.
- Need to **check the inbox regularly**: In order to be updated, one has to check his e-mail account regularly, which may be expensive in the long run.
- Email **cannot be used without computers** especially in remote areas without electricity
- In case one **forgets his/her password**, signing in is not possible and this can lead to loss of information.
- Email may violate privacy in case someone else **gets to know your user password** since the other may check your mails.

[ANY 3 x 1 = 03 MARKS]

23. a) What is a **computer network**?
(2 marks)

- Two or more computers that are connected together to share resources such as hardware, data, and software.
- A collection of computers and devices connected by communications channels that facilitates communications among users and allows users to share resources.

[ANY 1x 2 = 02 MARKS]

b) Mention **three** network types you know.

(3 marks)

- A **Local Area Network (LAN)** is a network that connects computers and devices in a limited geographical area such as home, school, computer laboratory, office building
- A **Personal Area Network (PAN)** is a computer network used for communication among computer and different information technological devices close to one person. Some examples of devices that are used in a PAN are personal computers, printers, fax machines, telephones, PDAs, scanners,
- A **Wide Area Network (WAN)** is a computer network that covers a large geographic area such as a city, country
- A **Metropolitan Area Network (MAN)** is a large computer network that usually spans a city or a large campus.
- **The Internet** is a global system of interconnected computer networks.
- **Client/Server Network** - A client/server network has one or more computers acting as a server while the other computers (i.e., clients) on the network can request services from the server.
- **Peer to peer** - individual computer connect to each other directly, without need for a central point of management. Each has the same capabilities and any can initiate a communication session.

[ANY 3x 1 = 03 MARKS]

c) List any **two** network media.

(2 marks)

- Unshielded Twisted Pair (UTP) cable
- Shielded Twisted Pair (STP) cable
- Coaxial cable
- Fiber-optic cable
- Wireless Media

[ANY 2x 1 = 02 MARKS]

d) Write the following in full:

(3 marks)

IRC..... Internet Relay Chat**[01 MARK]**

FTP..... File Transfer Protocol **[01 MARK]**

NIC..... Network Interface Card **[01 MARK]**

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24. (a) Mention any **three** characteristics of computer software. (03 marks)

- *Computer software is intangible*
- *Computer software gives instructions/procedures to computers*
- *Computer software is copyrighted*
- *Computer software can be installed*
- *Computer software is executable*
- *Loads into Memory when running*
- *All software has a source Code written by a programming Language.*

[ANY 3x 1 = 03 MARKS]

(b) Define '**system software**'.

(01 marks)

- *System software refers to programs that control the operations of a computer its self and all its devices.*
- *System software is computer software designed to operate the computer hardware and to provide maintain a platform for running application software.*

[ANY 1 x 1 = 01 MARKS]

(c) Name the **three** categories of system software giving an example in each case. (06 marks)

(i) Operating systems **[01 MARK]**

Example:

- DOS,
- Windows,
- Linux,
- Unix,
- Vista
- etc

(ii) Utility programs – **[01 MARK]**

Example:

- *Antivirus utility – Prevents, detects and removes viruses.*
- *Uninstaller utility removes programs.*
- *Folder management utility - creating, viewing, deleting and rearranging files and folders*
- *Compression utility - reduces the size of files to free disk space*
- *Disk Defragmenter – Recognises the files and unused space on a hard disk so that data more quickly.*
- *Backup utility – allows a user to copy, or backup files from one disk/storage device to another.*

- *Diagnostic utility* – Compiles technical computer information & helps outline any identified problems.
- *Screen saver utility* – causes the monitor's screen to display a graphic automatically after a period when no input device is in use, for entertainment, security or business.

[ANY 1 x 1 = 01 MARKS]

(iii) Programming languages (System development software) **[01 MARK]**

Example:

- BASIC,
- FORTRAN,
- COBOL,
- Java,
- C,
- C++,
- Visual Basic
- Etc.

• **[ANY 1 x 1 = 01 MARKS]**

25. (a) Describe the computer terms as used in presentation software:
(08 marks)

(i) Transition looping

- *Is a facility which sets up the presentation to run continuously until it is stopped by the presenter. In Ms. PowerPoint 2003, Go to slide show → setup show → then loop continuously until Esc.* **[02 MARKS]**

(i) Slide Master

- *Slide Master – This is a single slide that controls all other slides in a given presentation. Any changes made to it affect the rest, respectively.* **[02 MARKS]**

(ii) Action Button

- *An action button is a graphic button in a presentation with hyperlinks to other slides, documents, media, programs internet addresses etc.* **[02 MARKS]**

(iii) Thumbnail

- *A thumbnail is the term used to describe a minute version of a slide or picture.*
- *A graphic that gives you the impression of a slide or page.* **[ANY 1x 02 MARKS]**

(b) Apart from Microsoft PowerPoint, State any two other Presentation software application programs you know. (02 marks)

- OpenOffice Impress,
- ShowLogic,

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- KPresenter,
- Screencast,
- Adobe Persuasion,
- AppleWorks,

[ANY 2 x 1 = 02 MARKS]

26. (a) What is a computer?

(02 marks)

- A computer is an electronic device that accepts user input (data), processes it under special instructions (programs), to produce the desired meaningful output (information).
- A computer is a programmable machine that receives input, stores and manipulates data, and provides output in a useful format.

[ANY 1 x 2 = 02 MARKS]

(b) Mention five areas where computers can be used/applied in our society today. (05 marks)

- **Education**, e.g. Use of Interactive whiteboards and projectors during teaching.
- **Research**, e.g. searching different literature on the World Wide Web.
- **Business**, e.g. new jobs like Programmers, web designers, ICT teachers.
- **Health**, e.g. Diagnosis such as Heart rate, blood pressure, etc. is aided by Computer Expert systems
- **Communication**, e.g. use of E-mails to send and receive Messages worldwide.
- **Military/security**, e.g. monitoring security through computerized camera systems.
- **At home**. E.g. for using Internet, for accomplishing school/work assignments and Managing household finances.
- **Entertainment / leisure** e.g. Computer games, chats, etc.

[ANY 5 x 1 = 05 MARKS]

c) Mention any **three** measures that should be taken to ensure safety of computers. (03 marks)

- Always switch on and off the computer in correct order.
- Keep the Laboratory free of dust.
- Avoid making hardware connections when the computer is on.
- Don't bring food and water near the computers to avoid accidental rusting and corrosion
- Computers should be regularly serviced.
- Avoid high temperatures and direct sunlight.
- Use power stabilizers or UPSs to ensure steady power.

- *Handle delicate devices with care.*
- *Don't bring magnetic devices near computers.*
- *Good aeration and ventilation in computer laboratory.*
- *Use updated antivirus to guard against viruses and malware.*
- *Avoid dropping and hardware to the ground as this could cause any of the delicate components to break or be damaged.*
- *A computer room should have fire extinguishers of carbon dioxide but not water or powder to protect against fires.*
- *Cables should be placed properly, preferably along walls, avoiding danger of exposing the use to electric shock and displacement.*
- *Good Security and Burglar proofing to avoid unauthorized access to computer room and theft.*
- *Standard furniture: The table on which a computer is placed must be strong and wide enough to bear the weight and accommodate all the peripheral devices.*

[ANY 3 x 1 = 03 MARKS]

SECTION C (20 MARKS)

*Attempt only **ONE** question in this section. Answers to the question **must** be written on the extra sheet of paper provided.*

27. a) Explain any **five** features of a spreadsheet application.
(10 marks)

- **Insert text:** Allows you to insert text anywhere in the spreadsheet.
- **Delete text:** Allows you to erase characters, words, charts, or worksheets as easily as you can cross them out on paper.
- **Cut and Paste:** Allows you to remove (cut) a section of text from one place in a spreadsheet and insert (paste) it somewhere else.
- **Copy:** Allows you to duplicate a section of text.
- **Page layout:** Allows you to define various page sizes and margins.
- **Search and Replace:** Allows you to direct the spreadsheet to search for a particular word or phrase. You can also direct the spreadsheet application to replace one group of characters with another everywhere that the first group appears.
- **Headers, Footers, & Page Numbering:** Allows you to specify customized headers and footers that the spreadsheet file will put at the top and bottom of every worksheet. The spreadsheet automatically keeps track of page numbers so that the correct number appears on each page.
- **Merges:** Allows you to merge text from one file into another file. This is particularly useful for generating many files that have the same format but different data.
- **Spell Checker:** A utility that allows you to check the spelling of words in a spreadsheet file.

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- Print: Allows you to send a spreadsheet file to a printer to get a hardcopy or many hardcopies as you would like.
- Thesaurus: A built-in thesaurus that allows you to search for synonyms (words with similar meaning) and antonyms ('opposites') without leaving the word processor.
- Graphics: The spreadsheet application permits the addition of various types of graphics, such as bar charts, line charts, clip art, and photographs.
- Filter
- Wrap Text, etc.

[ANY 5 x 2 = 10 MARKS]

- b) Briefly explain **five** advantages of using Microsoft Excel.
- Microsoft Excel can perform mathematical, statistical, and financial calculations quickly and accurately.
 - The rest of the worksheet is recalculated whenever data in one place changes.
 - Microsoft Excel has built-in functions and macros which made work easy.
 - Calculation is always accurate, provided that data and formulae entered are correct.
 - Microsoft Excel offers different options of data presentation such as pie charts, bar graphs, etc.
 - Microsoft Excel is very useful for applications that require modeling and what-if analysis.
 - They easily filter, sort, and arrange data in alphabetical order for better organization.
 - Workbooks can be saved in soft copies that can be easily modified and reused in future.
 - The ability to be able to apply different types of fonts and cell formatting to your spreadsheet
 - The ability to spell check the whole spreadsheet
 - Easy to make changes and corrections (ease of edit and format) to data on the worksheet.

[ANY 5 x 2 = 10 MARKS]

28. Why **should** a school have a website?

(20 marks)

A website is a collection of hyperlinked html documents (web pages) with related information, meant to creating awareness about something on the internet. **[DEFN 2 MARKS]**

Below are the major reasons why a school should have a website:

1. Making of a website **quickens the publishing of information** to the community such as abrupt announcements, circulars, results, etc. Once uploaded, it will be already accessible to the targeted readers
2. Through a website, the school can **get feedbacks** from the community through online user comments and questions.
3. If students are involved in the Website development process, this **enhances skill building** such as writing, editing, layout and design.
4. A school website provides **motivation and pride of ownership**. This can be evidenced through use of customized email. E.g. username@jinjacol.sc.ug instead of username@yahoo.com
5. Information listed on a school website **removes doubt**. Information such as school fees, and everything presented at the site appears in a positive light, as compared to information from other sites about the school which may be false.
6. If a school has a website, they can use the **web mail service** to send parents and other stake holders items such as newsletters, remainders etc.
7. A website **increases ways of contact**. Once you have a website you can list your website address on your business cards, report cards, and even the school signpost.
8. Internet today **is being used 24 / 7** and is accessible from every house. People are becoming highly dependant on the internet. By having a web presence, the market of the school expands your significantly.
9. A school website helps students and parents to make a **wise academic choice** after using the vast quantities of information about a given college or university.

[ANY 8 x 2 = 16 MARKS]

Today everything you need is achieved at the click of a button. If a school has web presence, it can be listed in web search engines and known worldwide.

[CONCLN 2 MARKS]

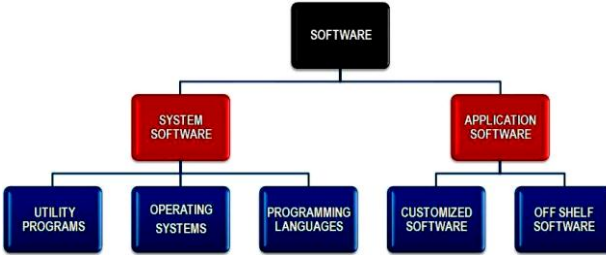
28. a) A computer system comprises of hardware, software, user, data and communication. With **examples**, describe **each** of the components.

(20 marks)

Hardware [04 Marks]	
Definition (Any 01 x 1 = 01mark)	➤ Hardware devices are the physical and tangible components of a computer. ➤ Hardware comprises the electronic and the electromechanical parts of the computer.

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Categories (Any 02 x 1 = 02 marks)	Input hardware Processing hardware Storage hardware Output hardware Communications hardware
Examples (Any 01 x 1 = 01 mark)	Monitor keyboard, mouse, CPU Printer

Software [04 Marks]	
Definition (Any 01 x 1 = 01mark)	➤ Software is a term for electronic instructions that tell the computer how to perform a task. ➤ These are a series of programs (instructions) that tell the computer what and how to work.
Categories (Any 02 x 1 = 02 marks)	 <pre> graph TD SOFTWARE[SOFTWARE] --> SYSTEM[SYSTEM SOFTWARE] SOFTWARE --> APPLICATION[APPLICATION SOFTWARE] SYSTEM --> UTILITY[UTILITY PROGRAMS] SYSTEM --> OPERATING[OPERATING SYSTEMS] SYSTEM --> PROGRAMMING[PROGRAMMING LANGUAGES] APPLICATION --> CUSTOMIZED[CUSTOMIZED SOFTWARE] APPLICATION --> OFF_SHELF[OFF SHELF SOFTWARE] </pre> System software manages the computer resources e Utility software Utility software is a kind of system software designed to help analyze, configure, optimize and maintain the computer. Application software solves the particular needs of the end user.
Examples (Any 01 x 1 = 01 mark)	System software – Operating systems - Windows XP, Vista, Windows 95 Programming languages – C+, Java Script, SQL Utilities – Antivirus software, disk defragmenters, data recovery screensaver, etc. Application software; Off the shelf (packed software) – MSOffice suite; Custom (tailor made) – school management system SMS

User [04 Marks]	
Definition (Any 01 x 1 = 01mark)	User – the most important component of a computer system – used to design and develop computer systems, operate the computer hardware, create the software, and establish procedures for carrying out tasks. User/human ware refers to the people who operate and initialize instructions to the computer system
Categories (Any 01 x 1 = 01 mark)	Ordinary user - is someone without much technical knowledge of computers but uses computers to produce information for professional or personal tasks, enhance learning, or have fun. Professional user -is a person in a profession involving computers who has had formal education in the technical aspects of computers; an example is:
Examples (Any 02 x 1 = 02 marks)	➤ Computer programmer ➤ System analyst ➤ System administrator ➤ Database administrator ➤ Network administrator. ➤ Secretary ➤ Computer Students

Data [04 Marks]	
Definition (Any 01 x 1 = 01mark)	Data refers to raw facts and figures that are processed into information. Data data is anything in a form suitable for input into a computer for processing.
Categories (Any 01 x 1 = 01 mark)	Unprocessed data Like Letters, digits and symbols (e.g., a, b, c, &, ...) Information (Processed data) Like a document, a mathematical formula, grades

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	a piece of music, a song etc.
Examples (Any 02 x 1 = 02 mark)	Letters and symbols (e.g., a, b, c, &, ...) words Numbers/digits Dates Musical notes Audio (sound), graphics, Video, etc.

Communication [04 Marks]	
Definition (Any 02 x 1 = 02mark)	□ This is the process of transferring data between computer systems or devices. - Linking up computer devices and computers - Enabling the flow of data - Enabling the flow of information □ Enabling the flow of instructions - Networking of computers
Categories (Any 01 x 1 = 01 marks)	Communication through computer networks: Internet Intranets LAN WAN MAN PAN, etc.
Examples (Any 01 x 1 = 01 mark)	(communication media) Modems Cables Computer fax modems routers gateways

RESOURCEFUL Mock 2011

SECTION A: 20 MARKS

1. A computer is said to be a stupid machine mainly because it:
 - A. Works without getting tired.
 - B. Thinks all the time.
 - C. Does what it is instructed.
 - D. Spoils man's sight.
2. _____ keys are a set of keys that when pressed, operations of certain keys on the keyboard changes.
 - A. Functional
 - B. Capslock
 - C. Special
 - D. Modifier
3. _____ is the best type of printer recommended for high quality printouts.
 - A. Dotmatrix
 - B. Braille
 - C. Inkjet
 - D. LaserJet
4. The largest key on the keyboard is the
 - A. return key
 - B. space key
 - C. Caps Lock
 - D. Backspace key
5. P2P network functional relationship works well where computers share:
 - A. Similar characteristics
 - B. Different instructions
 - C. Same server
 - D. Different computer nodes
6. Magnetic tapes, Floppy diskettes and _____ use magnetic technology to save data.
 - A. Smart cards
 - B. Hard drives
 - C. Compact discs
 - D. Flash drives
7. Computer _____ travels from computer to computer with an aim of destroying files.
 - A. instruction
 - B. malware
 - C. software

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- D. procedure
8. 121 is expressed in base:
- A. Binary
 - B. Octa
 - C. Hexa
 - D. Penta
9. is the one-word term used to refer to the setup procedure of putting new programs into our computer?
- A. Copying
 - B. Encrypting
 - C. Installation
 - D. Compressing
10. The Internet offers different services. Which one listed below is incorrect?
- A. Chat room
 - B. Electronic mail
 - C. Off line shopping
 - D. World Wide Web
11. A software package obtained without license is said to be:
- A. pirated
 - B. duplicated
 - C. original software
 - D. shared
12. The CPU consists of:
- A. ALU and CU
 - B. The CU only
 - C. The ALU only
 - D. Programs only
13. The device used in a data communication network to perform the conversion between analogue and digital signals, is called a ...
- A. front end processor.
 - B. modem.
 - C. decoder.
 - D. multiplexer.
14. If you look carefully at the motherboard, you will notice that some chips are soldered to the board whilst others are plugged into the board. The removable chips allow you to ...
- A. add extra power sources to your computer.
 - B. integrate the ALU and the system clock unit.
 - C. re-arrange the layout of your motherboard.

- D. upgrade your computer components.
15. The communication bus which is used to fetch the address of an instruction from memory is called the ...
- address bus.
 - control bus.
 - data bus.
 - fetch bus.
16. Read Only Memory (ROM)
- Is volatile
 - Is programmable
 - Is mounted on the mother board
 - Contains the bootstrap loader
- i and iii
 - i, ii and iv
 - ii, iii and iv
 - iii and iv
17. An online meeting allows users to ...
- determine the receiver's geographic location.
 - leave voice messages for one or two people.
 - print to a web address that is associated to a particular printer.
 - share documents with others in real time.
18. An advantage to a touch screen is that _____.
- it is natural to touch things
 - it is not as tiring as keyboard input
 - it uses little screen space for each choice
 - it is both an input and output device
19. On a system case, a set of low power lights are examples of _____ devices.
- input
 - communication
 - processing
 - output
20. A combination of a row and a column in spreadsheets gives rise to a _____
- workbook
 - worksheet
 - cell name
 - cell

SECTION A

1. C	5. A	9. C	13. B	17. D
2. A	6. B	10. C	14. D	18. D

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3. D	7. B	11. A	15. A	19. B
4. B	8. D	12. A	16. D	20. D

SECTION B

21 (a) (i) What is the main reason for using BIOS by the computer?

It performs a hardware check and makes sure that certain crucial pieces of hardware are present and functioning properly.

For example, it makes sure there is a video card, a CPU, memory, and a power supply providing proper voltages.

- It performs memory check
- Configure devices as needed,
- Identify the boot drive, and controls the boot sector on the boot drive, which launches the operating system.

(ii) I saved my documents on the hard drive 5 minutes ago. I have continued to work. Where is the latest copy of my

- RAM (Random Access memory)

(b) Mention two types of buses that affect the speed of computer?

Buses are the set of wires that carry special information to or from the CPU.

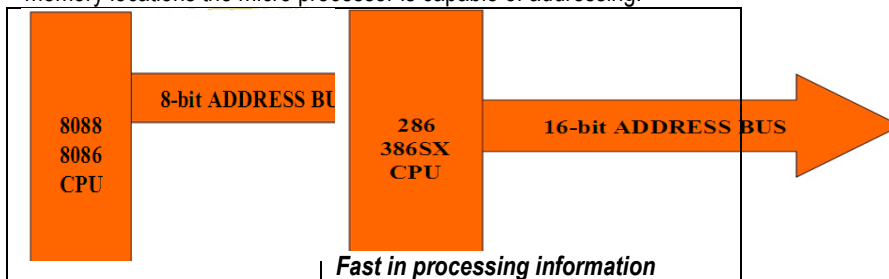
There are three types of buses

They are:

- Address buses: these buses carry address given by the CPU from one unit to another in the computer.
- Data buses: These buses carry data from one unit to other; it is a bi-directional bus i.e. the data can be carried in both directions.
- Control signal: These buses carry control signal from ALU to memory and from memory to ALU and then to the output unit

The buses that affect the speed of a computer are those ones connected to the CPU

- Address bus: the address bus determines the number of individual memory locations the micro processor is capable of addressing.



<i>Slow in processing information</i>	
--	--

- Control signal: These buses carry control signal from ALU to memory and from memory to ALU and then to the output unit

(c) List four instances where a computer will require a warm boot

- Installation of new hardware
- Installation of new software
- When a computer freezes
- Some components where not connected like the keyboard, mouse etc

(d) What reason would you give for buying a new video card?

- Outdated and it is no longer capable of running the latest video games
- Worn out cards

22. (a) State two ways of keeping data secure for an organization

- Using passwords
- Data encryption
- Bio metric
- Using screen savers
- Call back systems
- Installation of the antivirus
- Firewalls
- Copy rights and licensing agreement

(b) Mention three features that make up a font

- Weight
- Slope
- Optical size
- Metrics
- Letter Case
- Color

(c) Outline four causes of fire accidents in a computer lab

- Carrying of water and food in the laboratory
- Short circuits due to poor wiring in the laboratory
- Unstable power supply
- Poor quality power cables
- Unnecessary moving of equipment in the laboratory

(d) State one function of Light Emitting Diode on a computer's system Unit

Light emitting Diode (LED) are lights on the system unit that;

- Show that the computer is on

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- Show that storage devices like CDROM Drive, Hard disk Floppy disks are installed

- Show that the computer is processing data

23. (a) Define the following terms as used in spreadsheets applications

(i) a cell

A cell is the intersection of a row and column

(ii) Work book

A work book is a collection of work sheets

(iii) Auto fill handle

This is a feature in spreadsheet that helps to automatically fill cells by copying the function or formula to the other cells

(c) Mention two practical uses of a screen saver to a computer user

- **Entertainment** - The most common reason we use screensavers is for the fun of it.
 - **Security** - By setting up a screensaver with password protection
 - **Uniform look** - Many companies require all employees to use a particular screensaver.
 - **Advertisement** - Companies, particularly retail businesses, that have computer in areas accessible to customers will often have a screensaver that promotes their business or product.
 - **Information** - A lot of screensavers provide either static or real-time information.
- (d) State any two examples of desktop publishing software programmes.
- Microsoft office Publisher
 - Adobe page maker
 - Adobe InDesign
 - Adobe PageMaker
 - QuarkXPress
 - FrameMaker, now owned by Adobe
 - Greenstreet
 - InPage -
 - Interleaf
 - iStudio Publisher -
 - Microsoft Word 2008
 - Ovation
 - Pages
 - PageStream
 - Prefis BookMachine

(ii) What is the meaning of cell merging as used in spreadsheets?

This is the combination of many cells to make one large cell

24. (a) *Distinguish between a webpage and a website*

A web page is one single page of information designed in HTML language, while a website is made up of a number of different web pages connected by links.

(b) *Write the following in full:*

(i) BCC: Blind Carbon Copy

(ii) HTTPS: Hypertext Transfer Protocol Secure

(iii) DNS: Domain Name System

(c) List any two ways the internet can be used to improve education

Easy Contact: students can contact their friends or teachers via email

School / College Projects

The Internet can be most useful for completing projects in schools and colleges. As the Internet is an ocean of information, covering nearly all subjects known to man

Encyclopedia

Sometimes, encyclopedia may not always be available to students and they may have difficulty in gaining access to the books in the library.

News

All the latest news are constantly updated on the Internet on different news sites which is one of the major advantages of the Internet in education.

Online Learning

Another positive effects of Internet in education is the onset of distance education or online learning.

(d) *Sate any three examples of web authorizing software programs*

- Microsoft front page
- Macromedia Dream weaver
- Note pad
- Netscape composer

25. (a) **Mention any three ways data can be entered into the computer**

- Scanning
- Typing using the keyboard
- Using the mouse
- Using stylus pen to draw maps
- Using microphones

(b) (i) *What is a computer peripheral?*

This a device that can be attached to the systems units' mother board e.g. printer, mouse, keyboard

(ii) *Give two examples of computer peripheral devices*

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Printers, mice, printers. Scanners, speakers, external hard disks, flash disks etc

(c) Distinguish between plug and play and hotspot as used in connecting computer peripherals

Plug and play is where a device is connected to the motherboard and immediately starts working; it does not require drivers to install. While a hotspot is where a device is connected to the computer through other devices or networks e.g. wireless speakers and printers using Bluetooth etc

(d) Mention any two tasks carried out by a network administrator

- Installation of new hardware and software on the network
- Managing network traffic
- Testing new network hardware and software
- Advises the organization on items to buy for the network
- Configures the network and provides network usernames and passwords

26. *(a) Statement why an adult should use internet banking*

- It is fast
- It is reliable
- Prevents security risks
- Withdraw can be done any time any where
- Money can easily be converted in to any currency
- There are interests given to members

(b) I downloaded MP3s of my favourite pop group from the internet. What software is used to play it on my Pc?

- Windows media player
- Power DVD
- VCL player
- GOM player

(c) Suppose someone sends you an email when your computer is switched off and disconnected. Will the email be lost?

No, Email is an electronic message that is stored in the email inbox of your account in space.

(d) State any two factors that influence the speed access to the network

- Bandwidth
- Number of computers connected to the network
- Type of net work media used
- Topology
- Location of your computers on the network

SECTION C: 20 MARKS

Attempt only one question in this section.

21. (a). Define a computer virus.

(b). (i) State any four ways a computer virus can be transmitted from one computer to another in a computer lab.

(ii). Outline measures a user can undertake to safeguard his computers from viruses.

22. ((a). State four functions of the operating system.

(b). Explain why the peripheral drivers are also needed.

(c). State three advantages of using an integrated package rather than separate applications packages

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JJEB 2011

Section A (20 Marks)

1. Which of the following is an application soft ware?
A. Computer games
B. Windows
C. COBOL
D. Unix. A

2. The mechanical era of computer evolution can best be characterized by.....
A. Programming languages
B. Multics
C. Leibniz calculators.
D. Napiers Bones. C

3. Which of the following can be used when designing a web page?
A. e-mail
B. Hyper links
C. Net work
D. Slides. B

4. A..... is a language processor that translates the entire high level language into a machine language.
A. Compiler
B. Source Code
C. Objective Code
D. Bar Code. A

5. Files can be made smaller by compression, to make it easy for them to be transferred between computers. Which of the following utilities can be used?
A. jpeg
B. gif
C. pdf
D. WinZip D

6. Which of the following can be an e-mail address for Ms. Matovu?
A. Matovu.yahoo.com
B. Matovu@yahoocom
C. Matovu@yahoo.com
D. Matovu.@yahoo.com C

7. The process of transferring information from a remote computer to a local storage is called.....
A. Saving
B. Retrieving
C. Down loading
D. Uploading. C

8. As used in Ms word, what is a gutter margin?
 A. Margin added to the out side of the page when printing.
 B. Margin added to the binding side of the page when printing.
 C. Margin added to the right side of the page when printing.
 D. Margin added to the left side of the page when printing. B
9. The main purpose of the registry is to.....
 A. Maintain a database of configuration settings of windows
 B. Keep a record of frequently accessed pages.
 C. Search for the requested pages from a server.
 D. Send back client requests from a net work server. A
10. A field or combination of fields that uniquely identify each record in a table is called.....
 A. Foreign Key.
 B. Master Key.
 C. Nominal Key.
 D. Primary Key. D
11. The slide sorter facility function in a presentation soft ware
 A. Sets the slide show running.
 B. Presents a number of slides for arranging.
 C. Formats and edits slides.
 D. Adds Color and blank slides. B
12. is a characteristic of the second generation computers.
 A. Integrated circuits.
 B. Vacuum tubes
 C. Transistors
 D. Large scale Integrated circuits. C
13. The type of soft ware that can be used to request a specific resource from the server is.....
 A. Client soft ware
 B. System soft ware
 C. Server soft ware
 D. Browser. A
14. Selection of adjacent cells in a spread sheet is called.....
 A. Blocking.
 B. Ranging.
 C. Gridding.
 D. Formatting. AB
15. The power of the data base lies in their ability to

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- A. Store historical data
B. Use unplanned and externally generated data.
C. Serve as physical system in an organization.
D. Be queried and manipulated to produce information.
16. The following are output devices except.....
A. LCD
B. Digitiser
C. LED
D. Speakers.
17.is not a representation of a type of a net work topology.
A. Mesh
B. Ring
C. Hub
D. Bus
18. In a spread sheet, the feature that would enable you to arrange information in alphabetical order is.....
A. Search.
B. Arrange.
C. Window-freeze
D. Sort
19. A computer scan disk.....
A. Removes viruses from the hard disk
B. Erases temporary files from the hard disk.
C. Erases bad clusters from the hard disk.
D. Marks the bad clusters.
20. Which of the following is a set of computer category?
A. Digital and analog
B. Analog and main frame
C. Super and digital
D. Main frame and digital.

SECTION B: COMPULSORY (60 MARKS)

21. (a).What is meant by the following term?
(i). e-mail: **Electronic mail is the transfer of electronic messages from one geographical location to another using computers and other computerized devices.**
(ii).search engine.....
.....
(iii).telnet...**This is a protocol that allows a user to log on to a remote computer.**

Accept: This is a protocol that allows a local computer to establish a connection to another remote computer.

- (b). State any two components of an e-mail message. (2 marks)

Subject

e-mail address of recipient

Carbon copy

Blind carbon copy

Body

Signature of sender

- (c). Write the following in full: (3 marks)

HTTP: Hyper text transfer protocol

ISDN: Integrated Services digital net work

IRC: Internet relay chat.

22. (a)(i). What is a soft ware? (1 mark)

A set of logical functions that tell the computer what to do.

Accept **The intangible component of a computer.**

- (ii). Give any three functions of the operating system soft ware . (3 marks).

Manages the primary memory of a computer.

Manages files on secondary storage devices.

Performs all the housekeeping procedures that the user requests for.

Provides interphase between the hard ware and soft ware.

It diagnoses the problems of soft ware and hard ware.

It manages the computer BIOS.

- (b). What is a utility program? (1 mark)

It is a program that performs tasks related to the maintenance of data or a computer's health hard ware.

- (ii). State any three functions of a utility program (3 marks).

1. Manages the disk by defragmenting and formatting.

2. Restores the backed up data.

3. Computer monitoring for virus activities.

4. Carry out data compression.

5. Recover damaged or deleted files.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

6. Compresses of data by squeezing out the slack space.
7. Manages files.
- (c). Explain any two differences between a free ware and a share ware. (2 marks)
1. Free ware is free to be used and make copies of it, while share ware is a demo, to be used for only a short time and then be paid for.
 2. Free ware, someone owns the right to determine who can make copies of it, while for shareware you can give away only an exact number of copies.
23. (a)(i)..What is cache memory? (1 mark).
- This is memory that holds recently used values.**
- (ii). Explain the difference DRAM and SRAM in relation to computers. (1 mark)
- DRAM is dynamic random access memory and it is continuously refreshed while SRAM is static random access memory which is not refreshed.**
- SRAM is also fast to be accessed more easily than the DRAM. SRAM also draws more power compared to the DRAM.**
- (iii). Why is computer main memory said to be volatile memory? (1 mark).
- Because it loses its contents when the computer is switched off.**
- (b). (i). What is a bus as used in computer studies? (1 mark).
- This is an electronic path way that along which signals can be sent from one part of the computer to another.**
- (ii). Explain any one difference between a data bus and a control bus. (1 mark).
- Data bus transfers data in both directions from the CPU to the memory and from the memory to the CPU, while Control bus carries signals that tell the memory if the CPU wants write or read memory.**
- (c).What is a: (2 marks).
- (i).byte :A byte is eight bits grouped together.
- (ii). Control unit? **This is a unit that extracts the instructions from the main memory, decodes them and executes them.**
- (d). convert the binary number 11000101 to decimal base and the decimal number 32 to binary base. (2 marks).
- $$1 \times 2^7 + 1 \times 2^6 + 1 \times 2^2 + 1 \times 2^0$$
- $$128 + 64 + 4 + 1 = 197$$

24. (a)(i). What is a data base? (1 mark)

A data base is a collection of organized in such a way that allows access, retrieval and use.

- (ii) Differentiate between a data base and a data base management system. (2 marks)

A database management system is a computer system that is used to manage the data, like Ms access while the data base is a collection of the data to be managed.

- (iii). Give two examples of a data base management system. (2 marks)

Ms access, Micro soft Fox Pro, Oracle, Informix, Corel paradox, SQL, Sybase, Lotus approach, DBIII, DBIV, Claris file maker, Borlandpro etc

- (b). State any three advantages of using a data base management system over the manual data base. (3 marks)

1. **Little space required to keep the data base.**
2. **There are fewer updating errors since the data is centralized.**
3. **There is cost reduction on data entry and data storage.**
4. **Easier to limit access to the data base because the security is centralized.**
5. **Can sort and retrieve more easily.**

- (c). What is a query? (1 mark)

This is a question you ask about the data in your data base .

- (d). Give any two differences between a flat file and a relational data base. (2 marks)

Flat file data base	Relational data base
Designed around a single table	Designed to incorporate multiple tables.
May contain many fields with duplicate data	No data duplication.
There is data dependency	No data dependency
There is data separation and Isolation. Each program manages its own data.	No Isolation and separation of data.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

25. (a). Explain the following terms as used in computer studies. (2 marks).
- (i). Command line interface: **An Interface where the user provides the input by typing a command on the key board and the computer provides the out put on the screen.**
- (ii). Graphical interface :**An Interface that accepts inputs via input devices like key board, mouse**
- (b). Give one example of the operating system that uses: (2 marks)
- (i). A command line interface. **Ms DOS, Linux, Unix, OS/400.**
- (ii). Graphical interface: **Windows NT, Windows XP, Windows 2000, etc**
- (c). (i). Define the term computer generation. (1 mark).

Computer generations are the technological advancements that have taken place in the area of computers.

- (ii). What are the major characteristics that mark each of the generations that computers have under gone? (4 marks)

1. First...**Use of vacuum tubes .**
2. Second. **Use of Transistors**
3. Third: **Use of Integrated Circuits.**
4. Fourth: **Use of very large Integrated Circuits.**

- (d). Differentiate between analog and digital computers. (1 mark)

Analog computers are computers that process data in continuous form while digital computers are computers that process data given to them in discrete form.

26. (a). (i). What is a web page? (1 mark)
- A page that contains information written in HTML code that contains text and links to other pages, files or part of the document.**
- (ii). List any three qualities of a good webpage (3 marks)

A good web site should:

- **Have a feed back.**
- **Have navigation buttons.**
- **Have date of last updates**
- **Have links to other pages or part of the document.**
- **Have a web page title and brief summary about the page.**
- **Load quickly.**

- **Have fewer graphics.**
- (iii) Explain why it is not good to have a lot of graphics on a web page. (1 mark)
- It affects the band width of the end user.**
- It reduces the down loading speed since graphics are very heavy.**
- Makes the page not look good therefore not carrying a humor.**
- Takes long to be uploaded.**
- (iv). Identify any two precautions to be taken while designing a web page. (2 marks)
- **Down loading speed.**
 - **Number of hyper links to be included.**
 - **Amount of text to be put on each page.**
 - **The kind of back ground to be used.**
 - **Numbers of pages and graphics to be included.**
 - **The application program to be used.**
- (b). What is a tag as used in web page design? (1 mark)
- A tag is an html command.**
- (ii) What is the use of a tag in web page design? (1 mark).
- Tags are used to control the content and appearance of an html document.**
- (c). Mention one advantage of an optic fibre over the unshielded twisted pair. (1 mark)
- It is lighter.**
- It is faster in transmission since it uses light.**
- It is smaller.**

Section C (20 Marks)

Answer only one question from this Section. Answer to the question must be done on the answer sheets provided.

27. Discuss the advantages and disadvantages of using internet over using the text book for learning. (20 Marks)
28. "Computers have done more harm than good to our culture" Discuss (20 Marks)
29. Explain the areas where total data security has been achieved and areas where it failed. (20 Marks)

FINAL PAPER 2013

NB: You can find the UNEB 2013 Computer Studies Question Paper in the official UNEB question bank which can be bought from UNEB. Below is just a draft answer guide:

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

SECTION A

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

SECTION B

21. (a) Explain the term spreadsheets as used in computer studies. (02 marks)

- A program that displays work in form of tables where calculations can be done.
or

Grid of rows and columns which intersect to form cells where calculations can be done OR
program used to perform calculations on data using formulas/functions.

Any 01 pt X 2 = 02 marks

(b) Name three types of data that can be placed in a spreadsheet cell

- Label/text
- Number/Value
- Formular/functions
- currency
- Date/Time
- Percentages

Any 03 pts X 1 = 03 marks

(c) What is the use of a formula in a spreadsheet

- Arithmetic manipulation of data OR
- For calculations
- For logical manipulation of data
- Analysis of data.

Any 01 pt X 1 = 01 mark

(d) Describe with illustrations, how a shopkeeper can use a spreadsheet to keep records of his/her business.

explanation with a table. e.g.

ITEM	QTY	COST PRICE	SELLING PRICE	PROFIT
Sugar	10 kgs	10000	15000	5000
Soap	10 boxes	30000	32000	2000

A table with imaginary figures **04 marks**

A table without figures **02 marks**

Only explanation **02 marks**

Table with items minus figures **02 marks**

Table without figures but has explanations **04 marks**

Blank table **No marks**

Nb. The table must show descriptive rows /columns and figures

22 (a) List four advantages of a hard disk over a compact disk (CD)

- HDD has more storage capacity
- Faster access time for HDD
- HDD provides more security to data than a CD
- HDD supplements RAM by providing virtual memory
- HDD is more durable than the CD
- More convenient for installation of operating system
- HDD allows data to be read and written at the same time unlike a CD
- Cheap in terms of per unit storage.

Any 04 pts X 1= 04 marks

(B) Describe the following

(i) Flash memory

Is an electronic non-volatile computer storage medium that offers fast read and write access time as fast as dynamic RAM and can be electrically erased and reprogrammed. It is connected to the computer through a USB port.

(02 marks)

(ii) Optical Character Recognition.

An input device/mechanism which allows pre printed text in hard copy form to be converted to editable digital text.

(02 marks)

(iii) Laser jet printer

This is a non impact printer, which uses light/laser mechanism to print with high speed and high quality output.

(02 marks)

23 (a) (i) What is computer communication

Computer communication is the transmission of signals or data from one computer/device to another.

(02 marks)

(ii) State any two advantages of using e-mails.

- Faster means of communication
- It is cheaper
- Convenient to send to many people
- Provision of vacation responders

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- Secure since passwords are used
- Enables attachments
- Keeps a log/record of sent, received, deleted messages.
- Keeps a record of addresses.
- It allows a message to be forwarded
- It contains hyperlinks which connect a person to other sites.
- Unlimited message length.

Any 02 pts X 1= 02 marks

(b) Explain the functions of the following

(i) Web Server. This is a dedicated computer which accepts uploads, downloading and distribution and storage of web files over the internet upon the user's request.

(02 marks)

(ii) FTP

This is a protocol for uploading and downloading files from the network Or a protocol for transferring files over the internet.

(02 marks)

(iii) HTTP

This is a protocol used to transport or share hypertext documents or html files over the internet.

(02 marks)

24. A senior four class in Naluwelere S.S has formed a club. A file named CLUB MATES is to be kept by the secretary of the club. The design of CLUB MATES has the following fields. NAME, MEMBERSHIP-NUMBER, SEX, AGE and TELEPHONE.

(a) Suggest a primary key for CLUB MATES. Explain why it is chosen as the primary key.

- Membership-number

(02 marks)

Because this number is unique for each record

(01 mark)

(b) If the longest name in a class is Sangalyambogo, suggest the minimum field length.

13

(c) Why is it not a good idea to use the field AGE? Suggest an appropriate field name and type.

Reason: Age changes as time goes on so it would make the database lose integrity as time goes on.

(01 mark)

Field name and type:

Date of Birth

mark)

date/Time

(01

(01 marks)

mutare
- Emphasize understanding of protocols;

3 | Page

(d) Suggest appropriate data types for the following fields.

- (i) Membership - Number
Text
Auto number

(Any 1pt X 1 = 01 mark)

- (ii) SEX
Text

(01 mark)

- (iii) Telephone. Text
mark)

(01

25. Give any two ways of classifying computers.

- By size
- By Technological/logical processing
- By use /purpose/functioning/operation
- By processor power
- By generation

(Any 2pts X 1 = 02 marks)

(b) Differentiate between the following terms.

(i) Analog and digital computers.

Analog computer process data that is in a continuous form or measurable quantities or changing phenomena or use moving gears while digital computers process data in form of digital or binary or discrete values.

(ii) Main frame computer and micro computers.

MAINFRAME

MICRO COMPUTERS.

- | | |
|-------------------------------|--|
| - Many people | - Fewer people |
| - Very large in size | - Small in size |
| - High storage capacity | - Low storage capacity |
| - High processing speed | - Lower processing speed |
| - Used in large organizations | - Used by individuals, in homes and sch. |

(c) List any three types of micro-computers.

- Laptops/Notebooks
- Desktops and tower model
- Palm tops
- PDA /Organizers
- Smart Phones
- Tablets
- I pads.

26. State any four functions of operating system.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Processor management

Memory management

File management

Booting of the computer

Spooling of print jobs

Provides user interface for interaction

Managing computer hardware and software security

Loading of programs/platform for application programs.

configuration of devices

Error handling/reporting

Shutting down the computer.

(b) List any two types of operating systems commonly used in computers.

Single user OS (Single user single application or single user multi tasking)

Multi user OS

Embedded OS (Designed to be used in embedded computer systems like PDAs)

Distributed OS (Manages a group of independent computers to make them appear to be a single computer)

Real time OS (Handles real time applications)

OR

GUI

CLI

(c) (i) What is a programming language?

A programming language is a set of instructions used to build/make, design other computer programs/instructions/codes.

(ii) Differentiate between machine language and high level language.

Machine language is constituted of binary codes which are understood by the computer while high-level language is closer to human language/use mathematical notations other than binary and can well be understood by human beings.

Machine code language was used in the first generation where as HLL were used in 2nd generation and above.

SECTIONS C

27. (a) Describe any four ways in which computer crimes are committed.

Writing malicious codes to infect computers i.e. viruses

Accessing of computer resources illegally (hacking)

Using software without license (piracy)

Physically stealing hardware

Phishing

Spamming (sending unsolicited messages)

Cyber terrorism.

Cyber bullying
internet fraud
Broadcasting immoral material / literature (pornography and slander)
Forgery
Changing the source code
Plagiarism
Cracking
Eavesdropping
Tapping
Vandalism
(b) Explain ways of safeguarding against computer crimes.
Use of passwords
Bugler proofing
Enforcing copy right laws.
Log off or log out from your account after us.
Sensitization of the public about dangers of computer crimes.
Using biometric devices e.g. face, finger prints, Voice, iris devices etc.
Encryption of data
Blocking some websites.
Web rating
Activating firewalls.
Centralized administration.
Key lock system
Prosecuting wrong doers
Using Antivirus
CCTV Cameras.
Security personnel.
28. Describe the nature and features of the four computer generations.
1st Computer Generation
Vacuum tubes.
Based on machine language as a programming language.
Low memory (RAM) as low as 2kb
Use of punched cards for input and output
Magnetic drums memories.
Large and difficult to maintain
Low processing speed
high power intake
Single purpose
Difficult to maintain
Generated a lot of heat
Many moving parts.

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2nd Computer Generation

Use of transistors

Magnetic core memories

High level programming language e.g. FORTRAN

Less heat emitted

Increased speed

The first super computer was made

Ram increased to 16kbs.

3rd Computer Generation

Use of integrated circuits.

Magnetic disks for storage

Parallel processing

Simple programming languages e.g. BASIC

higher processing speed than 1st and 2nd Generations

Introduction of operating systems like MULTICS

Introduction of mini computers.

4th Computer Generation

Very large scale Integration

Introduction of Micro processor

Introduction of micro computer

Computer cheap and cheaper

Wide variety of software

Artificial intelligence

5th Computer generation

Wireless connectivity

Artificial intelligence

Robots in working places

Voice Recognition.

Very large scale integration

Very small in size

Cheaper in cost

Faster in speed

29. Some people believe that using computer will cause unemployment whilst others believe that the economic survival of a society depends on making even greater use of the computers.

Describe how computers can;

(a) Cause unemployment (10 marks)

Job replacement

Computers are faster and when employed to do work, some will be laid off.

Underemployment where the presence of a computer will make the worker almost jobless
Introduction of expert systems make workers jobless.

Specialized applications and hardware at work places make people unemployed.

Computers have made traditional skills irrelevant hence unemployment.

Any point brought in line with characteristics of computers like speed, accuracy, automatic, versatility etc should be considered.

(b) Be the basis of economic survival (10 marks)

Writing CDs

Music mixing

Video editing

Teaching of ICT

Internet Cafe'

Computer Secretarial bureau

Computer dealer or vender

Software developers

computer manufacturing

database administrators

system analysts

Advert designers.

Digital money transfer dealers

Servicing and repairing

Web hosts

ISP

etc

EXTERNAL MOCK 2014

SECTION A

1. The following can be set to control the screen pointer arrow expect
 - A. The mouse
 - B. The trackball
 - C. The keyboard
 - D. The barcode reader
2. computers process data in as flow of 1s and 0s.
 - A. Digital
 - B. Analog
 - C. Special purpose
 - D. General purpose
3. Which of the following is not representation of a type a network topology
 - A. Net
 - B. Ring
 - C. Bus
 - D. Star

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4. A set of low power light that keeps blinking to show the status of the hard drive is
- A. Input device
 - B. Processing device
 - C. Storage device
 - D. Output device
5. A feature in word processors that automatically takes a word to the next line when typing is called
- A. Word wrap
 - B. Wrap ring
 - C. Wrap round
 - D. Wrap siding
6. What is the work of a slide master?
- A. It controls transition effects
 - B. It controls animation effects
 - C. It controls certain text characteristics and background
 - D. It can control all the above.
7. To login your e-mail account you should enter a
- A. Username and access control
 - B. Password and username
 - C. Access control and password
 - D. Phone number and password
- 8..... refers to the number of computers controlled by a central host computer.
- A. Servers
 - B. Stand alone
 - C. Clients
 - D. Switches
9. Which of the following types of disks allows writing once and no further editing can be done.
- A. CD-ROM
 - B. CD-R
 - C. CD+RW
 - D. CD-RW
10. Ability of a computer to run without supervision means that it is
- A. Programmable
 - B. Diligent
 - C. Versatile

- D. Automatic
- 11. In word processor, a ruler is commonly used to.
 - A. Measure distance of a workspace
 - B. Show distance of indents position
 - C. Distance of text
 - D. Length of footer
- 12. The operating system is involved in all of these tasks except
 - A. Uninstalling programs
 - B. Administering security
 - C. Spooling
 - D. Saving word documents
- 13. This is an e-mail feature which allows one to send a similar copy of mail message to two or more different people.
 - A. To.
 - B. Bcc
 - C. Reply
 - D. Bc
- 14. The stores data temporary in a central processing unit.
 - A. ALU
 - B. CU
 - C. Register
 - D. Accumulator
- 15. Which of the following are related to database programs?
 - A. Procedures, slide view and records.
 - B. File Records, fields and data type.
 - C. Record and answer.
 - D. Slide and data structure.
- 16. Un authorized access through a computer's firewall is termed as
 - A. Script kidding
 - B. Cracking
 - C. Hacking
 - D. Piracy
- 17. A e-mail travels in small envelopes called
 - A. packets
 - B. Switches
 - C. Strings
 - D. Headers
- 18. The best way of controlling spread of a computer malware is by installing
 - A. Virus Firewall.
 - B. Malware Server

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- C. Computer games.
D. Anti-virus software.
19. Twisted pair, coaxial cable and microwave are types of transmission.....
A. Chains
B. Media
C. Data
D. Information
20. A computer program used to display information on the internet is called
A. Gopher
B. Browser
C. Website
D. Home page

ANSWERS SECTION A

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

SECTION B

21. A sports shop owner uses a spreadsheet to calculate his profits. This is part of the spreadsheet:

	A	B	C	D	E	F
1	ITEM	SELLING PRICE (Shs)	COST PRICE (Shs)	PROFIT PER ITEM (Shs)	NUMBER IN STOCK	OVERALL PROFIT
2	Flask	4500	4000	500	126	
3	Golillos	4400	3800	600	145	
4	Milk	7800	6500	1300	104	
5	Ice Crea m	5100	4200	900	56	
6	Blue Band	4000	3200	800	101	
7	TOTAL PROFIT					

(a) Give the reference of the cell that contains Shs. 4200.

(1 mark)

..... C5

(b) How many columns are shown in this part of the spreadsheet?

..... 6 columns

(1 mark)

(c) Write down the formula which was entered in cell D2.

(1 mark)

..... =B2-C2

(d) When the spreadsheet was created a similar formula to cell D2 had to go in cells D3 to D6. Describe how to enter these formulae without typing them. (2 marks)

..... To copy the required formular from C2 to other cells, activate Cell D2, click and drag its fill handle (black square dot at bottom right corner of cell) over the cells D3 to D6

(e) Write down the formula which should be entered in cell F2 to calculate the overall profit got after selling all the 126 flasks in stock.

(1 mark)

..... =D2*E2

(f) Write down a function that can be entered in cell F6 to calculate the total profit for the shop owner.

(1 mark)

..... =SUM(F2:F6)

(g) Which spreadsheets feature was used to join the cells F1 to F5 into one combined cell?

(1 mark)

..... Merge cells

(h) Apart from performing calculations, mention any other two other tasks that spreadsheet software can perform for the shop owner.

- Performing *What-if Analysis* on data
- Creating charts and graphs.
- Sorting text (Alphabetically or otherwise)
- Acting as a small database, etc.

22. (a) With examples, distinguish between Custom-made applications and Off-shelf applications

(04 marks)

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Off the shelf software; it is a form of application programs that are sold by software vendors ready for use.e.g Microsoft office application programs.

Customized software; this is a form of software that is created by programmers on user's request to perform specific function.e.g school fees management software or supermarket sales management application.

- (c) Define a keyboard shortcut as used in word processing program
(02 Marks)

A shortcut is a combination of keys on the keyboard pressed together or in succession in order to issue a command to the computer.

- (d) What is the function of the following shortcuts? (03 Marks)

- i. Ctrl+p

Displays print dialog box for you to select the desired option before printing.

- ii. Ctrl+Z

Undo the recently effected command.

- iii. Ctrl+V

Paste copy of information from the clipboard.

- Iv Ctr+]

Increase font size by 1 pt.

23. (a) Give two examples of presentation software
(02 Marks)

- King soft presentation
- Ms Power point
- Apple keynote
- Harvard graphics
- Open office.org Impress
- Corel presentation

- (b) Define the following terms as applied to presentation software
(03 Marks)

- i. Slide

Is a single page in a presentation.

- ii. Place holder

It is an attribute that specifies and describes the expected value of n input field.

or description of the expected format

- iii. Action button

It is feature under presentation software that links you to various slides in a presentation with a lot of ease.

(c) State any two factors considered to create a good presentation. (02 Marks)

- Simplicity in design
- Consistency in design
- Font size clarity
- Suitable Background
- Font color (good color contrast)
- Relevant images
- Suitable animations
- Suitable transitions

(d) (i) Define the term multimedia as related to presentations (01 Marks)
Refers to use of computer program to integrate text, graphics, audio, sound and video into a single file or medium of communication.

(ii) Give the difference between slide and handout mode of Printing.
(02 Marks)

Slide option enables the use to print each page of the presentation independently while handout option enables you to print multiple pages of a presentation on a single page.

24. (a) (i) Define booting of a computer
(01 Marks)

Refers to starting or restating of a computer system.

Or Loading of an operating system into memory or resetting it.

(ii) List and explain two types of booting
(02 Marks)

(i) **Cold booting** refers to stating of a computer from power off status

(ii) **Warm booting** refers to restating of a computer when it has been on.

(b) Differentiate between system configuration and trouble shooting
(02 Marks)

System configuration is a tool that can help to identify problems that might prevent operating system from loading while trouble shooting is a process of fixing technical problem that has failed the computer to operate normally.

(c) (i) What is software installation? (01 Marks)

It is the act of making a computer program ready for execution.

(ii) Mention two devices on which software can be installed (2 Marks)
Phones

I Pads

Laptops

Tablets

(iii) Explain two factors you would consider before installing software on a computer.
(02 Marks)

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- Hard disk free space
- Amount of RAM
- Compatibility with the computer basic design
- Processor speed
- Compatibility with the OS

(d) Why are device drivers too important during operating system software installation? (02 marks)

It facilitates detection of attached hardware devices.

It activates wireless network.

It provides an interface between hardware and software

It controls the use of the attached device on the computer.

25. (a) Define a printer?

(01 Marks)

Is an output device that transforms a soft copy of information into a hard copy on a physical media like a paper.

(b) State two advantages of LaserJet printers over dot matrix printers

(02 Marks)

They produce better quality output

They are faster in printing

Some can print colored output.

They are relatively quiet when printing

(c) (i) What is a Central processing unit (CPU)

(01 Marks)

Is the brain of the computer where data is processed into meaningful information

(ii) Describe any three components of the CPU (03 Marks)

ALU:

It is a component of the processor that performs arithmetic and logical operations including calculations

Control Unit:

This is part of the processor that coordinates and manages other parts of the computer system.

Registers

Is the part of the processor that holds pieces of data and instructions one at a time during processing.

(c) (i) What are pointing devices? (01 mark)

...Pointing devices are input computer hardware used to control the cursor on the computer display screen. Or: devices that input spatial data into the computer.

(ii) State any three pointing devices you know. (03 marks)

- Mouse
- Track ball
- Touch pad
- Track Point
- Joystick
- Digitizing tables and Stylus pen,
- Touch screen etc.

26. Babirye owns a company which has a small LAN of computers.

(a) Give two advantages of having computers networked. (2 marks)

- Only one printer is needed, Only one scanner is needed (Sharing of hardware)
- Data can be shared between computers/data can be accessed by one computer from another more easily
- Software can be shared/updated more easily
- All computers can access the internet through one connection

(b) She wants to connect the LAN to the internet. Name the device he would need to be able to do this. (2 marks)

- Router / Modem

(c) Give two benefits and two drawbacks of connecting to the internet. (4)

Benefits:

- Can communicate with other companies by email
- Can use the internet to place orders
- Can use the internet to buy materials
- Can hold video conferences
- Can create own website to publicise company

Drawbacks:

- Workers may access undesirable sites
- Workers may waste time playing games/going on social network sites/updating their blog/
- online shopping/banking
- Viruses/malware could be downloaded
- Could make the company susceptible to hackers

(c) (i) Different between a website and webpage (01 Marks)

A website is a collection of related web pages while a we page is an electronic document about a particular subject stored on the world wide web.

(ii) Explain two benefits Babirye will realize if she creates a website for her company. (02 marks)

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- It provides an online presence for her company
- It advertises services and goods offered.
- It facilitates communication
- It facilitates online registration
- It facilitates on line assessment in case of a school
- It facilitates collaborative research

SECTION C

27. (a) Differentiate between a computer virus and a bug
Is a computer program which attaches its self to the system and alters the normal functioning of the computer while a bug is an error in a computer program.Or

A malicious program that replicates files and result into loss of data or malfunction of the computer while a bug is an error in a computer program.

(b) Discuss the various ways which can be adopted to protect computers from virus infection.

28. Explain ten ways how the internet is used to commit illegal activities.

Writing malicious codes to infect computers i.e. viruses

Accessing of computer resources illegally (hacking)

Using software without license (piracy)

Phishing

Spamming (sending unsolicited messages)

Cyber terrorism.

Cyber bullying

internet fraud

Broadcasting immoral material /literature (pornography and slander)

Forgery

Changing the source code

Plagiarism

Cracking

Eavesdropping

Tapping

Vandalism

29.(a) Define the term network topology.

Is an arrangement of computers or other communicating devices to facilitate communication in a network.

(b) With illustrations explain four network topologies.

<Check solution in Section C UNEB 2010 Page 130 >

WAKISSHA 2014

WAKISSHA JOINT MOCK EXAMINATIONS
MARKING GUIDE
Uganda Certificate of Education
COMPUTER 840/1
UCE July / August 2014



SECTION A (20 MARKS)

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

SECTION B (60 MARKS)

21. (a) i) Computer with moving parts (morable parts) 1 x 1 mark
- ii)
- Deligence.
 - Versality.
 - Storage.
 - Artificial intelligence.
 - Accuracy.
- 4 x 1 marks
- (b)
- Authentic logic unit.
 - Control unit.
 - Registers / memory.
- 3 x 1 marks
- (c)
- Authentic logic unit – logical / calcaukations.
 - Control unit – cordinalis computer activities.
 - Registers – Temporary memory.
- 2 x 1 marks
22. (a) i) Coding transferring data with a form that computer can process / understand
2 x 1
- ii) ASCII (America standard code for *information interchange*)
EBCDIC (Extended Bimy coded decimal *interchange code*)
2 x 1
- (b) i)

	256	
1	128	0
2	64	0
2	32	0
2	16	0
2	8	0
2	4	0
2	2	0
2	1	1

= 1000000₂

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ii) 10101010

$$(1 \times 2)^7 + (0 \times 2)^6 + (1 \times 2)^5 + (0 \times 2)^4 + (0 \times 2)^3 + (1 \times 2)^2 + (0 \times 2)^1 + (1 \times 2)^0$$

$$128 + 0 + 32 + 0 + 8 + 0 + 2 + 0$$

$$= 170_{\text{ten}}$$

1 for powers
1 for formula
1 for answer

23. (a) i) Disk operating system

ii)

DOS ()	Windows
- Takes up little memory - Operation is fast because commands can be entered directly. - Many commands can be fro.....in a batch. - Commands have to be learnt. - Commands have to be memorized.	- Requires more memory as well as a faster pressure. - Depend on the strength of the computer. - Difficult to automatic functions. - User friendly easy to learn. - No need to memorise command.

2 x 1 for complete comparison

(b) – Programs that perform a specific task usually related to managing computer and its device.

01 x 1

ii)

- Disk scan.
- Anti-virus.
- Disk defra.....
- Diagurstic utility.
- Backup utility.
- Screen saver.

2 x 1

(c) Screen saver

Any 4 utility x 1

24. (a) i) Alternative – loss ofon the signal strength.

ii) Band width – Oily of data transmitted through a media.

1 x 2

(b)

- Sending device.
- Receiving device
- Communication channel.
- Communication device.
- Communication software.

3 x 1

(c) i) Communication channels – penth through which data or signal are sent and media materials or techniques capable ofover more signals.

ii)

- Coaxial cables.
- Fibre optical cable.
- Blue tooth
- Twisted power cable.
- Radio.
- Micro ware.
- Infrared signals.

3 x 1

25. (a) i) Application packages that helps in the manipulation of figure.
 ii) or application software organised in columns and rows.
- Ms excel – Rag time
 - Qn.....pro – Spread 32
 - Lotus 1 2 3 – Gs – Calc
 - Supa cal – Ms office Excel
 - - viscal calc
 - Symphony
- 2 x 1
- (b) i) $= (B_2 + C_2 + D_2)$
 AVG = or @ $(B_2 + C_2 + D_2)$ or $+ D_2 + C_2 + D_2$ 1 x 1
 $= (B_2 + D_2 + C_2) / 3$ Or $= \left(\frac{E_2}{3} \right)$ Or $E_2 / 3$ 1 x 1
- ii) E₄ and F₄ D₇ E₇ 2 x 1
- iii) 24 1 34
 86 96 1 mark for all figures written
- iv) $= (B_2 + B_3 + B_4 B_5 + B_2)$ 1 x 1
26. (a) i) Text / memory 1 x 1
 ii) Currency 1 x 1
- (b) Employe number 1 x 1
- (c) Salary x No. of month 2 x 1
- (d) i) Database with more than one table.
- ii) Database where relation are created.
- Ms access
 - Dbase
 - SQL server
 - Q + A
 - Group devices sharing.
27. (a) Network is collection of computers sharing with one another while network topology is the arrangement of computers on the network.
- (b) Uses / importance of networks.
- Communication.
 - Easy administration.
 - Resource sharing.
 - Research
 - Online learning
 - Cost minimisation
 - Ensures security
 - For adverting
 - Easy administration
 - E-commerce
 - E – banking
 - E – health
 - Leisure and Entertainment
- 1 x 2 @
 1 m point
 1 explanation

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28. Internet is world wide network or collection of computers.

Merits

- CAI and CAL packages.
- Students can learn by themselves.
- Students can do assignments.
- Students get feed back fast.
- Rich educational resources.
- Easy presentation of subject matter by teachers.
- Advanced instructions.
- Experiments done easily.
- Its fast
- Its less costly
- Depends on ISP

5

Demerits

- Face to face interaction between students and teachers denied.
- Initial investment high.
- Need for trained staff to run the project / literate
- Blind and dumb eliminated / limited
- Limited to power presence.

5 x 2

29. (a)

- Diskettes.
- Hard disks. (CD, DVD)
- Flash memory (VCD)
- Optical tape. Blue ray
- Punched cards.

4 x 1

(b)

1. Diskettes
 - Thin and circular.
 - Flexible plastic disk.
 - Should not be exposed to heat.
 - Must be formulated before use.

4 x 1

2. Hard disk.
 - Consists of inflexible circular disks.
 - Sealed tightly.

4 x 1

3. CD – ROM (Compact Disk Read Only Memory)
 - Player required.

4 x 1

4. Tapes
 - Magnetically coated.
 - Storage requires sequential access.

4 x 1

5. Optical

END

EXTERNAL MOCK 2015**SECTION A: (20 MARKS)**

Answer all questions in this section.

1. Which of the following contains a list of commands from which a user makes selections?
 - A. Dialog box
 - B. Icon
 - C. Window
 - D. Menu
2. When computer users a document, they change its appearance.
 - A. edit
 - B. create
 - C. save
 - D. format
3. You interact with a program through its which controls how you enter data and instructions and how information is displayed on the screen.
 - A. operating system
 - B. storage
 - C. user interface
 - D. icon
4. An e-mail program allows
 - A. users to access and view Web pages on the Internet.
 - B. geographically separated people to transfer audio and video.
 - C. real-time exchange of messages or files with another online user.
 - D. transmission of messages and files via a network such as the Internet.
5. The taskbar tabs/button area contains buttons to indicate
 - A. what tasks should be done.
 - B. what tasks are possible to do.
 - C. which tasks have been completed.
 - D. which windows are open on the desktop.
6. The difference between copying a file and moving a file is
 - A. nothing; they are exactly the same.
 - B. when you copy a file, you end up with two identical copies.
 - C. when you move a file, you end up with two identical copies.
 - D. copying a file destroys the original; moving does not destroy anything.
7. If you decide you need a better name to identify a file, you can the file.
 - A. copy
 - B. rename

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- C. move
 - D. delete and recreate
8. The , or typeface, defines the appearance and shape of letters, numbers, and special characters.
- A. font
 - B. font size
 - C. point
 - D. paragraph formatting
9. The paragraph mark (¶) is a formatting mark that indicates where the was pressed.
- A. TAB key
 - B. SPACEBAR
 - C. ENTER key
 - D. SHIFT key
10. Press the ENTER key in all of the following circumstances except
- A. to begin a new paragraph.
 - B. to insert a blank line into a document.
 - C. in response to certain Word commands.
 - D. when the insertion point reaches the end of the current line.
11. Chief component of third generation computer was
- A Transistors
 - B Vacuum Tubes and Valves
 - C Integrated Circuits
 - D Microprocessors
12. To erase a character to the right of the insertion point, press the key.
- A. CANCEL
 - B. BACKSPACE
 - C. DELETE
 - D. either B or C
13. The easiest way to select a cell (make it active) is to
- A. type the cell reference in the status bar.
 - B. type the cell reference in the formula bar.
 - C. use the mouse to move the block plus sign to the cell and then click.
 - D. use the function keys located at the top of the typewriter keys on the keyboard.
14. The is the small black square located in the lower-right corner of the heavy border around the active cell.
- A. sizing handle
 - B. fill handle

- C. move handle
- D. marquee
- 15. All of the following are valid Excel arithmetic operators except
 - A. ^.
 - B. *.
 - C. %.
 - D. >.
- 16. In an Excel spreadsheet the formula: =IF(B4<=\$B\$24, \$B\$19, 0) is assigned to cell B9.
If the value in cell B4 is 15, value in cell B19 is 10 and the value in cell B24 is 5. Which of the following will be displayed in cell B9?
 - A. 0
 - B. 5
 - C. 10
 - D. 15
- 17. In Microsoft Access, a database consists of a collection of
 - A. tables.
 - B. worksheets.
 - C. documents.
 - D. linked lists.
- 18. A field with a(n) data type can store a unique sequential number that a DBMS assigns to a record and increments by 1 as each new record is added.
 - A. Sequential
 - B. AutoIncrement
 - C. AutoNumber
 - D. Automatic
- 19. Identify the odd man out:
 - A. Plotter
 - B. Monitor
 - C. Scanner
 - D. Speaker
- 20. A computer program that operates or controls a particular type of device that is attached to a computer is known as:
 - A. a driver
 - B. an operator
 - C. an application software
 - D. the operating system

ANSWERS – SECTION A

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

SECTION B (60 MARKS)

Answer **all** questions in this section. All the working **must** be done in the spaces provided.

21. A spreadsheet has been set up to record employees' hotel expenses for one year. The data for one employee is shown below.

	A	B	C	D	E	F	G
1	Hotel	Tariff Sunday to Thursday	Tariff Friday to Saturday	No of nights (Sunday to Thursday)	No of nights (Friday to Saturday)	Total cost (\$)	Maximum allowance
2	Grand	150	90	3	2	630	600
3	Station	200	120	2	1	520	800
4	Northern	90	60	5	0	450	360
5	Western	120	80	4	1	560	480
6	George	180	100	2	2	560	720
7	Quality	100	70	3	1	370	400
8	AVERAGE						

(a) What formula is in F2 to calculate the employee's costs at the Grand Hotel? (2 marks)

..... = (D2 * B2) + (E2 * C2).....

(b) The maximum allowance is four times the Sunday to Thursday tariff.

What formula is in G2? (1 mark)

..... = B2 * 4.....

(c) A manager wants to know whether an employee exceeded their maximum allowance at each hotel. Describe how the spreadsheet could be used to do this. (2 marks)

Any two from:

– use (=) IF(F2 > G2, "exceeded", "within range")

– replicate formula down to row 7

OR

– F2-G2

– if result is positive ...

OR

– draw graph of data in columns F and G

– compare values on graph to determine if exceeded

OR

- drawing line of unit gradient (on a scatter graph of total cost versus maximum allowance)
 - compare values on graph to determine if exceeded
 - (d) Write down a function that can be entered in cell B8 to calculate the average Tariff Sunday to Thursday and describe the spreadsheets feature that can be used to apply this function to automatically generate averages for column C to G.
(3 marks)
 - =AVERAGE(B2:B7). The fill handle can be used to copy the formula to other cells. This can be done by clicking the bottom right corner of cell B8 across cells C8 to G8
 - (e) A macro was written to convert the tariff rate into different currencies. The exchange rate was taken directly from a website. What is the advantage of using a macro to do this? (2 marks)
 - automatic calculation
 - no need to create formula (etc.) every time on the spreadsheet
 - can be assigned to a keyboard shortcut and launched
22. Andrew is sending a large document to a printer.

- (a) State the name for the area of memory used to store temporarily the data being sent to the printer.

(01 mark)

.....Any one from: – buffer or – RAM.....

- (b) State a **keyboard shortcut** for printing used in word processing.

(01 mark)

.....Ctrl + P.....

- (c) The printer runs out of paper during the printing job. A signal is sent back to the computer to temporarily stop its current task. Name this type of signal.

(01 mark)

.....interrupt.....

- (d) When trying to save this document after it was printed, the computer stops responding.

Give two reasons why the computer might stop responding.

(02 marks)

Any two from:

- hardware problem (e.g. head crash on disk drive)
- software “glitch”
- viruses
- disconnected printer cable
- automatic update in progress
- too many applications open

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

(e) Andrew ended up losing his electronic document. How could that have been prevented?

(01 mark)

Any one from:

- backup the document
- enable automatic saving of work
- manually save document every 10 minutes
- save before printing

(f) With an example in each case, explain the difference between impact printers and non-impact printers. (04 marks)

Impact printers operate by having an element strike the paper. For example a dot-matrix impact printer.

Whereas

The print heads of non-impact printers do not strike the page. In an inkjet printer, a print head sits a small distance above the page and either sprays ink or pops a bubble of ink onto the paper.

23. (a) What do you understand by the term **slide presentation**? (01 mark)

A collection of pages arranged in sequence that contain text and images for presenting to an audience.

(b) Define the following terms as applied to presentation software. (04 marks)

iv. Slide Sorter View

Slide sorter view is window that displays thumbnail versions of all slides in a presentation, arranged in horizontal rows. This view is useful for rearranging or deleting slides.

v. Transition

transitions are the effects that occur in Slide Show view when you move from one slide to the next during an on-screen presentation.

vi. Hotspot

An invisible hyperlink, transparent hyperlink, or invisible action button that is used as a hyperlink to another action. Actions can include moving to another slide in the presentation, starting another program, playing a sound or opening a Web page on the internet.

vii. Master Slide

A slide master is the slide that stores information about the theme and slide layouts of a presentation, including the background, color, fonts, effects, placeholder sizes, and positioning. The main purpose of a master slide is to ensure a consistent look and feel to a set of slides that are based upon it. So a master slide is a kind of template.

(c) State any **two** factors considered to create a good presentation. (02)

- Choose a font size that your audience can read from a distance.
- Make labels for charts and graphs understandable.
- Use high contrast between background color and text color.
- Check the spelling and grammar.
- Use art and graphics to help convey your message.
- Use the slide master feature to create a consistent and simple design template. It is fine to vary the content presentation (i.e., bulleted list, 2-column text, text & image), but be consistent with other elements such as font, colors, and background.
- Simplify and limit the number of words on each screen. Use key phrases and include only essential information.
- Limit punctuation and avoid putting words in all capital letters.
- Use contrasting colors for text and background. Light text on a dark background is best. Patterned backgrounds can reduce readability of text.
- Avoid the use of flashy transitions such as text fly-ins. These features may seem impressive at first, but are distracting and get old quickly.
- Overuse of special effects such as animation and sounds may make your presentation “cutesy” and could negatively impact your credibility.
- Use good quality images that reinforce and complement your message. Ensure that your image maintains its impact and resolution when projected on a larger screen.

(d) State the use of the following keyboard shortcuts when using PowerPoint presentation software: (5 marks)

- F5
.....Launch Slide Show from the first slide.....
- Shift + F5
.....Launch Slide Show from current slide.....
- Ctrl + M
.....Insert new blank page.....
- Ctrl + Home
.....Jump to beginning of presentation or placeholder....
- Esc
.....End slide show.....

24. A database was set up to show the properties of certain chemical elements.

Part of the database is shown below.

Name of element	Element Symbol	Atomic Number	Atomic Weight	Melting Point (C)	Boiling Point (C)	State at room temp

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

oxygen	O	8	16	- 218	- 183	gas
Iron	Fe	26	56	1538	2861	solid
mercury	Hg	80	201	- 38	356	liquid
bromine	Br	35	80	- 7	59	liquid
osmium	Os	76	190	3033	5012	solid
caesium	Cs	55	133	28	671	solid
gallium	Ga	31	70	30	2204	solid
Argon	Ar	18	40	- 189	- 186	gas
Silver	Ag	47	108	961	2162	solid

(a) How many fields are in each record? (01 mark)

..... 7

(e) The following search condition was entered:

(Melting Point (C) < 40) AND (Atomic Weight > 100)

Using Element Symbols only, which records would be output?(02 marks)

Hg, Cs

(f) We need to know which elements have an atomic number greater than 50 and are solid at room temperature. Write down the search query condition to find out these elements.

(02 marks)

(Atomic Number > 50) AND (State at room temp = "solid")

Must use exact spelling

(g) The data are to be sorted in descending order of Boiling Point (C).

Write down the new order of records using the Element Symbols only.

(02 marks)

Os, Fe, Ga, Ag, Cs, Hg, Br, O, Ar

(h) Apart from Microsoft Access, give any other two database management software.

(02 marks)

MySQL

Microsoft Access

Oracle

dBase

OpenOffice.org Base

Corel Paradox

25. (a) (i) What is a **hard disk interface**? (1 mark)

The hard disk interface is the physical means by which the hard disk connects to the rest of the computer.

(ii) Mention two examples of hard disk interfaces commonly used today. (2 marks)

USB (Universal Serial Bus)

FireWire

SATA, (Serial Advanced Technology Attachment)

EIDE, (Enhanced Integrated Drive Electronics)

SCSI, (Small Computer System Interface) and

SAS (Serial-attached SCSI)

(b) (i) What a **head crash** is as applied to magnetic hard disks?

A head crash is a hard-disk failure that occurs when a read–write head of a hard disk drive comes in contact with its rotating platter, resulting in permanent and usually irreparable damage to the magnetic media on the platter surface.

(ii) How can a hard disk head crash be avoided? (01 mark)

Can be avoided by avoiding sudden severe motion of the disk, for example the jolt caused by dropping a laptop to the ground while it is operating.

(c) Define the following terms as associated with hard disks and storage:

(i) Hard disk backup. (01 mark)

The process for making extra copies of data on a hard disk in case the original is lost or damaged.

(ii) 1 Tera Byte Hard disk. (01 mark)

A hard disk with a multiple of the unit byte for digital information of 1 TB = $1000000000000\text{bytes} = 10^{12}\text{bytes} = 1000\text{gigabytes}$.

(iii) Hard Disk Cache. (01 mark)

Disk cache, sometimes called a buffer, consists of a memory chips on a hard disk that stores frequently accessed items such as data, instructions, and information. It is similar to Memory Cache

(iv) Internet hard disk. (01 mark)

An Internet hard disk, also called online storage, is a service on the Web that provides storage to computer users, usually for a minimal monthly fee.

26. A high school student wants to buy a new laptop or a notebook and likes the configuration of the laptop in the figure below. Use figure 1.1 to answer the questions that follow.

Notebook R500VD-SX002X



With
New IVY
Bridge CPU




\$2049

15.6" LED HD Screen

Intel Core i7-3610QM 2.3GHz 3rd (Turbo 3.3GHz)

4GB DDR3 RAM, 500GB HDD

2GB DDR3 NVIDIA GT 610M graphics card

DVD Writer, 1x USB 2.0, 2x USB 3.0

HDMI-out, Webcam + Wifi bgn

Windows 7 Professional

Special Features: Instant On resume work in 2 seconds, LCD Screen Zero Bright dot Guarantee up to 5 hrs battery Life*, IceCool palm rest, DuraBatt technology gives 25% more power and 3x longer battery life with thousands of charge and discharge compared to the normal battery life. Perfect for all Business users, gamers and graphic designers who need performance and reliability...*

1 Year Global Warranty

- a. Name the processor used in this laptop. (1 mark)
 Intel Core i7.....
- b. How fast is this processor? (1 mark)
 2.3GHz.....
- c. What is the capacity or size of the laptop's main memory? (1 mark)
 4 GB.....
- d. What is the capacity or size of the laptop's hard disk? (1 mark)
 500 GB.....
- e. Name the operating system in this laptop. (1 mark)
 Windows 7 Professional.....
- f. Identify the feature of this laptop that will allow the student to access the Internet. (1 mark)
 WiFi bgn.....
- g. Explain why the student can use this laptop to make a one-to-one live communication over the Internet. (2 marks)

Laptop has a Webcam which he can use to do live video conferencing over the internet

h. Explain why this laptop may not be suitable for a high school student.

According to the ad, laptop may be too powerful as it was designed for business users, gamers and graphic designers.

SECTION C: (20 MARKS)

*Answer only **one** question from this section.*

Answers are to be done in the answer booklet provided.

27. Mention and explain any 10 **professions** and career paths in the field of computing and Information Technology.

COMPUTER PROFESSIONS

CAREERS

A. SYSTEM ADMINISTRATORS

A system administrator is a person employed to maintain and operate a computer system or computer network system/ multi-user computing environment, such as a local area network, Wide Area Network, Virtual Area networks, etc. System administrators may therefore be members from the technology department that is to say, information technology (IT) or Electronics and Communication Engineering department.

B. WEBMASTERS

Webmasters develop and maintain Web sites and web resources. The job may include backup of the company Web site, updating resources, or developing of new resources. Webmasters are involved in the design and development of website. Part of their job may also include monitoring and updating the interface design. Some webmasters monitor traffic on site. Webmasters may also work with marketing personnel to increase the site traffic and may be involved in development of Web promotions.

C. NETWORK ADMINISTRATORS

Network administrator manages a company's LAN and WAN networks. They may be responsible for the design, implementation and maintenance of networks.

Responsibilities usually include the maintenance of both hardware and software relating to a company's intranet and internet networks. Some are responsible for planning and implementing the security measures as well.

Certification - Microsoft Certified Systems Engineer (MCSE), Certified Novell Administrator (CNA), and Certified Novell Engineer (CNE).

D. CRYPTOGRAPHER

Cryptography is the science of disguising and revealing encrypted information. In ICT

Cryptography means keeping any intercepted information private. For example information like financial data, banking and credit card information used in

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online shopping or private e- mail and correspondence. Cryptographers design systems, break systems, and do research on encryption.

E. INFORMATION SYSTEM MANAGER

Information system managers oversee the work of programmers, computer specialists, system analysts, and other computer professionals. They create and implement corporate computer policy and systems. These professionals consult with management, staff and customers to achieve goals.

F. DATABASE ADMINISTRATORS

Database administrators use database management software to determine the most efficient ways to organize and access a company's data. They are responsible for maintaining database security and backing up systems.

Certifications – MySQL Server, Oracle, and Sybase.

G. SYSTEMS ANALYST

A Systems analyst follows the steps described in the systems development life cycle.

Analysts plan and design new systems or reorganize a company's computer resources to best utilize them.

H. COMPUTER PROGRAMMERS

Computer programmers create, test, and troubleshoot programs used by computers. Programmers may also update and repair existing programs.

Certifications – Java, C++, Visual Basic and knowledge of SQL.

I. COMPUTER TRAINERS / TUTORS

Computer trainers instruct new user on the latest software or hardware. They are usually expected to prepare new materials for instruction and may be asked to write and maintain course manual. A position may also include design and development of a website for the course. Computer trainers typically teach new users how to use the latest software and hardware. Experience with the most popular business software is an advantage.

J. DESKTOP PUBLISHERS

Desktop publishers use computers to format and create publication-ready material. They may create books, magazines newsletter, and newspapers on computers using special applications software's large part of the job is designing page layout, importing text, and manipulating graphics. Most desktop publishers work for companies that handle commercial printing accounts.

K. COMPUTER SUPPORT SPECIALIST

Computer support specialists provide technical support to customers and other users. They may also be called technical support specialist or help desk technicians. They manage the everyday problems faced by computer users. They resolve common networking problems and may use troubleshooting programs to diagnose problems.

L. COMPUTER TECHNICIAN

Computer technicians may repair and install computer components and systems.

They may work on everything from personal computers to mainframe servers or printers. Some Computer technicians are responsible for setting up and maintaining computer networks. Experience computer technicians may work with computer engineers to diagnose problems and run routine maintenance on complex systems.

Certification – CompTIA's A+ hardware examination and Network+

M. DATA ENTRANTS

Data entry workers input customer information, lists, and other type of data. Input devices are typically limited to keyboards, mice, and scanners. Because the accuracy of recorded data is so important, data entry workers are often required to verify the accuracy of data they and others have entered.

N. TECHNICAL WRITERS

Technical writers prepare instructional manuals, technical reports, and other scientific or technical documents. Most Technical writers work for software firms, government agencies, and research institutions.

O. SOFTWARE ENGINEERS

Most Software engineers analyze user need and create application software. Software engineers usually have experience in programming, but focus on the design and development of programs using the principles of mathematics and engineering. They rarely write codes themselves.

29. (a) Give any four duties / roles of a **system analyst**.

1. Investigate how information is used, handled and manipulated in an organization.
2. Identify inefficiencies and ineffectiveness in the current system used by the organization e.g. delays, high operating costs, huge clerical effort and health hazards.
3. Analyze the results of the investigation that will lead to designing the new system.
4. Design a specification of a new system which overcomes the inefficiencies and meets the organization objectives.
5. Oversees the process of testing during the testing of the system.
6. The analyst acts as a *facilitator*.
 - He/She interfaces among many different types of people and facilitates the development of computer applications through these people.

(b) Which qualities does a system analyst need to possess in order to perform his/her duties effectively?

1. Working knowledge of IS Techniques and Technology.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

2. Computer Programming Knowledge
3. Problem-solving skills (creativity)
4. Interpersonal Relations skills (confidence, persistent, patience)
5. Interpersonal communication skills
6. Ongoing interest in updating one's knowledge in IT.

Diplomacy	Being able to say "no" without being "blunt"; displaying tact in dealing with others.
Interviewing	Asking the right questions in order to obtain the information needed.
Directing	Giving instructions and communicating user requirements to programming and support staff.
Patience	Continually refining user requirements by requesting - feedback; tolerating lack of computer literacy and specificity.
Assertiveness	Insisting on a course of action or what one believes in, even though it may be unpopular.
Leadership	Getting work done while keeping the team satisfied, effectively giving rewards and punishment.
Programming	Converting system specifications into effective and efficient computer code.
Speaking	Presenting your ideas in a manner easily understood by your audience, both in group meetings and person to person.
Writing	Preparing written documents that accurately communicate ideas in a manner that is easily understood by intended readers.
Listening	Paying attention to and concentrating on what is being said, and asking questions that refine points about which one is uncertain.
Empathy	Being able to understand how others feel; accurately determining what someone else thinks about an issue.
Sales	Promoting the system you advocate; persuading others to accept your viewpoint.
Politics	Understanding what motivates individuals; determining sources of power and influence in an organisation.
Management	Planning, organising and controlling projects so that they get done on schedule and within budget.
Training	Educating users and other non-technical groups on the capabilities of computers and systems.
Cooperation	Working with others productively; resolving conflict in an effective manner.

30. (a) What is the difference between pseudo code and source code in programming? (4 marks)

- ❖ Pseudo code refers to structured English-like phrases that indicate the program steps to be followed to solve a given problem, but are not

executable by a computer.

While

Source code refers to program statements written by a programmer using a particular programming language, which can be compiled into a working executable program.

(b) A teacher designed a program with the following pseudo code:

```
START
  DISPLAY "Enter the mark"
  INPUT mark
  IF mark > 60 THEN
    DISPLAY "Pass"
  ELSE
    DISPLAY "Fail"
STOP
```

- (i) Using C or Visual basic syntax, help the teacher to convert the above pseudo code to source code which can be compiled into an executable program. (14 marks)

```
#include <stdio.h> //Directive for including
standard io library
int main(){           //starting main function
    printf("Enter the mark ");
                        //Prompting user to enter mark
    int mark;          //Declaring mark variable
    scanf( "%d", &mark);
                        //Read mark from keyboard and input
    if(mark > 60){
        //Decision with condition [mark greater than 60]
        printf(" Pass "); //Display 'Pass' if
condition is true
    }
    else {
        printf(" Fail ");
                        //Display 'Fail' if condition is false
    }
    return 0;          //End program
}                      //close main function
```

Marking Guide: Bold statements x2 marks, other commented statements 1 mark each

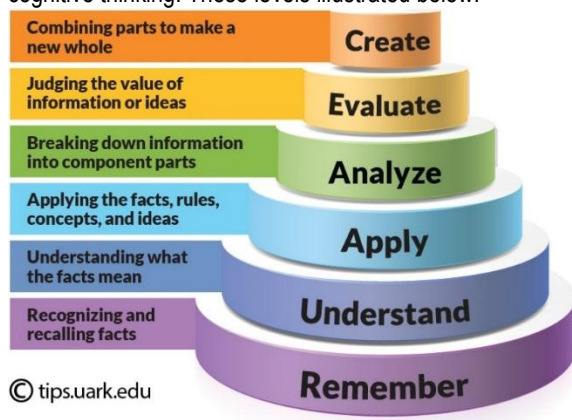
FOR TEACHERS: SAMPLE UCE EXAM BLUE PRINT (UNEB 2015) AND BLOOMS TAXONOMY

What is Bloom's Taxonomy?

Bloom's taxonomy is a set of hierarchical models used to classify educational learning objectives into levels of complexity and specificity. The cognitive domain list has been the primary focus of most traditional education and is frequently used to structure curriculum learning objectives, assessments and activities. The models were named after Benjamin Bloom, who chaired the committee of educators that devised the taxonomy. Although named after Bloom, the publication of Taxonomy of Educational Objectives followed a series of conferences from 1949 to 1953, which were designed to improve communication between educators on the design of curricula and examinations.

Teachers usually ask questions to students every day. Not all questions are on the same level. Some questions are easy to answer where other questions may require a great deal of thinking.

Blooms taxonomy assist examiners to compose questions on different levels of thinking. This taxonomy ranges from lower to higher levels of cognitive thinking. These levels illustrated below:



How Bloom's can aid in course design

Before you can **understand** a concept, you must **remember** it.

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AND BLOOMS TAXONOMY**

To **apply** a concept you must first **understand** it.

In order to **evaluate** a process, you must have **analyzed** it.

To **create** an accurate conclusion, you must have completed a thorough **evaluation**.

The table below lists key verbs usually used in questions at levels different.

Just keep in mind that it is the skill, action or activity you will teach using that verb that determines the Bloom's Taxonomy level.

Bloom's Level	Key Verbs (keywords)
Create	design, formulate, build, invent, create, compose, generate, derive, modify, develop.
Evaluate	choose, support, relate, determine, defend, judge, grade, compare, contrast, argue, justify, support, convince, select, evaluate.
Analyze	classify, break down, categorize, analyze, diagram, illustrate, criticize, simplify, associate.
Apply	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, perform, present.
Understand	describe, explain, paraphrase, restate, give original examples of, summarize, contrast, interpret, discuss.
Remember	list, recite, outline, define, name, match, quote, recall, identify, label, recognize.

Blue Print and Question Paper UNEB 2015

An examination blue print is an exam plan drawn by an examiner when setting an exam. It shows a breakdown of all questions set per topic of the syllabus, also set in consideration of **blooms taxonomy** learning ability levels. Teachers are encouraged to use blue prints when setting in order to ensure a balanced paper.

THE BLUE PRINT FOR SECTION A MULTIPLE CHOICE QUESTIONS UNEB 2015

	TOPIC NAME	KNOWLEDGE	COMPREHENSION	APPLICATION	TOTAL
1	Introduction To Computers	1	1	1	3
2	Computer Hardware	1	1		2
3	Computer Software		1	1	2
4	Word Processing			1	1
5	Computer Presentation		1		1

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

6	System Start-Up and Configuration		1	1	2
7	Computer Communication and Net Working	1	1		2
8	Spreadsheets	1			1
9	Web Designing		1	1	2
10	Data Bases	1			1
11	Elementary Computer Programming	1			1
12	Trends In Computing	1		1	2
	TOTAL	7	7	6	20

NB:

- 1.The learning abilities were derived from the general objectives in the teaching syllabus.
- 2.The questions comprise of cross cutting levels of abilities.
- 3.The learning ability levels are indicated in percentages as follows.

KNOWLEDGE 35%

COMPREHENSION 35%

APPLICATION 30%

- 1.Creating ability level is not provided for in section B since it is the dominant ability level in **Section C**.
- 2.Consideration was made for the revised Blooms taxonomy for **HOTs** and **LOTS**.

BLUE PRINT FOR SECTION B

TOPIC		ABILITY LEVELS TESTED PER QUESTION					
		Q.21	Q.22	Q.23	Q.24	Q.25	Q.26
1	Introduction To Computer	Remembering					
2	Computer Hardware		Understanding				
3	Computer Software						Remembering
4	Word Processing					Remembering	
5	Computer Presentation					Applying	

**FOR TEACHERS: SAMPLE UCE EXAM BLUE PRINT (UNEB 2015)
AND BLOOMS TAXONOMY**

6	System Start-Up and configuration		Applying				
7	Communication and Net Working				Understanding		
8	Spreadsheets			Applying			
9	Web Designing				Evaluation		
10	Data Base			Understanding			
11	Elementary Computer Programming						Understanding
12	Trends In Computing	Applying					
	Summary of Topics	1 & 12	2 & 6	8 & 10	7 & 9	4 & 5	3 & 11

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Question Paper UNEB 2015

NB: The questions for UNEB 2015 Computer Studies have been reproduced below for reference with blooms taxonomy and the blueprint above.

SECTION A: (20 MARKS)

Answer **all** questions in this section.

1. The ability of the computer to perform many different tasks is termed as.....
A. reliability. C. versatility.
B. efficiency. D. accuracy. ☐
2. Digital cameras save the expense of all the following **except**.....
A. duplication. C. film developing.
B. posting. D. battery power. ☐
3. In computer storage capacity, a megabyte is approximately equivalent tobytes.
A. 1, 073,741, 824. C. 1, 024.
B. 1, 048, 574. D. 1, 099, 511, 627, 776. ☐
4. When using a word processor, a footer can **best** be defined as.....
A. a text that prints in the bottom margin of a page.
B. a text that prints in the gutter of a page.
C. a text that prints in the top margin of a page.
D. the last word of a document. ☐
5. Spreadsheets would be the **best** computer application to carry out.....
A. the production of letters.
B. budgeting and financial projections.
C. notes about appointments and meetings.
D. drawing of graphics and structural designs. ☐
6. The process of writing a program is commonly called.....
A. running. C. coding.
B. compiling. D. dcbugging. ☐
7. Which one of the sets below contains network security technology?
A. Firewall and encryption. C. Spamming and adware.
B. Pharming and phishing. D. Cookies and spyware. ☐
8. Computer management utilities, such as disk defragmentation, are found in menu.
A. Entertainment C. System tools
B. Accessibility D. Communications ☐
9. Which one of the following makes up the last phase of system development?
A. Feasibility study. C. Coding.
B. Maintenance. D. Testing. ☐

**FOR TEACHERS: SAMPLE UCE EXAM BLUE PRINT (UNEB 2015)
AND BLOOMS TAXONOMY**

10. The startup computer instructions on **boot up** are found in
A. ROM BIOS. C. REGISTER. ☐
B. CPU. D. CONFIG • SYS.
11. The standard markup language used in creating most webpages is.....
A. IITTP. C. URL. ☐
B. TCP. D. HTML.
12. In databases, a field is.....
A. a unit of information in a record.
B. the way information is displayed. ☐
C. a particular listing with a file.
D. the entire collection of data.
13. Which one of these below is **not** performed by the computer's operating systems?
A. Loading of computer programs.
B. Interfacing between the user and the program. ☐
C. Removing computer virus.
D. Scheduling tasks for execution.
14. The development of wireless computer networks was a technological milestone in thegeneration.
A. First C. Third ☐
B. Second D. Fourth
15. The following are web browsers **except**.....
A. Internet explorer. C. Mosaic. ☐
B. Netscape navigators. D. Google.
16. The process of transferring files from a client computer to a server on the Internet, is referred to as.....
A. saving. C. downloading. ☐
B. uploading. D. storing.
17. Which one of the following is **not** a utility program?
A. Backup. C. Defragmenter. ☐
B. Registers. D. Disk cleaning.
18. The software most suitable for producing visual aids to enhance communication of ideas issoftware.
A. database C. presentation ☐
B. spreadsheet D. word processing

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

19. A combination of characters associated with a user name that allows one to access computer resources is referred to as.....

A. User ID. C. Password.
B. Login. D. Wordstar.

☐

20. Which of the following structures is **not** correct for a URL?

A. ftp://www.google.com. C. http:// www.google.com.
B. https:// www.google.com. D. html: //www.google.com.

☐

SECTION B: (60 MARKS)

Answer all questions in this section.

*All answers **must** be written in the spaces provided.*

21. (a) Give any **two** ways of categorizing computers. (02 marks)

(i).....

(ii).....

- (b) Name **three** stages of the data processing cycle. (03 marks)

(i).....

(i).....

(iii).....

- (c) (i) Distinguish between computer legal issues and ethical issues.

(02 marks)

(i).....

(i).....

(i).....

(i).....

(i).....

.....

- (ii) Give any **three** computer ethical issues. (03 marks)

(i).....

(i).....

.....

**FOR TEACHERS: SAMPLE UCE EXAM BLUE PRINT (UNEB 2015)
AND BLOOMS TAXONOMY**

22. (a) (i) Name any **two** ports through which computer peripherals are connected. (02 marks)
-
-
- (ii) Give any **two** components inside a computer which can be replaced or upgraded, when the computer is slow. (02 marks)
-
-
- (b) Outline **two** uses of a computer system control panel. (02 marks)
- (i).....
- (ii).....
- (c) (i) Explain a computer system interface. (02 marks)
-
-
-
- (ii) Identify any **two** features of an application software interface. (02 marks)
-
-
23. (a) Explain the following functions as used in spreadsheet applications.
- (i) **IF** (02 marks)
-
-
- (ii) **MAX** (02 marks)
-
-
- (b) When is an **absolute cell reference** necessary in a spreadsheet formula? (02 marks)
-
-
-

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- (c) Give the function of each of the following field properties in a database table design.
- (i) **Default Value.** (02 marks)
-
-
-
- (ii) **Validation rule.** (02 marks)
-
-
-
24. (a) (i) What is a peer to peer computer network? (02 marks)
-
-
-
- (ii) Name any **three** examples of communication media used in a computer network. (03 marks)
-
-
-
- (b) (i) Define a **webpage**. (02 marks)
-
-
-
- (ii) State **three** benefits of a school having a website. (03 marks)
-
-
-
-
-
25. (a) State **five** factors considered in order to come up with an attractive and professional presentation. (05 marks)
- (i)
- (ii)

**FOR TEACHERS: SAMPLE UCE EXAM BLUE PRINT (UNEB 2015)
AND BLOOMS TAXONOMY**

(iii)

(iv)

(v)

- (b) Give any **two** ways that can be used to navigate an electronic word document. (02 marks)

(i)

(ii)

- (c) Outline the effects of the following word processing features:

(i) **Indentation** (01 mark)

.....

.....

(ii) **Superscript** (01 mark)

.....

.....

(iii) **Line spacing** (01 mark)

.....

.....

26. (a) Define the term **off-shelf software**. (02 marks)

.....

.....

.....

- (b) In the table below, categorise the given programmes as either system software or application software.

- AutoCAD.
- Windows 2000.
- Disk defragmenter.
- Publisher.

SYSTEM SOFTWARE	APPLICATION SOFTWARE
(i)	(iii)
(ii)	(iv)

(04 marks)

- (c) Explain the following computer programming tools:

(i) **Compiler** (02 marks)

.....

.....

.....

.....

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(ii) **Interpreter**

(02 marks)

.....

.....

.....

.....

SECTION C: (20 MARKS)

*Answer only **one** question from this section. Answers to the question **must** be done in the answer booklet provided.*

27. (a) You are provided with the following computer hardware parts and other electrical accessories:
- (i) AC mains socket outlets.
 - (ii) Uninterruptible Power Supply (UPS).
 - (iii) UPS power cable.
 - (iv) System Unit.
 - (v) System Unit power cable.
 - (vi) Monitor.
 - (vii) Monitor power cable.
 - (viii) Mouse.
 - (ix) Key board.
 - (x) VGA cable.
- Describe how they can be assembled to make a complete functioning computer. (12 marks)
- (b) Outline the logical order of switching on the computer system, assembled in (a). (08 marks)
28. (a) Describe any **four** services that are provided by the Internet. (08 marks)
- (b) Explain the functions of any **four** devices that can be used to connect the Internet. (12 marks)
29. Using a computer programming language of your choice, write a computer program that will be used to find a product of two numbers. (20 marks)

FINAL PAPER 2016

NB: You can find the UNEB 2013 Computer Studies Question Paper in the official UNEB question bank which can be bought from UNEB. Below is just a draft answer guide:

UCE 840/1 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

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- 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

(ii) Filter

(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

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=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

(ii) Query

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 alarms

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

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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/grammar 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**

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- 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

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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 centralized administration via the server

Any 5 points x 2 = 10 marks

ACIETEKA 2017

1. _____ **computers are also called personal computers**
 - A) Mainframe
 - B) Mini
 - C) Micro
 - D) Super
2. **Which of the following is not input unit device?**
 - A) scanner
 - B) camera
 - C) plotter
 - D) digitizer
3. **Communication channel is shared by all the machines on the network in**
 - A) unicast network
 - B) multicast network
 - C) Anycast network
 - D) broadcast network
4. **The first machine to successfully perform a long series of arithmetic and logical operations was:**
 - A) ENIAC
 - B) Mark-I
 - C) Analytic Engine
 - D) UNIVAC-
5. **Which one is the largest space?**
 - A) megabyte
 - B) petabyte
 - C) terabyte
 - D) gigabyte
6. **Analog computer works on the supply of**
 - A) Continuous electrical pulses
 - B) Electrical pulses but not continuous

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- C) Magnetic strength
- D) Binary digits only
- 7. ***Which printer is very commonly used for desktop publishing?***
 - A) Laser printer
 - B) Inkjet printer
 - C) Daisywheel printer
 - D) Dot matrix printer
- 8. ***Most of the first generation computers were***
 - A) Special purpose computers
 - B) General purpose computers
 - C) Both General and Special purpose computers
 - D) Military purpose computers
- 9. ***Operating system, editors, and debuggers comes under?***
 - A) System Software
 - B) Application Software
 - C) Utilities
 - D) Programming tools
- 10. ***A computer has very low failure rate because it uses electronic components. It produces very consistent results. This is highlighted by which of the feature of computer?***
 - A) Accuracy
 - B) Reliability
 - C) Versatility
 - D) Automatic
- 11. ***What is the first stage in software development?***
 - A) Specification and design
 - B) Testing
 - C) System Analysis
 - D) Maintenance
- 12. ***Which of the following is a read only memory storage device?***
 - A) Floppy Disk
 - B) CD-ROM
 - C) Hard Disk
 - D) CD -RW
- 13. ***Symbolic logic was discovered by***
 - A) George Boole
 - B) Herman Hollerith
 - C) Van Neumann
 - D) Basic Pascal

14. ***Which of the following have the fastest access time?***
A) Compact Disks
B) Magnetic Disks
C) Magnetic Tapes
D) Semiconductor Memories
15. ***One of the main feature that distinguish microprocessors from micro-computer is***
A) Words are usually large in microprocessors
B) Words are shorter in microprocessors
C) Microprocessor does not contain I/O device
D) Exactly the same as the machine cycle time
16. ***Which of the following database object hold data?***
A) Forms
B) Reports
C) Queries
D) Tables
17. ***Which field type can store photos in Microsoft Access Application?***
A) Hyperlink
B) Access tables can't store photos
C) Both of these can be used
D) OLE
18. ***A _____ is a device that forwards packets between networks by processing the routing information included in the packet.***
A) Bridge
B) Firewall
C) Router
D) Switch
19. ***Which one of the following extends a private network across public networks?***
A) local area network
B) enterprise private network
C) storage area network

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D) virtual private network

20. Bluetooth is an example of

- A) local area network
- B) virtual private network
- C) Wide Area Network
- D) personal area network

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

Section B (60 marks)

Answer all questions from this section.

1. (a) Explain why Analytic Engine designed by Charles Babbage made him the father of modern computers?
 - **Analytic engine had components such as memory, input, output and store whose technology is use in modern computers.** (02 marks)
- (b) Give one good reason for the following innovations:
 - i. Vacuum tubes were replaced by transistors in the second generation of computer.
 - **Transistors were used in the second generation to reduce great heat generated by the vacuum tube technology causing many problems in temperature regulation and climate control.**
 - **The tubes also burnt out frequently in the second generation of computer.** (02 marks)
 - ii. Computers in the second generation consumed great deal of heat than in third generation.
 - **Computers in the third generation were made smaller with smaller components such Integrated circuits (ICs) which required less power than that of second generation (the Transistors) ..**(02 marks)
- (c). Suggest any one main innovation which describes feature of:
 - i. Fourth Generation Computers
 - **Use of Silicon Chips which involved Large Scale Integrated Circuits.** (02 marks)
 - ii. Fifth Generation Computers
 - **Use of Silicon Chips which involved Very Large Scale Integrated Circuits.** (02 marks)

2. (a) Explain any three main areas in sports where computer systems are used.

- By using ICT, athletes and sporting goods companies can take advantage of innovative technologies to improve their performance or enhance their product line.
- For example, sports fans subscribe to RSS feeds to keep up with the latest information about their favorite teams while stadiums use computer applications for goal line technology.
- CAD is used to design sail boats, kayaks, tennis racquets and Formula One race cars as well.
- The use of ICT makes the results more accurate and well-organized.
- Also, ICT provides evidence for the officials so they will not receive complaints or abuse from the opposition - i.e. a tennis ball being shown as out.
- Some sporting organizations may use a computer to assess sports injuries.
- In Athletics, technology is used to detect false starts.
- Use of websites for the advertisement of sporting events.
- In sailing races, navigation software is used, connected to the Internet and GPS for tracking location.

(b) State the use of VGA Port in a computer system. (02 marks)

- Users employ Video Graphics Array (VGA) ports to transfer analog video signals from one machine to another using VGA cables.
- Used to connect VGA and Super VGA monitors to the computer.

(c). Identify the colors typically used for the following ports:

i. PS/2 Mouse: ... **Green**
(01 mark)

ii. Microphone (input): **Pink** (01 mark)

- i. List and describe any five factors in choosing the computer case: Model type: Desktop (lays flat) versus tower (stands up).
- ii. Size: Case should have enough space for installed components.
- iii. Available space: Desktop cases allow space conservation in tight spaces whereas tower can be located under desk.
- iv. Amount of devices: More devices need more power, which also requires a larger power supply.
- v. Power supply: Must match the power rating and connection type.
- vi. Environment conditions: If you work in a dusty environment, you need to choose a case that reduces the amount of dust that enters the system.

3. Match the definition on the left with each of these terms: **Active partition, Formatting, Partitioning, Registry, and Windows Explorer.**

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a) The process of assigning part or all of the drive for use by the computer is **Partitioning**

(02 marks)

b) **Registry** is a central information database for Windows 2000 and Windows XP organized into a structured hierarchical database to hold hardware, operating system, and application settings and configuration.

(02 marks)

c) **Windows Explorer**: allows a user to manage files and directories from a single graphical interface. (02 marks)

d) The partition used by the operating system to boot the computer is

Active partition.

(02 marks)

e) **Formatting**. Prepares a file system in a partition for files to be stored.

(02 marks)

4. (a) Describe the best method to keep the laptop computer cool.

By placing on a flat surface where vents are unobstructed. Also keep the vents clean.

(02 marks)

(b) Describe the best method to clean the following components:

i. Laptop keyboard:

- **Blow compressed air between the keys. Wipe laptop and keyboard with a soft, lint-free cloth lightly moistened with water or computer-screen cleaner.**

(02 marks)

ii. LCD:

Wipe display with a soft, lint-free cloth lightly moistened with water or LCD cleaner. ...

(02 marks)

iii. Touch pad:

- **Wipe surface of touch pad gently with a soft, lint-free cloth moistened with an approved cleaner.**

- **Never use a wet cloth.**

(02 marks)

iv. CD:

- **Hold the disk by the outer edge of the disc or by the inside edge of the center hole.**

- **Gently wipe the disc with a lint-free cotton cloth.**

- **Never use paper or any material that may scratch the disc or leave streaks.**

- **Wipe from the center of the disc outward. Never use a circular motion.**

- **Apply a commercial CD or DVD cleaning solution to the lint-free cotton cloth and wipe again if any contaminants remain on the disc. Allow the disc to dry before it is inserted into the drive. ..**

(02 marks)

5. (a) Explain the term authentication as applied to computer systems.

The ability to verify the identity of a user, system, or system element

Outline any four common methods of computer authentication today.

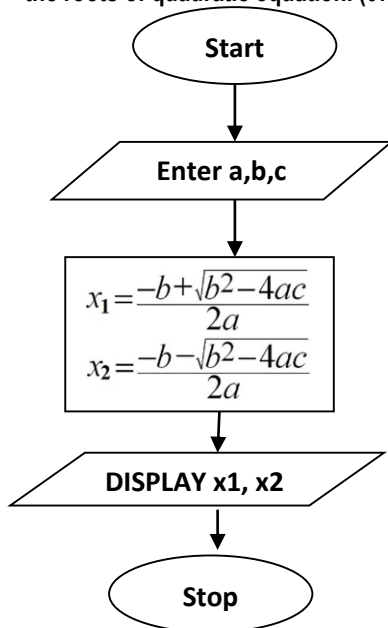
- i. Passwords (02 marks)
- ii. Smart Cards (02 marks)
- iii. Biometrics (02 marks)
- iv. Digital Certificates (02 marks)

Section C (20 marks)

Answer one question from this section

27. Given a quadratic equation in the form: $ax^2 + bx + c = 0$, where a, b, and c are constant.

(a) Use a flowchart to design a program algorithm for calculating of the roots of quadratic equation. (07 marks)



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(b) Write the Pseudo code for the algorithm in (a) above. (4 marks)

START

PRINT "Enter the coefficients a, b and c of the quadratic equation"

READ a, b, c

$$x_1 = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

$$x_2 = \frac{-b - \sqrt{b^2 - 4ac}}{2a}$$

DISPLAY x1, x2

STOP

(c) Using C or Visual Basic, write source code for a program that can solve the quadratic equations. (9 marks)

//Simple Quadratic Equation Program using C

```
#include<stdio.h> // Including Standard input Output C program library header file
#include<math.h> // Including math library to enable special functions like sqrt
int a,b,c,x1,x2; // Declaring variables to hold data during program execution
main(){
printf("QUADRATIC EQUATION SOLVER FOR ax^2 + bx + c = 0\n");
printf("Enter the values of a,b and c, separated by spaces:\n");
scanf("%d%d%d",&a,&b,&c); // captures three values entered by a user
x1=(-b+sqrt(b*b-4*a*c))/(2*a); // calculates 1st root using the quadratic formula
x2=(-b-sqrt(b*b-4*a*c))/(2*a); // calculates 2nd root using the quadratic formula
printf("\nThe roots are are %d and %d",x1,x2); // Displays x1 and x2
return 0; // Ends program by returning 0 (OFF) to the executor.
}
```

'Simple Quadratic Equation Program using Visual Basic

```
Private Sub CommandButton1_Click() 'CommandButton1 is name of clicked element
Dim a, b, c As Integer
Dim x1, x2 As Double
a = Val(InputBox("Enter value for a"))
b = Val(InputBox("Enter value for b"))
c = Val(InputBox("Enter value for c"))
x1 = (b + Math.Sqrt(b * b - (4 * a * c))) / (2 * a)
x2 = (-b + Math.Sqrt(b * b - (4 * a * c))) / (2 * a)
MsgBox ("The roots are " & x1 & " and " & x2 & ".")
```

End Sub

28. (a) Why is it important to perform periodic maintenance of a computer system? (04 marks)

Preventive maintenance helps to prevent parts, materials, and systems failure by ensuring that parts, materials, and systems are in good working order. When you have a good preventive maintenance program in place, you will have less troubleshooting to do in the future, thus saving an organization time and money.

- (b) Why is it important to follow a troubleshooting model? (04 marks)

A troubleshooting model outlines a systematic approach to locating the cause of a fault in an electronic circuit or system in a timely manner. If you don't follow a systematic approach, you will often overlook the problem and find yourself going around in circles

- (c). What are the six main steps in troubleshooting a Personal Computer (PC) System? (12 marks)

Step 1. Gather data from the customer. (02 marks)

Step 2. Verify the obvious issues. (02 marks)

Step 3. Try quick solutions first. (02 marks)

Step 4. Gather data from the computer. (02 marks)

Step 5. Evaluate the problem and implement the solution. (02 marks)

Step 6. Close with the customer. (02 marks)

29. (a) Outline any five benefits of Networking computers and telecommunication devices. (10 marks)

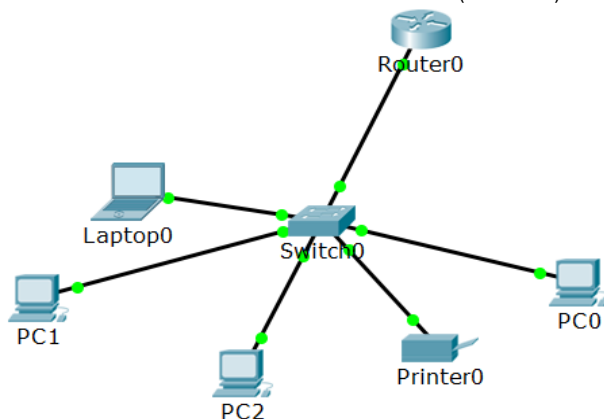
- i. Speed: Networks provide a very rapid method for sharing and transferring files.
- ii. Cost: The network version of most software programs are available at considerable savings when compared to buying individually licensed copies. Besides monetary savings, sharing a program on a network allows for easier upgrading of the program. The changes have to be done only once, on the file server, instead of on all the individual workstations.
- iii. Centralized Software Management. One of the greatest benefits of installing a network at a school is the fact that all of the software can be loaded on one computer (the file server). This eliminates that need to spend time and energy installing updates and tracking files on independent computers throughout the building.
- iv. Resource Sharing. Sharing resources is another area in which a network exceeds stand-alone computers. Most students cannot afford enough laser printers, fax machines, modems, scanners, and CD-ROM players for each computer. However, if these or similar peripherals are added to a network, they can be shared by many users.

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- v. Flexible Access. School networks allow students to access their files from computers throughout the school. Students can begin an assignment in their classroom, save part of it on a public access area of the network, then go to the media center after school to finish their work. Students can also work cooperatively through the network.

(b) With a well labeled diagram, describe how you can design a computer network in a room.

(05 marks)



- Connect Network switch, Router, Personal computers, laptops and Network printers using Ethernet cables as shown in the topology above. (01 mark)
 - Configure the network and end users devices with Internet Protocol (IP) addresses so as to interconnect them in one Local Area Network (LAN). (01 mark)
 - Check the connectivity if these personal computers can communicate with each others. (01 mark)
- (c). Explain any five methods of protecting computers and networks against social engineering. (05 marks)
- i. Educate your users and staff to never give out user IDs or passwords over the phone or e-mail to anyone who is not positively verified as being who they say they are.
 - ii. In addition, you should have procedures established for destroying confidential documents such as organizational charts, phone numbers, and addresses so that they cannot be retrieved by dumpster diving.
 - iii. Be aware of the information you are releasing.
 - iv. Write a policy and back it up with training.

- v. Keep your software (Operating system and applications) up to date.
- vi. Employ Phishing and Pharming defense.
- vii. Constantly monitor critical systems.

Alternatively

- To protect against social engineering:
 - Never give out a password.
 - Always ask for the ID of the unknown person.
 - Restrict access of visitors.
 - Escort all visitors.
 - Never post your password.
 - Lock your computer when you leave your desk.
 - Do not let anyone follow you through a door that requires an access card.

THE END

JJEB MOCK 2017

MARKING GUIDE FOR COMPUTER STUDIES PAPER 1 2017

SECTION A

Attempt all questions in this section

1. Which one of the following tools would be the best for cleaning the outer surface of a monitor?
 - A. Dust blower
 - B. Form cleaner
 - C. Pliers
 - D. Screw driver.
2. At what stage of the following stages would flow charts be used in the programming process?
 - A. Testing stage
 - B. Design stage
 - C. Program coding stage.
 - D. Implementation stage.
3. Computer errors reporting to the user is a preserved function of.....
 - A. Application software platforms
 - B. Operating system software
 - C. System utilities
 - D. Network administrator.
4. Which one of the following memory units is usually provided in system peripheral units?
 - A. Buffer memory

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- B. Cache memory
 - C. BIOS
 - D. Virtual memory.
5. Which one of the following roles is the main function of a software interface?
- A. Storage of information
 - B. Enable the user to interact well with the software
 - C. Warning the user in cases of danger
 - D. Outputting data
6. The computer system maintains its configurations like date and time right even when the system is switched off from the main power source because of its?
- A. CMOS
 - B. RAM
 - C. Automation
 - D. CMOS battery
7. A single structure representing a set of related data in a database table is referred to as.....
- A. Field
 - B. Report
 - C. Record
 - D. Query
8. The standard protocol for Internet related electronic mails is.....
- A. TCP/IP
 - B. OSI
 - C. SMTP
 - D. NOS
9. Which one of the following data transmission media would offer a user the least data through-put?
- A. Twisted pair
 - B. Optical fiber
 - C. Coaxial
 - D. Microwave
10. An active cell of a spreadsheet can easily be identified by?
- A. Name box
 - B. Formulae bar
 - C. Worksheet tab
 - D. Worksheet charts
11. Which one of the following document processors is a word processor engine?

- A. Note pad
 - B. Word wrap
 - C. WordPad
 - D. Lotus
12. The power-on self-test (*POST*) is run by...
- A. BIOS.
 - B. Operating system
 - C. Log-on
 - D. Boot strap loader.
13.is a web page that allows users to make adjustments in the content previously uploaded.
- A. Blog
 - B. Wiki
 - C. Aggregator
 - D. News group
14. Which one of the following statements is true about data values when they appear in a spreadsheet cell?
- A. They are dressed in inverted quotation marks in logical functions
 - B. They usually left aligned by default
 - C. They are usually followed by a comma
 - D. They are usually right aligned in a cell by default
15. Which one of the following is not a navigation tool of slides during a presentation
- A. Hyperlink
 - B. Action button
 - C. Remote sensor
 - D. Slide master.
16. Which one of the following word processor proof reading tools would enable a user to quickly replace some words in a document with other words?
- A. Autocorrect
 - B. Autocomplete
 - C. Spelling and grammar checker
 - D. Thesaurus.
17. Which one of the following measures would ensure that changes made on the parent's table are reflected on the child table?
- A. Entity integrity
 - B. Referential integrity
 - C. Validity integrity
 - D. Primary key

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18. When computers are classified as digital or analog it means that they are being classified basing on.....
- A. Physical size
 - B. Specialty
 - C. Process
 - D. Processor power
19. In the mechanical era computers used for their internal operations.
- A. Integrated circuits
 - B. Diodes
 - C. Vacuum tubes
 - D. Gears
20. Which one of the following utilities would one use to prepare a storage media for data storage?
- A. Formatting
 - B. Debugging
 - C. Anti-virus
 - D. Backup

ANSWERS – SECTION A

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

SECTION B

Attempt **all** questions in this section

21. (a) (i) state **one** difference between a micro-computer and a mini-computer.
- Micro-computers offer limited processor power than mini-computers
 - Micro-computers like hand held computers are more portable than mini-computers
 - Micro-computers are generally cheaper than mini-computers
- (ii) List **two** characteristics of personal computers.
- Generally offer the computing functions by themselves
 - They are generally the cheapest
 - Offer limited processor power
 - They are more portable than any other category of computers
- (b) Give **two** examples of Hybrid Computers
- Hycomp 250
 - HYDAC 2400
 - VLSI hybrid computer
- Can _____ also _____ give;

- Computing devices used in petrol pump
- Hybrid computing machines used in scientific applications and control of industrial processes.
- Hybrid computers used in hospitals to measure the heartbeat of the patient.

(c) State **four** challenges facing computer related jobs in Uganda

- Limited computer technical skills
- High costs of computer tools
- Limited market for computers and their services
- High levels of ignorance and illiteracy
- Lack of adequate computer laws
- High levels of informal sectors
- Expensive energy sources.
- High costs internet services
- Limited market for computer professionals

22 (a) State **three** classifications of computer hardware

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

(b) Give **one** difference between solid state and optical storage media

- Optical storage media usually spins or rotates during the data reading and writing process while solid state media doesn't
- Optical storage media uses laser light technology for data reading and writing while solid state is optical-magneto.

(c) State **two** circumstances that can lead to re-installation of the operating system.

- When the hard disk has been formatted
- When the operating system blows
- When the current O.S is no longer effective in coordinating system activities. For instance when some basic components are no longer detected or system takes too long to respond to O.S based instructions
- After some thorough virus scan

(d) Give **three** situations that can necessitate one to warm boot a computer

- When the operating system has frozen or hanged
- When an application program hangs or refuses to run

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- When changing from one operating system (like windows 7) to another (like Linux), in cases of computers with double or multiple O.Ss.
- When the operating system fails to detect or interact with some peripheral devices like keyboard, mouse, or modem.
- After installation of some software or programs.
- After installation of some device or peripheral drivers.
- When cleaning a malware (like a virus, Worm or Trojan)
- After configuring or setting up a network

23 Terminating a suspected data tap or hack
(a) Name **two** situations where electronic spreadsheet application software can be used in a shop.

- They can be used to automate sales or product lists by the trader.
- Can be used in the preparation of payrolls for shop attendants.
- Can also be used in the preparation of budget report by a trader.
- Used in compilation and analysis of sales and purchases data over time.
- Used to record sales, produce invoices and compile statements.

(b) Give **two** situations that can necessitate one to use equal signs in an electronic spreadsheet cell.

- When initiating a formula or calculation
 - When initiating a function
- (c) Give **two** tools used for ensuring data integrity in electronic databases applications.

- Data types
- Field properties like Caption, validation rule, input mask and field size.
- Primary keys

(d) **Explain** the following electronic database concepts.

(i) Field properties

- Characteristics or features that define a single item of data within a database like size, format, etc.

- They are properties that describe field contents and how the data in it should be displayed.

(ii) Data types

It is a feature that determines major field qualities, like;

- Which formats can be used with the field.
- The maximum size of a field value.
- How the field can be used in expressions.

- Whether the field can be indexed.

24. (a) With the help of an example briefly explain the concept of noise in electronic data transmission.

Explanation

Any unwanted form of energy that tries to interfere with proper reproduction and reception of wanted signals.

OR

Random undesirable electrical energy that enters into a communication system and interferes with the transmitted message.

(1 Mark)

Example:

- Atmospheric noise or static caused by lightning discharges in thunderstorms
- Short noise
- Transit time noise
- Partition noise that occurs where current is to be divided between two or more paths.

(b) Briefly **describe** the meaning of the following terms as used in electronic data communication

(i)

Wi-Fi

- **Refers to any network environment that allows devices to exchange and share data and other resources wirelessly conforming to the standards of the Institute of Electrical and Electronics Engineers (IEEE) –802.11. (2 Marks)**

(ii) Bluetooth technology

- **It is a technology that allows *short-range* radio waves transmission of data between *paired Bluetooth devices*. Device pairing establishes a relationship for the devices to communicate.**

(c) **State** two features of an electronic web page

- **Hyperlinks**
- **Navigation buttons**

- **Banner**
- used in web designing.

(d) **Explain** the following tags as

(i) The <title> tag

- **It is used in all HTML documents to define the title of the document. (1 Mark)**

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(ii) The **<body> tag**

- It is an element that contains the entire contents of a webpage.

25 (a) (ii) **Briefly describe** the concept of document referencing as applied in electronic word processors.

- They are tools used to navigate the various sections of a document like foot notes, end notes, tables of contents, citations, bibliography, table of figures, etc.

(ii) Give **two** examples of document referencing features found in electronic word processors.

- Foot notes
- End notes
- Tables of contents
- Citations
- Bibliography
- Table of figures, etc.

(b) Name **two** electronic presentation features used to navigate slides during a presentation

- Hyperlinks
- Action buttons

(2 Marks)

(c) Give **two** publications that can be created using presentation software

- Webpage
- Labels
- Resume
- Invitations
- Calendars
- Brochure, through templates (Any 2x1 = 2 Marks)

(d) State **two** end product documents of a mail merge.

Main document or primary file

- Mailing list or secondary file or data source
- Merged document (Any 2x1 = 2 Marks)

26. (a) With the help of an **example define** a computer utility software.

These are system programs used to maintain or services other programs and devices (02 marks)

(b) State **two** characteristics of computer software.

- They are electronic instructions
- It is artificial intelligence
- It determines what a computer can be used for
- Different softwares perform different functions
- All software has cost or consideration whether direct or indirect (Any 2x1 = 02 marks)

(c) State **two** categories of programming language translators

- Interpreters
- Compilers
- Assemblers (Any 2x1 = 02 marks)

(d) Re-arrange the following programming stages in their ascending order.

Coding & code review/documentation/Planning/analysis and design.

- Planning
- Analysis and design
- Coding & code review
- Documentation (04 marks for only correct order)

SECTION C (Attempt **only one** Question from this section)

27. (a) Assuming that you have been provided with the following tools; anti-virus utility tools kit, five CCTV cameras, cable seals, Alarm alert devices, device engraving tool, burglar proof set, ten automatic security lights, G7 model Firewalls kit, and a security guard.

Demonstrate how you would use **five** of the above mentioned tools to enhance computer systems security.

1. Anti-virus utility tools kit:

Used to search, detect, prevent and remove system malwares like viruses, worms and Trojans.

2. Five CCTV cameras:

Used to take video proceedings of surroundings for security purposes

3. Cable seals:

Used to attach data and electrical cables together to avoid unnecessary removal and movements.

4. Alarm alert devices:

Used to make alarm notifications or alerts once activated for security purposes

5. Device engraving tool:

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Used to make special marks of identity characters onto hardware devices for attachment or belonging.

6. Burglar proof set:

Used to keeping door-ways, vents and windows re-enforced with metallic or wooden barriers to inconvenience burglars.

7. Ten automatic security lights:

Used to put off wrong doers by keeping places of computer installations lit in case they attack.

8. G7 model Firewalls kit:

A combination of hardware and software used to filter information coming through a network. It can be for digital content, devices or moral protection of system users.

9. Security guard:

This can be in form of live objects used to keep security or scare off would be burglars and thieves. Can be humans or specialized dogs.

(Any 5x2 = 10 marks)

(b) State **five** challenges facing computer software in your school.

- Piracy
- Uninstallation by users
- Virus attacks
- Interference with source code
- Cracking
- Loss of product keys
- Theft of software product CDs

(Any 5x2 = 10 marks)

28. a) Explain **five** problems that affect normal operations of a computer system. (10marks)

Physical problems:

- **Burglars** – Intentionally steal ICT based equipment.
- **Terrorists**. Maliciously cause damage to computer installations.
- **Earthquakes/rainfall/tornadoes/lightning/floods**
- **Users** – employees/visitors/learners. Typical of system cannibalism, corporate data, hardware and software pilferage.
- **Dust**: Dust builds thick coatings in slots, ports, internal chips, etc. Dust coating can also cause unnecessary heat, data and electric insulation.
- **Electricity** – electric power variations (excessively low or high voltage causing Circuit/bus cracks, Connection breaks and Chip crapes small movement or dislocation)
- **Electrical Noise** – like Electronic static discharge, and Electromagnetic interferences causing short circuits of devices

- **Playing and fighting** around computer installations
- **Excessively low/high temperature:** Their expansion and contraction can easily cause bus cracks.
- **Fire**
- **Effects of water and leaking roofs**
- **Magnetic fields** – cause magnetic inductions, which disturb computer data movements and processing on magnetic storage media
- **Electrostatic electricity** – short-circuit devices like RAM or CPUs
- **Effects of corrosion:** Acts of rodents and other living organisms like cockroaches causing rusting of devices.
- **Vandalism: Involves acts of defacing or destroying ICT equipment.** Some people can intentionally damage ICTs out of malice or sabotage.
- Substandard equipment. Like; poor furniture
- **Poor electrical installations and device connection.** For instance poor earthing and, connecting devices into wrong ports leading to bent pins.

Digital content and network based problems;

i) Trespass

This is the act of gaining access into ones information/computer system without “legal permission”. It applies to both hardware and digital content.

ii) Cracking

This is permanent tampering with ICT systems security codes/policies, and network tracking and profiling systems for personal gains.

iii) Hacking

This refers to internationally breaking of codes and password to gain unauthorized entry to computer system data and information files.

iv) Piracy

This refers to illegal copying or duplication of copyrighted software, music or videos, information or data.

v) Sabotage.

This is illegal distraction of data and information with the aim of crippling service delivery or causing great loss to an organization.

vi) Alteration.

This is illegal changing of data and information for personal gains or misinforming the authorized users.

vii) Fraud

It refers to the use of ICT installations to cheat people or to gain an advantage over others. For instance, use of ICTs to **dehumanize** or **erode peoples dignity, forge documents, evidence** or **solicit money falsely**. Other forms of fraud include;

- Posing as someone from the official organisation

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- **Stealing peoples identity** like creating face book or whatsapp accounts with their initials
- **Phishing:** Where people are tricked to provide personal information only to be used for wrong reasons
- Promising **Get-rich-quick** schemes – World Ventures.
- **Spoofing:** Creation of fake websites or networks to defraud others
- **Pharming:** A network fraud where criminal redirect network traffic/data to unintended destinations for selfish gains

viii) **Plagiarism.**

This involves copying other peoples E-materials and one presents it as his/her personal work. It is a growing concern in academic cycles where take-home assignments are given.

ix) **Back doors.**

They are malwares that allow hidden access to a computer system or ICT installation.

Other problems include;

- Viruses, worms and Trojans
- **Denial of service attack**
- **Eavesdropping/Tapping:**
- **Surveillance.**
- **Industrial Espionage**
- Users – employees/visitors/learners. Typical of system cannibalism, corporate data, hardware and software pilferage.
- Dust
- **Magnetic fields** – disorganise data on magnetic storage media
- **Electrostatic electricity** – short-circuit devices like RAM or CPUs
- **Acts of rodents and other living organisms** like cockroaches.
- Effects of Viruses, Worms and Trojan Horses.
- **Spyware: programs placed on computer without user's knowledge.** Secretly collects information about user.
- **Spam: unsolicited e-mail message sent to many recipients**
(Any5x2 = 10 marks)

b) Suggest **five solutions** to the problems identified in question **28 (a)** above. (10 Marks)

- Regular servicing and repair (**troubleshooting**) by qualified technical personnel.
- Use of video Closed Circuit Television (CCTV) cameras
- Use of lock and key approach
- Bolting computers and other ICTs to the desks, floor or wall.
- Use of swipe cards or keypads to activate locks

- Use of special pens to mark, or engrave ICTs with personal/organizational initials.
- **Burglar proofing:** Keeping door ways and windows re-enforced with metallic or wooden barriers.
- Use of live security guards
- Use of **electric power surge regulators** – like Uninterruptible Power Supply units (UPSs)
- Effective computer laboratory Rules and regulations highlighting Dos and Don'ts.
- Insurance and assurance policy measures.
- Effective computer equipment and software procurement and disposal policy.
- Sensitization – education and training on physical safety best practices
- Authentication of system users through; Biometric devices and Identification systems like possessed objects – e-cards, etc.
- Use of temperature regulator like **Air Conditioners** (ACs)
- Use of woolen carpets to; absorb dust, reduce damage when light objects fall, reduce effects of electric shocks, and regulate room temperature because wool is a bad conductor of heat.
- Use of **plastic** covers
- Use of alarm systems like smoke detectors, metal and burglar detectors.
- Making or subsidizing software cheap, enough to increase affordability
- Enhancing the **free software** movement.
- Use of license and certificate to identify originals.
- Setting installation **Product Keys** (pass codes) to deter illegal installation of software.
- **Enhanced Firewalls**
- **User IDs and passwords**
- **Encryption:** This involves scrambling data in such a way that people can not ordinarily understand it. The data would need an encryption key to be read.
- **Audit log:** Involves enabling the system to keep a record of every activity done on the system in an **“audit file”**
- Buying software from **authentic producers, vendors or suppliers.**
- **Legislation:** This involves setting up working rules and regulations to regulate acquisition, storage, usage and retirement of digital content
- **Anti-spy** software.
- **License agreement:** Allows user to install software on one computer, make backup copy, and sell software after removing from computer
- **+Data Encryption.** This renders data unreadable by third parties apart from users with an encryption key.

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- Use of **Anti-virus approach**
- **Legislation** - An effective **Software and data safety policy**
- Doing **periodic software and data audits**.
- Regular **software updating** and **upgrading**. Most of the newer software versions and releases come with better to use and secure features.
- Software **customisation** or personalisation.
- **Sensitization** – education and training of users on ICTs and network best practices and policies – e.g., virus alert policies.
- Effective **data backup** and **recovery policy**.
- Creating different user accounts and/or with passwords for different users.
- Joining secure network/internet service providers.
- Creating backups in locations away from main computing center.
- Use of GPS for online tracking of software and hardware. **(Any 5x2 = 10 marks)**

29. (a) Demonstrate any **three** methods of error detection in a program code.

Methods of error detection would include:

Use of test data which subjects the new program to a real work challenge

Compilation – debugging utilities

Dry-run/desk check or walk

(3x2 = 06 marks)

(b) Write a simple computer program code which can be used to output your **Surname name** and **Given name** on two lines.

(14 marks)

```
#include<stdio.h>           // Preprocessor Directive including standard
    input/output library
int main()                 // Main function header
{                           // Bracket Opening Main function body
    printf("Mukalele\n");   // Displaying Surname and moving to next line
    (\n)
    printf("Rogers");       // Displaying Surname
    getch();               // (Optional) getch() function pauses execution till a
    character is entered
    return 0;              // Ends program, returns 0 to executor (ie OFF)
    2marks
}                           // Bracket Closing Main function body
(2 marks per line x 7 -- Total 14 marks)
```

End

FINAL PAPER 2017

NB: You can find the UNEB 2017 Computer Studies Question Paper in the official UNEB question bank which can be bought from UNEB. Below is just a draft answer guide:

SECTION A

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

SECTION B

21. (a) Definition of computer evolution

Computer evolution is the gradual development/improvement/modification/advancement/growth of computing devices/technology from simple to more complicated and advanced forms.

NB: Deny marks for stages/generations.

02 marks

(b) The correct terms to complete the statements

- (i) Computer
- (ii) Data processing
- (iii) Data
- (iv) Information

Each 4x1=4 marks

(c) How computers are used in the following sectors

(i) Health

- Disease diagnosis using computer based x-rays, ultrasound scan etc.
- Carrying out computer based medical research over the internet
- For computerized accounting purposes and billing of patients
- Keeping records of patients in a computerized database.
- Computerized scheduling of medical staff on duty.
- Providing healthcare lessons to patients using digital notes
- Communication between medical staff and patients
- Computer assisted life savers
- Incubating machines for premature babies
- For carrying out complex operations on sensitive body organs
- For drug prescription
- Determination of DNA

Any 2x1= 2marks

(ii) Security

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- For forensic computing as in gathering evidence from scenes of crime
- Used to monitor places using CCTV cameras
- Access control using biometrics devices
- Computer based recording keeping by security organs
- Communication using internet and mobile equipment in cases of security emergency
- Research on criminal cases using internet
- Computer guided fighter planes
- Monitoring of security situations by drones
- Weapon assembly by the military manufacturing firms
- Computer based alarm systems in homes and cars
- Detection and detonation of booms and dangerous items like landmines
- Tapping and tracking calls for security purposes
- Training and educating forces using simulated models
- Locating and launching missiles. **Any 2x1= 2marks**

22. (a) **Defining computer hardware**

Computer hardware refers to the physical or tangible parts of a computer.

02 marks

(b) Filling in the appropriate categories of hardware

Hardware device	Category
(i) Compact Disc	Storage
(ii) MODEM	Communication
(iii) Projector	Output
(iv) Barcode Reader	Input

Each 1x4=4 marks

(c) **Explaining the functions of components**

(i) **Power Supply Unit**

- Steps down voltage
- Converts A.C voltage to D.C voltage
- Splits or distributes the voltage in different values as required by the components. **Any 1x2= 2marks**

(ii) **ROM Chip**

- Permanently Store/hold manufacturers system instructions/information
- Used to hold instructions necessary for the booting of the computer.

Any 1x2= 2marks

23. (a) (i) **What a wild card is in database management system**

A **wild card** is a special character that can/used/combined/ stand for either a single character or a string of text in a query criteria or while searching

for information. That can be used to return/filter/generate results from a given query. **02 marks**

(ii) **Importance of a wildcard in a query criterion**

- Useful when one wants the query to look for a given range of different possible values.
- Useful when one is not certain of what one is looking for but can give the query some clues to work with. **Any 1x2= 2marks**

(iii) Naming examples of frequently used wildcards

- Asterisk (*)
- Question (?)
- Percentage (%)
- Underscore (_)
- Exclamation mark !
- Square brackets

Any 1x1= 1mark

(b) (i) Characteristics of label in a spreadsheet cell

- Labels are left aligned by default
- Labels are not subject to basic arithmetic operations/not used for basics calculations
- Labels go into quotations whenever in logical functions
- Labels are majorly text data **Any 1x2= 2marks**

(ii) Outlining uses of electronic spreadsheets

- Data sorting or arranging
- Data filtering
- Logical operations/functions
- Statistical operations/data analysis
- Financial and accounting operations
- Graphical representations/charting
- Data capture, import and export
- Editing and formatting of data

Any 1x3= 3marks

24.(a) (i) **Ways of preventing access to information on the internet**

- Keyword blocking
- Site blocking
- Web rating systems
- Pass wording/parent control
- Registration and subscription to logins into the site as a member
- Financial restrictions to access content
- By encryption
- Using anti-virus software to block data from certain sites
- Putting down the site

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- Using firewalls to filter information in a private network **Any 2x1= 2marks**

(ii) **Reasons for preventing access to information on the internet**

- Prevent online crimes like bullying, fraud etc
- Limit or prevent access to illicit materials e.g. pornography
- For moral and ethical uprightness
- Limit or prevent unsolicited messages from filtering through
- Prevent piracy (illegal copying and duplication of information without authorization)
- Limit plagiarism by putting information in a format that cannot be easily changed
- Commercial benefits to promote copyright and property right.
- Offers privacy/confidentiality
- Preventing data alteration. **Any 3x1= 3marks**

(b) (i) **Explaining the term data transmission media**

These are communication lines or channels or path through which data is transferred from device to another.

Or channels used in transferring data/information **02marks**

(ii) **Listing examples of data transmission media**

- Infra red light
- Radio waves
- Micro waves
- Optical fiber cable
- Twisted pair cable
- Coaxial cable
- Or wireless/unguided/unbounded technology
- Cabled/guided/physical/tangible **Any 3x1= 3marks**

25. (a) **Importance of features in word processing**

(i) **Footnote**

Helps in providing explanatory/ or clarifying notes comments about a concept or phrase used in a particular page of a document **02marks**

(ii) **Toggle case**

It helps the user to hurriedly change or switch case of text to upper case or lower case and vice versa. **02marks**

(b) **Distinction between cut and copy**

To cut is to move data or text or word from its original place to a new location/clipboard/buffer/ **While**

Copy is to create an extra or duplicate copy of the data or file.

(For both sides correct) **02marks**

(c) What presentation software is

Is an application software/program used to create and display information or data in form of slides/slide show. **02marks**

(d) Outlining ways where presentation software may be used

- Advertising/promotion of products
- Publishing web contents
- Presentation to large audience in seminars, workshops, conferences etc.
- Business presentations
- For teaching **Any 1x2= 2marks**

26. (a) Explanation of programming concepts

(i) **Termination**

It indicates the end of a statement in a program code.

To end a line of code in a program

Indicate syntax error.

02marks

(ii) **Variable declaration**

It tells the program the nature of data to store or retrieve.

It assigns a datatype to a variable in a program

Tells the compiler to correctly interpret each statement

02marks

(b) **Stating the use of a compiler to a programmer**

- Translate enter/whole/at once source code into machine code
- Error detection
- Convert program code into executable code **Any 1x2= 2marks**

(c) **Explanation of the term device driver**

➤ Device drivers are software programs that enable the computer system to communicate or interact well with connected system components or peripherals.

➤ Computer program used to configure peripheral devices

02marks

(d) Forms of interfaces that can be provided by the operating system to the computer user

- Command line interface Or Command
- Menu driven interface Or Menu
- Graphical user interface Or Graphical **Any 2x1= 2marks**

SECTION C

27. (a) **Factors to consider when to choose a LAN model (Peer to Peer or Server based network)**

- Amount of network traffic(through put/band width//no of users.
- Organizational business
- Network budget/ availability of financial resources/cost of establishment.
- Level of administration support required

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- Security levels required.
- Type of business or organization/size
- Ease of expansion in future
- Technical advice and support

Any 5x2= 10marks

(b) Explanation of limitations to full internet use in Uganda

- Cost implication for the initial outlay and maintenance are so threatening
- Government policy are not favorable e.g. taxes on IT equipment
- Ignorance due to high illiteracy rates
- Limited internet infrastructure/network coverage
- Poverty levels are high
- Fear for internet flaws e.g. pornography, network viruses and invasion of privacy
- Technological phobia
- Natural calamities/causes like lightening, fires, obstacles e.g hills
- Limited electric power supply
- Digital divide
- Nature and quality of some ISPs

Any 5x2= 10marks

28. (a) Factors to consider before buying a computer

- Needs/purpose of the school like different needs like curriculum, students, teachers etc
- Nature of the school e.g. a school for the deaf would need some hardware for the deaf.
- Ergonomics Safety provisions for the hardware e.g. comfort, safety, efficiency etc
- Cost of hardware components given the available school budget like installation, initial hardware cost and maintenance plus repair.
- After sale services provision such as free maintenance, warrants/guarantees for a period of time like one year.
- Source of hardware given the school foundation body and virtues
- School and government policy governing procurement laws and procedures.
- Data/information security provisions/concerns
- Computer hard disk
- RAM capacity
- Processor speed.
- Compatibility with the existing infrastructure in the school
- Provision for future growth and development (upgradeability)
- Past experience of working state of the nature of the computer.
- Reputation of the supplier

- Environmental concerns
- Technical advice and support
- Space for storage
- Consider the internal Network Interface Card
- Consider Resolution for high Graphics

Mentioning 1 mark Explanation 1 mark Any 5x2= 10marks

(b) Ways of caring for computer hardware

- Legislation/setting up working laws e.g. computer lab rules, ICT use policy,
Code of conduct around computer use ranging from hardware movement, installation etc
- Burglar proofing
- Regular servicing and maintenance
- Servicing through professionals
- Avoiding dust and water into hardware by use of dust and water proof covers.
- Education/sensitizing users about basic hardware care/practices
- Electric power surge protectors/Proper electrical wiring/earthing /insulation.
- Bolting hardware on walls, tables and ground
- Engage alarms systems e.g. smoke, fire detectors
- Authentication systems like biometric, swipe cards, identity cards etc
- Hardware audits on regular basis
- Engraving/labeling hardware
- Security guards to take an eye on the installations
- Use of CCTV cameras for surveillance for feedback and evidence.
- Installation of lightening arrestors
- Keeping rooms under lock and key
- Avoid exposure to direct sunlight and extreme temperatures.
- Turning off the computer system when not in use.
- Proper turning on/off the computer system

Mentioning 1 mark Explanation 1 mark Any 5x2= 10marks

29.Describing conditions that can lead to a computer system reboot

- When an application or operating system freezes/hangs/ does not respond
- After installation of a new software (application or utility)
- When a peripheral or hardware component has failed to function/work
- During/After installation of operating system.
- After changing use control settings(CMOS/BIOS settings)

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- When a user wants to clear a malicious infection like malware, spyware, viruses that are in memory
- After software update
- After uninstalling software
- After uninstalling hardware
- After installing a new hardware
- When the computer system slows down
- When there is suspected system tapping
- When a user wishes to switch from one operating system to another (Multiple O.S)
- After malware/virus scanning
- When a deadlock occurs
- Before Installing software
- When application software fails to work

Mentioning 1 mark Explanation 1 mark Any 5x2= 10marks

EXAMINERS REPORT 2017

Teachers are always encouraged to read the annual examiners reports which highlight the common areas of weakness and give strategies for improving performance.

840/1 COMPUTER STUDIES THEORY PAPER 2017**Introduction:**

The paper consisted of three sections; A, B and C. Section A contained 20 compulsory Multiple Choice Questions (MCQs) drawn from the whole syllabus. Section B contains 6 compulsory structured questions drawn from the whole syllabus. Section C contained practical theory questions drawn from the topics; Elementary Computer Programming; Trends in Computing; System Start-Up and Configuration; Computer Communication and Networking and Computer Hardware. The candidates were to answer only one question from this section.

The paper was easier than that of the previous year 2016. The UCE 2017 candidates' performance was better than that of the previous year.

Question Analysis:**Section A****Questions 1- 20 (MCQ)**

Candidates were required to fill in the correct alternatives/choices in the boxes on the right hand side of each of the first twenty questions. All questions were popular.

Weaknesses of the Candidates

Many candidates did not take time to understand the '**stem**' in each question in order to come up with the right '**key**' questions.

Many candidates could have thought that multiple-choice questions can only be answered by guesswork!

The questions needed candidates to have covered the whole syllabus however, some candidates failed to choose one and resorted to circle two or many alternatives which lead to loss of marks.

Advice to the Teachers

Multiple choice questions are **Logic Questions** that require a scientific approach not guess work. They require a candidate to scientifically understand the three elements of a multiple choice question. That is:

The stem – what the question wants the candidate to do.

The key – the correct answer.

The destructors – the wrong choices.

Therefore, MCQs require advanced thinking, reasoning and skills in making the right conclusions. They are about making the right choices.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Teachers should encourage the learners to read widely but not restrict them to certain topics only.

Section B

Question 21 (a)

The question required candidates to define computer evolution. It was popular.

Weaknesses of the Candidates

Many candidates confused the concepts of computer evolution with computer generation.

Advice to the Teachers

Teachers are advised to clarify the difference between computer evolution and computer generation and other seemingly related concepts.

Question 21 (b).

Candidates were required to fill in the correct options given in the question paper. It was popular.

Weaknesses of the Candidates

Some candidates provided alternatives not given to them in the question paper, yet others lacked knowledge about the terms given.

Advice to the Teachers

Teachers are encouraged to explain the different computer terminologies to the learners.

Question 21 (c).

The question required candidates to demonstrate knowledge on how computers are used in the;

(i). Health sector. It was popular.

Weaknesses of the candidates: Candidates gave general uses of computers.

Advice to the Teachers

Teachers should discuss with learners the real uses and application of computers in the various specialized areas.

(ii). Security sector. The question was popular.

Weaknesses of the Candidates

Some candidates considered security of a computer itself instead of how computers can be used to enhance security.

Advice to the Teachers

Teachers are encouraged to emphasize specific roles of computers in the various specialized sectors.

Question 22(a).

The question required candidates to define the term computer hardware. The question was popular and well done.

Weaknesses of the Candidates:

Some candidates confused computer hardware with computer software.

Advice to the Teachers

Teachers are encouraged to give the difference between computer hardware, software and other concepts clearly to their learners.

Question 22(b).

The question required the candidates to categorize the different hardware devices given. It was popular and well done.

Weaknesses of the Candidates

Some candidates failed to match the hardware parts with the provided categories.

Some candidates were merely guessing as seen from their responses.

Advice to the Teachers:

Assess learners with several methods.

Teachers are encouraged to continuously avail learners with similar questions that require hardware identification and categorization.

Question 22 (c). (i).

The question required candidates to explain the functions of the computer components stated. Many candidates attempted the question but failed it.

Weaknesses of the Candidates

Candidates failed to demonstrate knowledge acquisition in relation to computer hardware.

Some candidates mistook the power supply unit for uninterruptible power supply unit (UPS).

Advice to Teachers:

Teachers are encouraged to describe computer hardware parts in classrooms practically.

Question 22 (ii).

Required candidates to explain functions of a ROM chip. The question was popular but highly failed.

Weakness of the Candidates

Many candidates confused "ROM chip" with ROM. Others with secondary storage media.

Advice to the Teachers

Teachers are encouraged to teach learners the internal parts of the computer and should endeavor to give the difference between ROM and the ROM chip, RAM and RAM chip.

Question 23 (a) (i).

It required candidates to define a wild card in relation to database management systems. The question was not popular.

Weaknesses of the Candidates

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Some candidates failed to use appropriate words to bring out the gist of the required terms.

Majority of the candidates failed to relate a wild card in terms of database use.

Advice to the Teachers

Teachers are encouraged to define all terms used in practical application tasks for learners to easily integrate them to practical and theoretical use and explanations.

Question 23 (a) (ii).

This question required candidates to demonstrate the use of wild card in a query criterion. It was a popular question though majority of the candidates had very little knowledge of the wild card application.

Advice to the Teachers

Teachers are encouraged to provide to learners the practical uses of specific terms and features used in software application programs.

Question 23 (a) (iii).

The question required candidates to give the commonly used wild card symbols / characters query criterion.

This question was popular but highly failed by majority of the candidates.

Weaknesses of Candidates

Candidates wrote wrong examples of wild card symbols. Candidates gave general symbols that facilitate the manipulation of a wild card symbol like [] and " !"

Advice to the Teachers

Teachers are encouraged to emphasize the difference between characters that represent other characters in a query and general characters.

Question 23 (b)(i)

The question required candidates to state characteristics of labels when placed in a spreadsheet by default. It was a popular question but also highly failed by majority of the candidates.

Weakness of the Candidates

Candidates had limited knowledge about a label in relation to spreadsheet cell application. Many candidates mistook labels for column headings.

Advice to Teachers

Teachers are encouraged to clearly define the different data types used in a spreadsheet program.

Teachers are also advised to practically show students the difference between a label and a value during the lesson.

Question 23(b) (ii)

It required candidates to give the uses of a spreadsheet program.
The part was popular and well done.

Weakness of the Candidates

Some candidates gave advantages of a spreadsheet program instead of uses of the program itself.
Some candidates were mentioning places where the application program is used e.g. in schools, hospitals, banks.

Advice to the Teachers

Teachers are encouraged to emphasize the use of spreadsheets when handling practical lessons.

Question 24(b)(i)

The question required candidates to give what a system administrator does to prevent unauthorized access to some information.
The question was popular but also highly failed.

Weakness of the Candidates

Candidates had scanty knowledge about the roles of a system administrator in line with systems management.

Advice to the Teachers

Teachers are encouraged to emphasize the different roles carried out by the different ICT professionals in achieving specific systems objectives.

Question 24(ii)

This question required candidates to state the reasons for preventing access to some information on the Internet.

Weaknesses of the Candidates

Many candidates gave the disadvantages of using the Internet.

Advice to the Teachers

Teachers are encouraged to emphasize dangers and misuse of the information on the Internet.

Question 24(b)

This question required candidates to define data transmission media in relation to computer networks. It was popular.

Weaknesses of Candidates:

Some candidates used some terms within the question to define data transmission media.
Some candidates gave examples of social media types as data transmission media.

Advice to the Teachers

Teachers are encouraged to define all relevant terminologies with their required meaning.

Question 25(a).

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

It required candidates to give the importance of some features in word processing i.e. footnote and toggle case. Majority of the candidates answered this part well.

Weaknesses of the Candidates: Some candidates mistook a footnote for a footer.

Advice to the Teachers

Teachers are encouraged to continuously assess and help learners to understand most of the features used in a word processor.

Question 25(b).

The question required candidates to give the difference between “cut” and “copy” as used in word processing. The question was popular but poorly done.

Weaknesses of the Candidates

Some candidates were instead confusing the two concepts with ***pasting***.

Advice to the Teachers

Teachers are encouraged to handle word processing facilities while allowing learners to see the difference while working.

Question 25(c).

This question required candidates to define a presentation software program. The question was popular and well attempted by majority of the candidates.

Weaknesses of the Candidates

Many candidates failed to define what a presentation program is.

Advice to the Teachers

Teachers are encouraged to define concepts basing on “what they are” as opposed to “what they do”. “What they do” can be done by very many other concepts.

Question 26.

The question required candidates to explain the function of each of the following: “termination” and “variable declaration” as used in programming, The use of a compiler, explaining the term “device drivers” and giving forms of computer interfaces provided by the operating system.

The question was poorly attempted by the majority of the candidates

Weaknesses of the Candidates

Most of the candidates lacked adequate knowledge of programming concepts. Candidates mistook device drivers for hardware

Many candidates confused a ***program code statement*** with a ***program itself***.

Advice to the Teachers

Teachers should always attempt to clearly explain the role and need for every process in programming and other applications.

Section C

Question 27 (a).

The question required candidates to give factors considered when choosing a LAN model. The question was not popular.

Weaknesses of the Candidates

Some candidates were instead giving advantages of LAN models, some were giving factors to consider before buying computers.

Question approach and idea presentation was largely missing. Some candidates were instead generally comparing a peer-to-peer and the client-to-server model.

Advice to the Teachers

Teachers are encouraged to teach computer networking exhaustively to allow learners apply the knowledge easily.

Question 27 (b).

Candidates were required to explain the limitations to full Internet use in Uganda. The question was popular and fairly done.

Weaknesses of the Candidates

Some candidates were providing advantages and disadvantages of using the Internet in Uganda.

Some candidates did not understand the question due to wrong question interpretation.

Majority of the candidates did not explain their ideas satisfactorily, thus leading to loss of marks.

Advice to the Teachers

Teachers are encouraged to train their learners in better essay writing skills.

Proper language and presentation skills need to be emphasized more in schools.

Principles of essay writing MUST be promoted in schools across all subjects. A good essay is assumed to have - **points stated in paragraphs, explained, with an example** where applicable.

However, all these three items must be connected to the question.

Question 28 (a).

Candidates were required to describe the factors to consider before buying a computer. It was a popular question and well done by majority of the candidates.

Weaknesses of the Candidates

Some candidates were giving characteristics of modern computers.

Other candidates were giving answers for part (b) of the question.

Some other candidates were giving Internet related points.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Majority of the candidates showed very little content acquisition.

Advice to the Teachers

Teachers are encouraged to exhaust all the subject content to the benefit of the learners.

Question 28 (b).

Candidates were required to explain the ways of caring for computer hardware parts. The question was popular and well done by majority of the candidates.

Weaknesses of the Candidates

Many candidates were just giving schools' rules and regulations governing computer laboratory use.

Most of the points presented by the candidates were related to dust control. Candidates were not showing the 'how' and 'why' parts in relation to hardware care.

Many candidates could not differentiate "care for hardware" from "care for digital content"

Advice to the Teachers

Teachers should clearly bring out well "care for hardware" differently from "care for digital content".

Teachers are encouraged to clearly give the difference between computer hardware maintenance and computer laboratory care when explaining to the learners.

Question 29.

Candidates were required to describe the conditions that would necessitate a computer system reboot. The question was not popular.

Weaknesses of the Candidates

Some candidates were giving the points but failed to explain them.

Some candidates showed lack of subject content regarding computer system start-up.

Advice to the Teachers

System start-up and configuration is one of a very practical and new topic in our curriculum. Teachers are encouraged to handle it well.

840/2 COMPUTER STUDIES (PRACTICAL)

The paper consisted of two sections, A and B. Section A contained one compulsory question drawn from Word processing and Spreadsheets.

Section B contained three (03) questions drawn from Database, Web-designing and Computer Presentations. The candidates were to answer any two questions from this section.

The paper was of the same level of difficulty as that of the previous year, 2016. The candidates of UCE 2017 performed poorer than those of the previous year.

Question Analysis

Section A

Question 1 (a) Word Processing

Candidates were asked to demonstrate skills in font/paragraph/page formatting and footnote referencing in word processing.

It was a popular question.

Weakness of Candidates: Candidates could not ably use the footnote feature.

Advice to Teachers:

Teachers should cover all the Word processing features including referencing features.

Question 1(b) Spreadsheets

Candidates were asked to show the application of formulae, functions, and charts in manipulation of data.

Popularity of the question: popular

Weakness of Candidates: Candidates had difficulties with the correct calculations of net pay.

Advice to Teachers: Teachers should emphasize proper usage of formulae

SECTION B

Question 2. Web-designing

Required candidates to design a two-page website including a form for entering data. It was unpopular.

Weakness of Candidates:

Candidates could not easily design a form with form features like radio buttons, dropdown menus, etc.

Advice to Teachers:

Teachers should expose learners to a variety of web authoring programs not limiting learners to only MS-Publisher.

Question 3. Presentation

Candidates were asked to prepare a five page-slide presentation with a hierarchy chart. It further required candidates to apply animations and transitions.

Popularity of the question; very popular.

Weakness of Candidates:

Candidates had difficulties in producing the correct chart, linking slides and stating the appropriate data.

Advice to Teachers:

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

Teachers should expose learners to a variety of presentations. They should also give learners a variety of tasks/ exercise to enable them explore the application in depth.

Question 4. Database Management System

Required candidates to design a data-base; enter data in the database using a form and retrieve data using queries. They were also required to assign appropriate data types.

Popularity of the question. It was popular.

Weakness of Candidates

Use of appropriate data types

Formatting currency with a UGX symbol

Use of appropriate formulas in a form

Use of appropriate criteria.

Advice to Teachers:

Emphasis should be put on data types

Formatting and customization of values in databases

Proper use of criteria in queries.

FINAL PAPER 2018

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

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- 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) | • Mouse |
| • Microphone | • Touch pad |
| • Light pen | • Tracker ball |
| • Joystick | • Digital cam |
| • Keyboard | • 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

(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.
- (ii) **Gateway**
 A device with the ability to link/interconnect/enable interface between networks of different configuration/protocols.

(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 counters, 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.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

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

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.

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- 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
 - 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

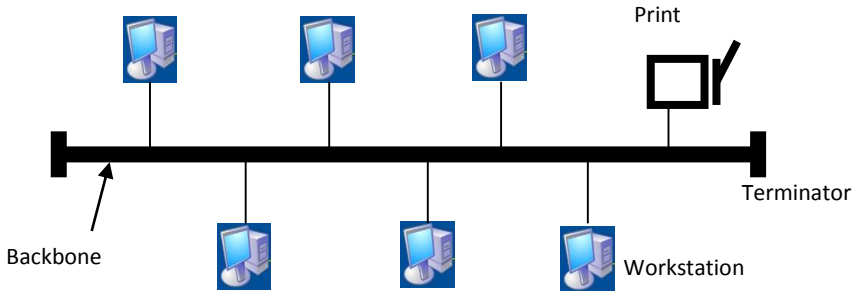
Total = 4 marks per specification

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.

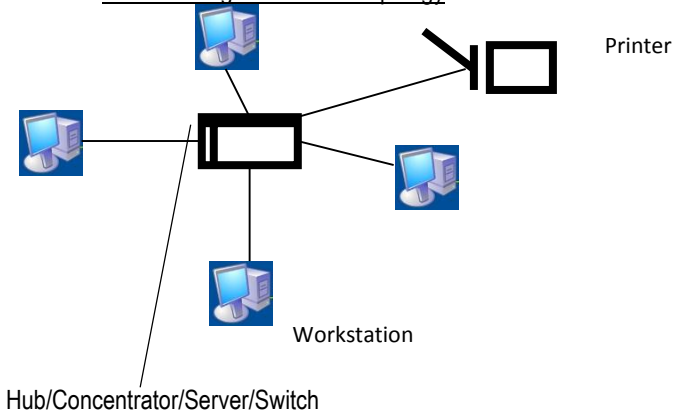
A sketch diagram of a bus topology



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.

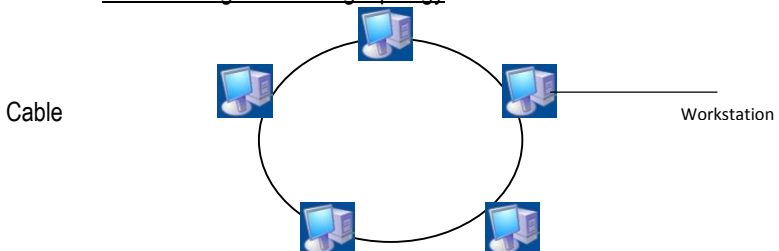
A sketch diagram of a star topology



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

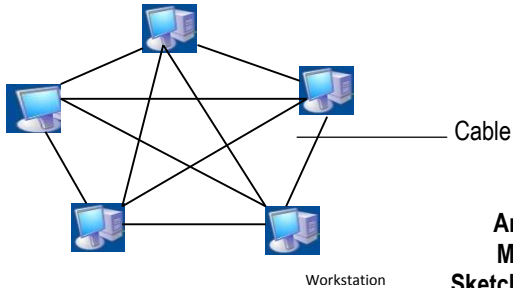


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Mesh network layout/topology

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 segments.
 - 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) AN ALGORITHM /A PSEUDO CODE TO PROMOTE, MAKE

REPEAT OR DISMISS A STUDENT

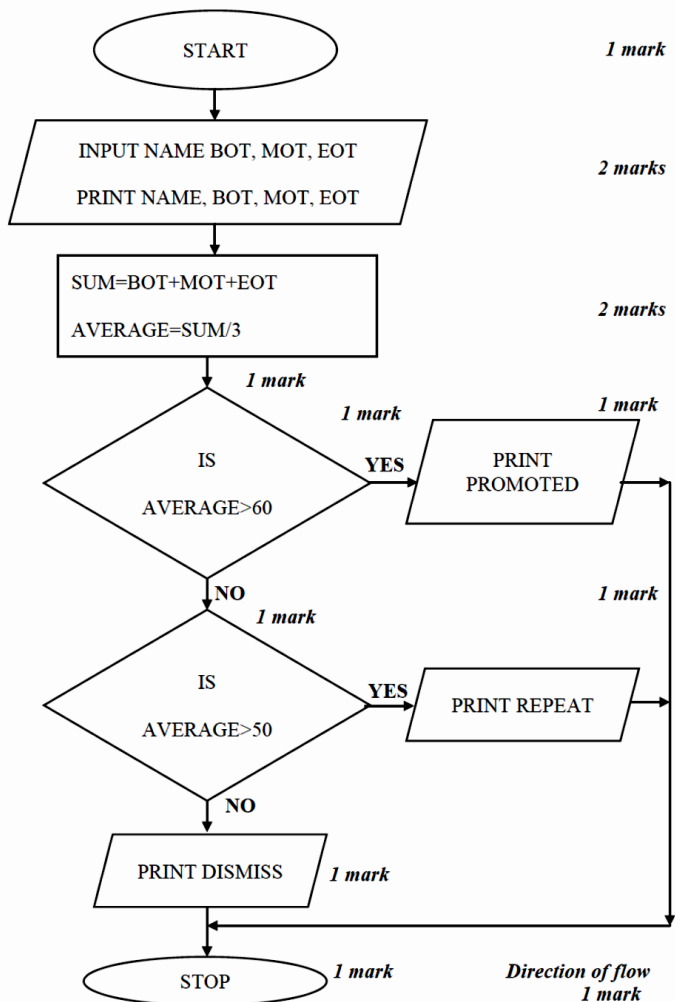
	1 mark
1. START	1 mark
2. INPUT NAME, BOT, MOT, EOT	1 mark
3. PRINT NAME, BOT, MOT, EOT	1 mark
4. PRINT BOT, MOT, EOT	1 mark
5.	
6. SUM = BOT + MOT + EOT	1 mark
7. AVERAGE = SUM/3	1 mark
8. IF AVERAGE > 60,	1 mark
9. PRINT "PROMOTED"	1 mark
10. IF AVERAGE > 50,	1 mark
11. PRINT "REPEAT"	1 mark
12. ELSE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

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OR.

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

1 mark



EXTRA OBJECTIVES COMPILATION ONE

1. In which computer classification does an analog computer belong?
 - A. Categories
 - B. Purpose
 - C. Process
 - D. Size
2. A is an application program that provides an interface between the user and the world wide web.
 - A. Internet
 - B. Web browser
 - C. Website
 - D. Microsoft Office Word
3. is responsible for directing and coordinating most of the operations in the CPU.
 - A. The ALU
 - B. The CU
 - C. The Registers
 - D. The Operating System
4. The archive program is categorized as a(n)
 - A. Application software
 - B. Operating system
 - C. Utility program
 - D. Programming Language
5. Calculate the number of bits in 24 bytes.
 - A. 128
 - B. 8
 - C. 192
 - D. 48
6. All Impact printers are known for being:
 - A. Slow
 - B. Fast
 - C. Noisy
 - D. Quick
7. The use of functions to manipulate data is a facility of
 - A. Database
 - B. Spreadsheets
 - C. Presentations
 - D. Communications.
8. An inked ribbon is normally used in
 - A. Thermal Printers
 - B. Impact printers
 - C. Non-impact printers

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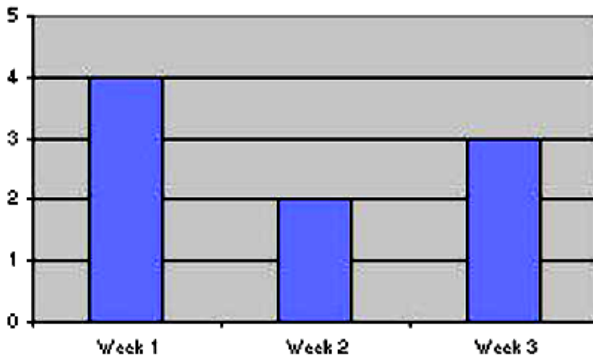
- D. Braille printers
- 9. A page in landscape orientation is
 - A. wider than it is tall,
 - B. taller than it is wide
 - C. turned upside down
 - D. turned left side right
- 10. Corporate confidentiality relates to
 - A. downloading pirated software.
 - B. using a spreadsheet to keep track of your accounts.
 - C. sharing private customer information.
 - D. having all the latest hardware and software.
- 11. Which software maintenance tool will check and repair the folder and file structure of your hard drive?
 - A. Format
 - B. Backup
 - C. Defragmenter
 - D. Scandisk
- 12. You have files with these extensions: .bmp, .tif, .jpg and .gif. Which application type would be best to use to see what is in these files?
 - A. Word Processing
 - B. Spreadsheet
 - C. Database
 - D. Graphics
- 13. Which feature of a word processor would you use to suggest an alternative word for the one being used?
 - A. Spell check
 - B. Thesaurus
 - C. Macro
 - D. Grammar checker
- 14. Which statement is **NOT** an advantage of a word processor?
 - A. Editing a document requires a complete retype of the page.
 - B. The font can be given a wide range of formats.
 - C. Documents can be saved then retrieved at a later time.
 - D. Parts of a document can be reused in other documents.
- 15. The following devices contain a chip-based operating system except
 - A. iPod
 - B. Laptop
 - C. Calculator
 - D. Cell Phone
- 16. Which of the following applications would most likely use a DBMS?
 - A. Supermarket bill

EXTRA OBJECTIVES COMPILATION ONE

- B. Project report
- C. Students records directory
- D. Graphics imaging

Refer to this spreadsheet and chart to answer the questions that follow

	A	B	C	D
1	Unit price:	\$5.00		
2				
3	SALES	Units	Total	
4	Week 1	4	\$20.00	
5	Week 2	2	\$10.00	
6	Week 3	3	\$15.00	
7				
8	Total	9	\$45.00	



17. Which cell contains the entry "SUM(B4:B6)"?
- A. B1
- B. C4
- C. B8
- D. C8
18. What is the data type in cell B4?
- A. Label
- B. Formula
- C. Function
- D. Value
19. Which cell contains a reference to the entry "\$5.00"?
- A. B1
- B. C4
- C. B8

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- D. B4
20. The columns in the chart show which range of data?
- A. B4:B6
 - B. C4:C6
 - C. A4:C6
 - D. B4:C6
21. A company wants to create and print a brochure. The brochure will give descriptions and prices. It will also show photos and drawings of the company's products. Which combination of applications would be best for this job?
- A. Word Processor and Spreadsheet
 - B. Spreadsheet and Graphics
 - C. Operating System and Database
 - D. Word Processor and Graphics
22. Working from home on your laptop via the internet is considered
- A. web surfing.
 - B. net meeting.
 - C. virtual office.
 - D. telecommuting.
23. If the file, "Chapter 1a.doc" was saved as a text file, what would be the new file extension?
- A. txt
 - B. pdf
 - C. wps
 - D. xml
24. Combining a list of names and addresses onto a letter template to reflect a more personalized letter, uses which word processing task?
- A. Emailing
 - B. Mail merging
 - C. Printing results
 - D. Find and replace
25. Given the following statement:
=IF(G10<50, "FAIL", "PASS"), what is the result if G10 was 50?
- A. PASS
 - B. FAIL
 - C. G10<50
 - D. Empty
26. Cell addresses in a spreadsheet are described
- A. by numbers, letters
 - B. by fields, records
 - C. by column headings, row headings

- D. by their coordinates and lines
- 27. To give a visual presentation, cell ranges can be depicted in a
 - A. chart.
 - B. image.
 - C. formula.
 - D. paragraph.
- 28. "Ascending" and "Descending" are used in which spreadsheet feature?
 - A. Sorting
 - B. Repeating
 - C. Analyzing
 - D. Calculating
- 29. Which of the following is **NOT** an advantage of a chip (ROM) based operating system?
 - A. Easily updated
 - B. No moving parts
 - C. Quick startup time
 - D. Resistant to viruses
- 30. In which word processing menu will you find the spell check option?
 - A. Edit Menu
 - B. Help Menu
 - C. Tools Menu
 - D. Insert Menu
- 31. 10. Which of the following is **NOT** a spreadsheet program?
 - A. Ms Excel
 - B. Quattro Pro
 - C. Dbase III
 - D. Lotus 1-2-3
- 32. The fastest permanent storage device is the
 - A. hard disk.
 - B. floppy.
 - C. RAM.
 - D. tape.
- 33. Anywar Cornelius is trying to remember how to use the PRODUCT function in a spreadsheet. What should he do?
 - A. Press F1 to get help.
 - B. Highlight relevant cells and type in PRODUCT.
 - C. Type in PRODUCT(A1:A2) and see if it's correct.
 - D. Multiply with a calculator and manually type the answer by hand in the cell.
- 34. Kisaawe Ahmed has accidentally deleted all the text he has been working on for 3 hours! What should he do to restore the work?
 - A. Rush out and call the computer teacher for assistance.
 - B. Check the recycle bin and click 'restore'.

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- C. Close the document and click 'No' when asked to save changes.
- D. Press Ctrl-Z immediately.
- 35. Turning the computer on by pressing the power switch is called a
 - A. warm start.
 - B. cold start.
 - C. reboot.
 - D. reset.
- 36. The best spreadsheet function for finding the smallest value in a range is
 - A. MIN
 - B. MAX
 - C. SMALLER
 - D. MINIMUM
- 37. Which of the following is **NOT** a feature of a system software specification?
 - A. Cost
 - B. RAM
 - C. Processor speed
 - D. Hard disk capacity
- 38. One advantage of a Local Area Network (LAN) is to
 - A. enable the sharing of power source.
 - B. get direct connection to the internet.
 - C. enable sharing of data on the network.
 - D. increase processor speed of standalone computers.
- 39. The main responsibility of a modem is to
 - A. initiate a communication session.
 - B. convert between digital and analog signal formats.
 - C. force a remote system to match its speed capabilities.
 - D. carry out an electronic conversation with another modem.
- 40. In application software like word processing the series of menu commands and keystrokes that have been recorded and given a name is called
 - A. Macro.
 - B. Backup.
 - C. Thesaurus.
 - D. Template.
- 41. What happens when the 'Print Screen' key on the keyboard is pressed?
 - A. Whatever is on the screen will be printed.
 - B. The document seen on the screen will be printed.
 - C. What You See on the screen Is What You Get when printed.

D. Everything seen on the screen will be copied to the clipboard to be pasted later.

42. Which term below is related to the size of a font?

- A. Type
- B. Style
- C. Point
- D. Format

Use the worksheet given below to answer the questions that follow:

	A	B	C	D
1	100	2	=A\$1*10	
2	80	1		
3	70	4		
4	60	3		
5	50	5		
6	40	8		
7				
8				

43. Cell B1 contains a formula =A\$1*10. If the fill handle is used to copy the formula to cells C2, and D1 the results will be:

- A. 800 in C2 and 200 in D1
- B. 1000 in C2 and 1000 in D1 different values.
- C. 80 in C2 and 20 in D1
- D. 1000 in C2 and 20 in D1

44. Cell A7 contains a formula for finding the average of the data in column

A. Which of the following formulae would display the result needed?

- A. = MEAN (A1:A6)
- B. = COUNT (A1:A6)/6
- C. =(A1+A2+A3+A4+A5+A6)/6

$$\frac{A1 + A2 + A3 + A4 + A5 + A6}{\text{COUNT}(A1:A6)}$$

D. COUNT(A1: A6)

45. Which of the following is true about an absolute reference in a spreadsheet?

- A. It can only be used on individual cells but not on ranges.
- B. The spreadsheet does recalculation every time it is used.
- C. The reference cell changes when you copy within a worksheet.
- D. The reference cell stays the same no matter where you copy it to within the worksheet

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

46. Which of the following relationships best shows the way the user relates to the parts of a computer system?
- A. User → operating system → application → hardware.
 - B. User → application → operating system → hardware.
 - C. User → application → hardware → operating system.
 - D. User → hardware → application → operating system.
47. Which one of the following Operating Systems does not have a GUI?
- A. Windows 8
 - B. DOS
 - C. Mac OS X Leopard
 - D. Linux
48. Direct sunlight can cause damage to floppy disks. This is because the
- A. disks are always warm.
 - B. light intensity is too high for the disk.
 - C. high humidity lets fungi grow on the disk surface.
 - D. high temperature causes bending of the disk surface.
49. Copyright regulations don't apply to
- A. Freeware and Open source software
 - B. Shareware and web based software
 - C. Open source and Public domain software
 - D. Public domain software and Off the shelf software
50. A printer should be connected to which port?
- A. RS-232
 - B. Parallel
 - C. Serial
 - D. Video
51. A relative living overseas sends you a computer. What should you check before plugging in the power lead?
- A. That the voltage is set correctly for your country.
 - B. That the Operating System is the right one for the computer.
 - C. That there is no pirated software on the hard drive.
 - D. That the computer has sufficient RAM memory to run the software you want to use.
52. Which file attribute will protect a file from being written to?
- A. Read-only
 - B. Write Only
 - C. Hidden
 - D. System
53. Susan has an Office Suite on her computer. It allows her to put spreadsheet tables into her word processor document. This Office Suite is an example of

- A. integrated software.
- B. proprietary software.
- C. a programming language.
- D. an operating system

End of Term Party

Hello everyone,

I am planning to have an 'end of term' party at my house on the weekend after the exams. If you are interested in attending let me know before Tuesday. We will be having bull roasting and will be organizing games and other activities.

Rogers

54. In the memo above, what is the text alignment in the main paragraph?
- A. Right
 - B. Left
 - C. Center
 - D. Justify
55. What font formatting was given to the name "Rogers"?
- A. Bold
 - B. Italics
 - C. Bold and Italics
 - D. Normal
56. A computer takes time to boot. During this time the computer is
- A. loading the operating system.
 - B. loading all of the applications.
 - C. letting the processor warm up properly.
 - D. making sure the voltage gets to the right level.
57. The operating system does different tasks. One of these tasks is to
- A. let a user move files on the computer.
 - B. act as a word processor.
 - C. browse the internet.
 - D. be a calculator.
58. A sequence of coded instructions which the computer interprets is a
- A. microprocessor.
 - B. connection.

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C. program.

D. monitor.

59. Which operating system function would you use to find a lost file?

A. Search

B. Sort

C. Recover

D. Copy

Use this spreadsheet to answer questions that follow:

Microsoft Excel - SecA_qn13to16.xls				
File Edit View Insert Format Tools Data Window				
Arial 10 B I U				
B16 =				
	A	B	C	D
1	Vegetable Costs			
2				
3		No of kg	Price per kg	Cost
4	Tomato	25	\$1.50	\$ 37.50
5	Cabbage	15	\$0.85	\$ 12.75
6	Carrot	32	\$3.20	\$ 102.40
7				
8			Total	\$ 152.65

60. Which of these best describes the format of row 3?

A. Bold

B. Centre

C. Bold and centre

D. Centre and italic

61. Which cell is currently selected?

A. A1.

B. D8.

C. B16.

D. No cell is currently selected.

62. What is the name of the saved file?

A. Excel

B. Book 1

C. Vegetable Costs

D. SecA_qn13to16

63. Which error message will excel show if text in a function syntax is not recognized?
- A. #DIV/0!
 - B. #REF!
 - C. #NUM!
 - D. #NAME?
64. Which of the following devices must be used in order to connect two computers for sharing of data?
- A. USB
 - B. NIC
 - C. UPS
 - D. Microwave
65. A document with copyrighted material is marked with
- A. ©.
 - B. ®.
 - C. €.
 - D. @.
66. Which of the following is **NOT** a management task carried out by the Operating System?
- A. Processor Management
 - B. Memory Management
 - C. Device Management
 - D. User Management
67. The filename "ebola.pdf" tells you that the information in the file is about ebola and the file is
- A. a Word file.
 - B. an Acrobat file.
 - C. a Database file.
 - D. a PowerPoint file.
68. The first operation to move a paragraph from one place to another is
- A. clicking on Edit Menu and selecting COPY.
 - B. highlighting the paragraph to be moved.
 - C. right-clicking and selecting COPY.
 - D. right-clicking and selecting CUT.
69. Which of the following is both an input and an output device?
- A. keyboard
 - B. monitor
 - C. disk drive
 - D. printer

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5R x 2C		
	A	B
1	Kids Update	Age
2	Chrysolite	8
3	Setareki	6
4	William	3
5	Paulo	2

70. In the figure above, the statement (5R x 2C) shown in the name box of the Microsoft Excel worksheet means

- A. it is a formula for multiplying the value in cell 5R with that in cell 2C.
- B. there are 5 rows and 2 columns being highlighted in this worksheet.
- C. the cursor is located at the intersection of Row 5 and Column 2.
- D. That 5Rx2C is the active cell.

71. How is Christopher Latham Sholes remembered in the history of computers?

- A. He invented the ENIAC
- B. He was the first debugger
- C. He invented the QWERTY keyboard
- D. He invented the mouse during the 4th generation.

72. A hardware or software system used to restrict access to data and information on a network is called

- A. modem.
- B. netscape.
- C. ARPANET.
- D. firewall.

73. The system clock

- A. is a storage device.
- B. shows the time and date.
- C. determines data process speeds.
- D. turns off the computer after a long time.

74. The following are parts of the Central Processing Unit (CPU) except

- A. ALU.
- B. Control Unit.
- C. ROM.
- D. registers.

75. In computer studies and information technology, a bug is a

- A. data bus damager.
 - B. programming error.
 - C. malicious program.
 - D. syntax error.
76. Select one tool that controls the size, margins and orientation when working on a word document.
- A. Page setup.
 - B. Print preview.
 - C. Format.
 - D. Insert.
77. 3rd generation computers are characterized by the development and use of
- A. transistors.
 - B. integrated circuits.
 - C. microprocessors.
 - D. vacuum tubes.
78. A hardware on a network or communication system which receives, boosts and retransmits a signal to the next part of a system is a
- A. router.
 - B. hub.
 - C. gateway.
 - D. repeater.
79. How many cells are in the range Y12:AC18 in a spreadsheet?
- A. 12
 - B. 18.
 - C. 35.
 - D. 216.
80. The graphics interface usually moves and points the cursor with the
- A. function key.
 - B. toggle key.
 - C. mouse.
 - D. Num lock.
81. A document that contains the layout and formatting necessary for a specific document type is a
- A. template.
 - B. macro.
 - C. graphic.
 - D. worksheet.
82. This is the process through which data from a sending device is converted into signals which the communication medium can carry is known as
- A. transmission.
 - B. encoding.
 - C. uploading
 - D. decoding.

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83. A..... is the vertical section of tracks through all platters on a hard disk.
- A. Disk Drive.
 - B. Cluster.
 - C. Cylinder.
 - D. Sector.
84. A port that uses radio waves to transmit data between two devices, without using cables is known as a
- A. Serial port.
 - B. USB Port.
 - C. Bluetooth port.
 - D. SATA port.
85. How much does 4EC hex represent in binary?
- A. 10011101100
 - B. 11011101001.
 - C. 4 14 12.
 - D. 00110111001.
86. A super computer is used in
- A. banks.
 - B. schools to write letters on.
 - C. offices to work with databases.
 - D. space exploration and weather forecast.
87. A DVD writer is a/an
- A. Output device.
 - B. Input device.
 - C. I/O device.
 - D. Storage device.
88. What is 2.1 Kilo Bytes equal to?
- A. 1024 MB.
 - B. 8 bytes.
 - C. 8192 bits.
 - D. 17203 bits.
89. Which component collects the result of computations in the CPU?
- A. The ALU
 - B. Storage register
 - C. Accumulator
 - D. General Purpose register
90. The Country known for the first use of abacus is _____ .
- A. India.
 - B. U.S.A.
 - C. Japan.
 - D. China.

EXTRA OBJECTIVES COMPILATION ONE

91. The first commercially available computer developed in the year 1951 was _____.
- A. ASCC.
 - B. UNIVAC.
 - C. ENIAC.
 - D. EDVAC.
92. A Samsung galaxy is an example of a _____ computer.
- A. Tablet PC.
 - B. Laptop.
 - C. Notebook.
 - D. Desktop.
93. The original ASCII code used...bits of each byte, reserving the last bit for error checking
- A. 5
 - B. 6
 - C. 7
 - D. 8
94. Who is credited with the idea of using punched cards to control patterns of a weaving machine?
- A. Pascal
 - B. Hollerith
 - C. Babbage
 - D. Jacquard
95. Twisted pair, coaxial cable and fiber optic cable are types of transmission
- A. Chains
 - B. Media
 - C. Data
 - D. Information.
96. Why is UTP cable the recommended for use in computer laboratory networks?
- A. It covers longer distances
 - B. It is easier to install and use
 - C. There is No signal interference
 - D. All the above
97. The following resources that can be shared by computers on a network except
- A. Peripheral Devices like the Keyboard
 - B. A single Internet Connection
 - C. Processing Power
 - D. IP Addresses
98. Which of the following is **NOT** a characteristic of fourth generation computers?
- A. Operating systems based on the Graphical User Interface (GUI) were developed.
 - B. Multi-tasking was possible.
 - C. They had Artificial Intelligence.
 - D. Computers could be linked together to form networks.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

99. Which of the following was a development during the mechanical era (1623 – 1945)?

- A. Napier's Bones.
- B. Blaise Pascal's Calculator
- C. William Oughtred's Slide rule
- D. Vacuum tubes.

100. Which of the following programs are **NOT** typically included in Microsoft Office Suite?

- A. Word Processing Programs
- B. Desktop Publishing Programs
- C. Email Management Programs
- D. Video Editing Programs

EXTRA OBJECTIVES COMPILATION TWO

1.A..... also called an allocation unit, consists of two to eight sectors of space used to store data on a hard disk.

- E. Disk Drive.
- F. Cluster.
- G. Cylinder.
- H. Platter.

2.Which of the following is the main reason why USB ports are becoming more popular than other types?

- E. Because USB ports make it easier to connect external devices to PCs.
- F. Because USB ports allow attaching a multitude of connectors at the back of PCs.
- G. Because USB ports permit high-speed device interface data transfer rates.
- H. Because USB ports support universal plug and play.

3.Which of the following is the **parallel port**, which allows several bits to be transmitted simultaneously; and commonly provides the interface for such devices as high-speed printers?



4.What is the binary equivalent of AF hexadecimal?

E. 10101111

F. 11111010

G. 175

H. 257

5.Which of the following can do both data input and output?

E. Projector

F. Scanner

G. Touch Screen

H. Microphone

6.What is the equivalent for 16384 bits?

E. 16384 characters

F. 2048 MB.

G. 16 bytes.

H. 2 KB

7.The binary coding scheme that can uniquely represent any character or symbol present in any language including up to 2^{32} = (~ 4 billion) characters available to a digital computer using a combination of bits 0 and 1 is:

E. 7-bit American Standard Code for Information interchange (ASCII -7)

F. 8-bit American Standard Code for Information interchange (ASCII -8)

G. Extended Binary Coded Decimal Interchange Code (EBCDIC).

H. Universal Code (UniCode).

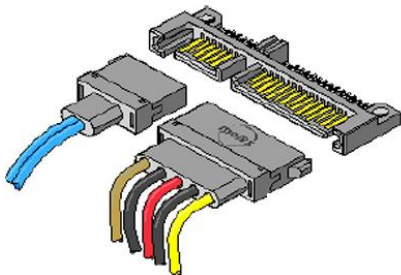
8.Who is credited with the idea of the tabulating machine which was used to manage statistics during the 1890 USA population census?

E. Pascal

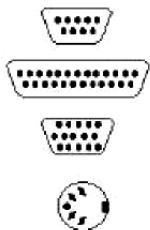
F. Hollerith

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

- G. Babbage
 - H. Jacquard
9. Which of the following is a characteristic of second generation computers?
- E. Operating systems based on the Graphical User Interface (GUI) were developed.
 - F. Multi-tasking was not possible.
 - G. They had Artificial Intelligence.
 - H. Computers could be linked together to form networks.
10. Which hard disk interface is illustrated in the figure below?
- A. SATA, (Serial Advanced Technology Attachment)
 - B. EIDE, (Enhanced Integrated Drive Electronics)
 - C. SCSI, (Small Computer System Interface) and
 - D. SAS (Serial-attached SCSI)



11. Which of the following was **not** a development during the mechanical era (1642 – 1890)?
- E. Blaise Pascal's Calculator
 - F. William Oughtred's Slide rule
 - G. Leibniz's Stepped Reckoner
 - H. Jacquard's Loom
12. Into which port would you plug the monitor cable connector?
- A. –
 - B. –
 - C. –
 - D. –
13. Which type permanent of computer memory is **not** a form of storage?
- A. ROM
 - B. RAM
 - C. Floppy Disk
 - D. Hard Disk
14. It is not possible to save a file to a
- A. Hard Disk.



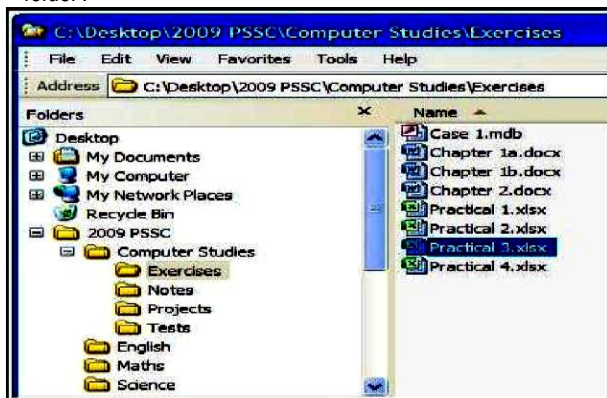
- B. Floppy Disk.
 - C. CD-ROM.
 - D. Magnetic Tape.
15. What does the Central Processing Unit (CPU) actually process?
- A. Bits and bytes
 - B. ASCII
 - C. Applications
 - D. Device drivers
16. In most applications, the command **Save** is found on which pull down menu?
- A. File
 - B. Edit
 - C. Format
 - D. Help
17. A file is located at
C:\My Documents\Business\Accounts.xls
- Which part of this path is a subfolder (subdirectory)?
- A. C:\
 - B. Business
 - C. My Documents
 - D. .xls
18. The hardware where data is actually written and stored is called a storage
- A. device.
 - B. medium.
 - C. memory.
 - D. processor.
19. Imaging devices are categorized as
- A. input.
 - B. output.
 - C. storage.
 - D. processing.
20. Keys F1 through F12 are known askeys.
- A. fast
 - B. control
 - C. function
 - D. shift
21. Businesses that use carbon invoices prefer printers.
- A. laser
 - B. inkjet
 - C. desk jet
 - D. dot matrix
22. 01001101 binary is
- A. 129
 - B. one byte.

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

C. 76 decimal.

D. 4D hexadecimal.

23. With reference to the diagram below, how many files are found in the active folder?



A. 14

B. 22

C. 8

D. 9

24. To copy an image of only the current application's window to the clipboard, press

A. F1

B. Alt- Print Screen

C. Scroll Lock

D. Print Screen

25. Which is **not** usually an environmental danger for computers?

A. Extreme darkness

B. Magnetic field

C. Water and light

D. Dust and heat

26. Which of these acronyms is a programming language?

A. WYSIWYG

B. BASIC

C. ASCII

D. BIOS

27. What is the best definition of a computer program?

A. One part of the Internet

B. Something made by Microsoft

C. A sequence of coded instructions

- D. The part of the computer you click on
28. The best way to protect your work against unforeseen computer problems is to always
- A. save files whenever you remember to.
 - B. keep program files in a folder.
 - C. use the latest software programs.
 - D. backup files regularly.
29. Serial ports transmit data
- A. one bit at a time.
 - B. one byte at a time.
 - C. in one direction only.
 - D. when a clock pulse is applied to them.
30. A hard disk stores information as a sequence of
- A. electrical pulses.
 - B. magnetic dipoles.
 - C. light and dark optical barcodes.
 - D. up and down steps in the disk surface.
31. The tracks on a diskette are made of
- A. cylinders.
 - B. grooves.-
 - C. sectors.
 - D. FATs.
32. An example of an impact printer is
- A. a laser printer.
 - B. an ink-jet printer.
 - C. a bubble-jet printer.
 - D. a dot-matrix printer.
33. The fastest type of data access is
- A. RAM.
 - B. Registers
 - C. Flash Disk
 - D. CD
34. The decimal form of 100011 binary is
- A. 6
 - B. 35
 - C. 49
 - D. 100011
35. A mouse is mainly used as
- A. a static device.
 - B. an input device.
 - C. an output device.
 - D. an independent device.
36. A monitor is mainly used as

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA

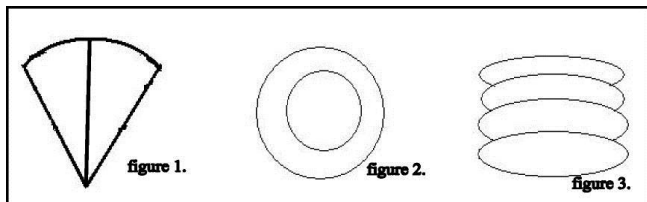
- A. a supervision device.
 - B. an input device.
 - C. a storage device.
 - D. an output device.
37. Data cannot be stored permanently in RAM because
- A. RAM size quickly gets too small.
 - B. RAM overheats when used for a long time.
 - C. data is damaged when left in RAM for a long time.
 - D. RAM data is lost when the electric power goes off.
38. When you try to delete a file from a floppy disk you get an error message. What could cause this error?
- A. The disk is full.
 - B. The file is too big.
 - C. The disk is write protected.
 - D. The file is of the wrong type
39. The file SmallLetter.doc is in the sub-folder (sub-directory) Letters, which is in the folder (directory) correspondence on a USB flash drive. The disk drive letter is F. What is the correct path to the file?
- A. Correspondence\Letters\SmallLetter.doc\F
 - B. F:\Letters\correspondence\SmallLetter.doc
 - C. F:\correspondence\Letters\SmallLetter.doc
 - D. F:\SmallLetter\Letters\correspondence.doc
40. Which of these devices is **not** a magnetic storage medium?
- A. Tape
 - B. Hard disk
 - C. Floppy disk
 - D. Compact disk
41. Computers process information in the form of bits made up of 1s and 0s. These numbers are known as
- A. unicode numbers.
 - B. decimal numbers.
 - C. binary numbers.
 - D. ASCII numbers.
42. Which number represents the greatest amount of data?
- A. 500 Gb
 - B. 0.2 Tb
 - C. 640 Kb
 - D. 3200 bytes
43. Which storage device normally cannot be written to?

- A. ROM
 - B. RAM
 - C. Hard disk
 - D. Floppy disk
44. A scanner is an example of
- A. an output device.
 - B. an input device.
 - C. a device driver.
 - D. a tape drive.
45. Which device helps a computer to continue operating after a power failure?
- A. CPU
 - B. DOS
 - C. UPS
 - D. USB
46. Which row shows how Hard Disks and Compact Disks store data?

	Hard Disks	Compact Disks
A.	Magnetic	Electric
B.	Optic	Optic
C.	Electric	Magnetic
D.	Magnetic	Optic

47. Which of the following types of printers does **not** use a print-head mechanism when printing characters?
- A. Line printers
 - B. Dot Matrix printers
 - C. Daisywheel printers
 - D. Laser printers
48. Optical Disks used in computers are usually made of
- A. Zinc.
 - B. Silicon.
 - C. Chromium.
 - D. Lacquer.
49. The process of initializing a disk to be ready for data storage is called Disk
- A. Formatting.
 - B. Initiation.
 - C. Scanning.
 - D. Defragmenting.
50. According to the picture below, which of the following information is true?

UCE COMPUTER STUDIES REVISION Q&A FOR UGANDA



- A. fig1= Tracks; fig2= Sectors; fig3= Platters
B. fig1= Sectors; fig2= Platters; fig3= Tracks
C. fig1= Platters; fig2= Tracks; fig3= Sectors
D. fig1= Sectors; fig2= Tracks; fig3= Platters
51. The electronic pathway where data travels between the CPU and other parts within the motherboard is called
- A. cables or wires.
B. ports or slots.
C. line.
D. bus.
52. Calculate the number of bits required to hold the word **BYE_BYE_S1** in memory.
- A. 10
B. 8
C. 80
D. 64
53. To move a block of selected text to a new position, one must use
- A. find and replace.
B. paste special.
C. copy and paste.
D. cut and paste.
54. The blinking symbol on the computer screen is called the
- A. mouse.
B. pointer.
C. icon.
D. cursor.
55. The retrieval of information from the computer is defined as
- A. collection of data.
B. data operations.
C. output.
D. information collection
56. The first Apple Macintosh was a
- A. First Generation Computer.
B. Second Generation Computer.
C. Third Generation Computer.

- D. Fourth Generation Computer.
57. Analog computer works on the supply of
- A. Continuous electrical pulses.
 - B. Discontinuous electrical pulses.
 - C. Magnetic strength.
 - D. Binary digits 0 and 1 (bits).
58. Which of the following statements is true?
- A. Minicomputer works faster than Personal Computers.
 - B. Laptops work faster than Microcomputers.
 - C. Super computers are examples of Mainframe computers.
 - D. Big iron computers are also known as Mid-range computers.
59. What is the radius of the standard Optical discs used in personal computers?
- A. 4.75 inches
 - B. 2.375 inches
 - C. 3½ inches
 - D. 3 cm
60. The main player in the microprocessor industry is
- A. Intel.
 - B. IBM.
 - C. DELL.
 - D. AMD.
61. Which of the following is still useful for adding numbers?
- A. Blaise Pascal's Calculator.
 - B. ENIAC.
 - C. Abacus.
 - D. UNIVAC.
62. The following are negative effects of computers on our society except
- A. Moral Decay.
 - B. Addiction.
 - C. Electronic Fraud.
 - D. Telecommuting.
63. In which computer classification does an analog computer belong?
- A. Categories
 - B. Purpose
 - C. Process
 - D. Size
64. Who of the following presented a paper on the '*Ten Commandments for Computer Ethics*' during the first National Computer Ethics Conference held Washington DC in 1991?
- A. Dr. Bill Gates.
 - B. Dr. Ramon C. Barquin.
 - C. Dr. Grace Murray Hopper
 - D. Dr. Howard Aiken

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65. is responsible for directing and coordinating most of the operations in the CPU.
- A. The ALU
 - B. The CU
 - C. The Registers
 - D. The Operating System
66. A page in landscape orientation is
- A. wider than it is tall,
 - B. taller than it is wide
 - C. turned upside down
 - D. bigger than a page in portrait orientation.
67. Working from home on your laptop via the internet is called
- A. web surfing.
 - B. net meeting.
 - C. virtual office.
 - D. telecommuting.
68. Mudiro Eric wants to start using his computer for watching local TV. What can he do to add this functionality to his PC?
- A. He should pay for DSTV services.
 - B. He should connect the video out cable from a TV to his system unit.
 - C. He should buy and install a TV capture adapter card.
 - D. He should visit the internet website: www.watchlocaltvfree.com .
69. Which term below is related to the size of a font?
- A. Type
 - B. Style
 - C. Point
 - D. Format
70. Direct sunlight can cause damage to floppy disks. This is because the
- A. disks are always warm.
 - B. light intensity is too high for the disk.
 - C. high humidity lets fungi grow on the disk surface.
 - D. high temperature causes bending of the disk surface.
71. A computer takes time to boot. During this time the computer is
- A. loading the operating system.
 - B. loading all of the applications.
 - C. letting the processor warm up properly.
 - D. making sure the voltage gets to the right level.
72. A relative living overseas sends you a computer. What should you check before plugging in the power lead?
- A. That the voltage is set correctly for your country.
 - B. That the Operating System is the right one for the computer.

EXTRA OBJECTIVES COMPILATION TWO

- C. That there is no pirated software on the hard drive.
- D. That the computer has sufficient RAM memory to run the software you want.
- 73. How is Christopher Latham Sholes remembered in the history of computers?
 - A. He invented the ENIAC
 - B. He was the first debugger
 - C. He invented the QWERTY keyboard
 - D. He invented the mouse during the 4th generation.
- 74. The system clock
 - A. is a storage device.
 - B. shows the time and date.
 - C. determines data process speeds.
 - D. turns off the computer after a long time.
- 75. In computer studies and information technology, a bug is a
 - A. data bus damager.
 - B. programming error.
 - C. malicious program.
 - D. syntax error.
- 76. What is 4.5 Kilo Bytes equal to?
 - A. 36 bits.
 - B. 4608 bytes.
 - C. 36864 bits.
 - D. 8192 bits.
- 77. Which component collects the result of computations in the CPU?
 - A. The ALU
 - B. The Storage register
 - C. The Accumulator
 - D. The General Purpose register
- 78. The original ASCII code used ...bits of each byte, reserving the last bit for error checking.
 - A. 5
 - B. 6
 - C. 7
 - D. 8
- 79. How much does 10D hex represent in octal?
 - A. 100001101
 - B. 269.
 - C. 415.
 - D. 1013.
- 80. How many characters can be stored on a standard floppy disk?
 - A. 1.44
 - B. 11.52
 - C. 1440000
 - D. 1509949

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ANSWER TABLE FOR EXTRA OBJECTIVE COMPILATION ONE

1	C	11	D	21	D	31	C	41	D	51	A	61	C	71	C	81	A	91	B
2	B	12	D	22	D	32	A	42	C	52	A	62	D	72	D	82	B	92	A
3	B	13	B	23	A	33	A	43	D	53	A	63	D	73	C	83	C	93	C
4	C	14	A	24	B	34	D	44	C	54	D	64	B	74	C	84	C	94	D
5	C	15	B	25	A	35	B	45	D	55	B	65	A	75	B	85	A	95	B
6	C	16	C	26	C	36	A	46	B	56	A	66	D	76	A	86	D	96	B
7	B	17	C	27	A	37	A	47	B	57	A	67	B	77	B	87	C	97	D
8	B	18	D	28	A	38	C	48	D	58	C	68	B	78	D	88	D	98	C
9	A	19	A	29	A	39	B	49	C	59	A	69	C	79	C	89	C	99	B
10	C	20	A	30	C	40	A	50	B	60	C	70	B	80	C	90	D	100	D

ANSWER TABLE FOR EXTRA OBJECTIVESS COMPILATION TWO

1	B	11	B	21	D	31	C	41	C	51	D	61	C	71	A
2	C	12	A	22	D	32	D	42	A	52	C	62	D	72	A
3	D	13	B	23	C	33	B	43	A	53	D	63	C	73	C
4	A	14	C	24	B	34	B	44	B	54	D	64	B	74	D
5	C	15	A	25	A	35	B	45	C	55	C	65	B	75	B
6	D	16	A	26	B	36	D	46	D	56	D	66	A	76	B
7	D	17	B	27	C	37	D	47	D	57	A	67	D	77	C
8	B	18	B	28	D	38	C	48	D	58	A	68	C	78	C
9	B	19	A	29	A	39	C	49	A	59	A	69	C	79	C
10	A	20	C	30	B	40	D	50	D	60	A	70	D	80	C

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