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840/1
COMPUTER
STUDIES
Paper 1
2½ hours
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UNNASE MOCK EXAMINATION

Uganda Certificate of Education

COMPUTER STUDIES PAPER 1

Theory paper

TIME: 2 hours 30 minutes

Marking Guide

Answers to Section A.

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

SECTION B (60 Marks)

Attempt all questions in this section

21.a) What is the difference between a **formula** and a **function**? ***(02 Marks)***

A Formula is a user defined expression whereas a function is a predefined / inbuilt expression to perform a specific task.

b) Identify one examples of logical and statistical functions in the spreadsheet application. ***(02 Marks)***

Statistical: count(), countif(), max(), min(), Average()

Logical if(), and(), OR(), NOT(), AND(), TRUE()

c) Identify three **data types** that can be entered into a spreadsheet. ***(03 Marks)***

⇒ ***Labels / text***

⇒ ***Values / number***

⇒ ***Formula and functions***

d) Mention any three **features of spreadsheet** programs. ***(03 Marks)***

⇒ ***Built in functions***

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⇒ ***Data sorting***
⇒ ***Data formatting***
⇒ ***Summarizing data***
⇒ ***Charting***
⇒ ***Data validation***
⇒ ***Recalculation***
⇒ ***Printing***
⇒ ***What if analysis***
⇒ ***Macros***
⇒ ***Templates and wizards***

22.a) Distinguish between **computer generation** and **computer evolution**.
(02 marks)

Computer generation is the technological advancement in computers over years while computer evolution is the historical developments through which computers and technology have undergone.

b) Identify any three technological advancements in the medical / hospital sector in your country. ***(03 marks)***

⇒ ***Telemedicine / Tele pharmacy.***
⇒ ***Chemotherapy for treatment of cancer.***
⇒ ***X-rays to detect fractured body parts.***
⇒ ***Ultra-sound scans to detect the gender of unborn babies.***
⇒ ***hybrid operating rooms for various surgeries and operations***
⇒ ***Automated Remote Patient Motoring***
⇒ ***Identifying Patient Appointments***
⇒ ***Gathering Statistics of diseases diagnosed through hospital management systems***
⇒ ***Patients admitted to a hospital are connected to machines that use vital statistics monitoring software to record blood pressure, pulse, and oxygen levels.***
⇒ ***DNA Test kit to determine the paternity of a child.***

c) Identify the computer hardware device that is used to …. ***(05 marks)***

i. print large format designs……***plotter***……..
ii. display information on a large screen……***projector***…….
iii. convert a hardcopy into a softcopy……***scanner***……..
iv. to input sound (song) during recording in a studio……***microphone***…
v. monitoring customers buying items in the supermarket …***CCTv cameras***…

23.a) Give two reasons for choosing **Linux operating system** rather than the **windows operating system** ***(02 marks)***

⇒ ***Linux provides strong security to information compared to windows.***
⇒ ***Linux is not easily affected by computer viruses like windows.***
⇒ ***Linux requires less system resources to run unlike windows.***

⇒ ***Linux is free and has more free applications unlike windows which is costly and also has recurrent costs.***

(ii) Mention any two **functions of windows** on a computer system? ***(04 marks)***

⇒ ***Administering security***
⇒ ***Spooling print jobs***
⇒ ***Monitoring system performance***
⇒ ***Manages storage media and files***
⇒ ***Manages the memory of the computer***
⇒ ***Manages processing tasks of the computer***

b) Mention any two good reasons for **compressing a file**. ***(02 marks)***

⇒ ***To reduce on the space occupied by a file on a storage medium.***
⇒ ***To prevent easy corruption of a file by computer viruses.***
⇒ ***Provide security to files through password inclusion.***
⇒ ***Compressed files can easily be transferred from one storage medium to another at a fast speed.***
⇒ ***Saves bandwidth if files are to be transmitted over a network like internet.***

c) Give one example of each of the following application programs. ***(02 marks)***

Web authoring software: *Macromedia Dreamweaver, Microsoft front page,*
Multimedia software: *VLC, Windows media player, Power DVD*

24.a) What is a **guided transmission** medium? ***(02 marks)***
A pathway/ channel that involve the use of cables for transmission of data from one place to another on a network

b) Outline any three reasons why would an organization would prefer to use **fiber optic cables** rather than other kinds of data transmission cables. ***(03 marks)***

⇒ ***Fiber optic cable transfers data at faster speeds***
⇒ ***Fiber optic cable offers long distance transmission of data***
⇒ ***Provides more security to data***
⇒ ***Transmits large amounts of data (high band width)***
⇒ ***fiber optic cable is not affected by electromagnetic interferences***

c) Mention any 3 advantages of a **client-server** network model over a **peer to peer** network model? ***(03 marks)***

⇒ ***Centralized control to data/ information***
⇒ ***Provides security to data***
⇒ ***Ensures proper management of files since it is easy to find files***
⇒ ***Easy to upgrade or repair***
⇒ ***Easy to backup data***

d) List any two examples of **network topologies.** ***(02 marks)***

⇒ ***Linear / bus topology***
⇒ ***Ring topology***

⇒ ***Star topology***
⇒ ***Mesh topology***
⇒ ***Tree topology***

25.a) State any two services provided by an internet service provider ***(02 marks)***

⇒ ***Offers internet connection***
⇒ ***Web hosting services***
⇒ ***Domain name registration***
⇒ ***Network security***
⇒ ***Electronic mail services***

b) Explain the following terms ***(04 marks)***

i) Web publishing:

Is the process involved in making information available on the world wide web

ii) Web master: ***is a person who creates, controls and manages information on a web site***

c) Suzan typed a URL as: ***https://www.lowcountrygradcenter.org*** in a browser that she had opened in order to read about the activities of the organization.

i) To which type of organization does the URL belong? ***(01 mark)***

……***non-profit organisation***……

ii) What is the **domain name** of this URL? ***(01 mark)***

…… ***www.lowcountrygradcenter.org*** ……

iii) what is **https** in full? ***(01 mark)***

……***hyper text transfer protocol secure***…….

iii) Give any one example of a **web browser** ***(01 mark)***

Mozilla Firefox, opera, internet explorer, UC browser, Google chrome

26.a) Using the list of given words, complete the sentences below ***(05 marks)***

Sabotage, Cloud computing, ethics, code of conduct, cipher, ransom ware, copyright

i. ***Code of conduct.*** are already written guidelines to practice safe computing
ii. Illegal destruction of data causing great loss to an organization is…**sabotage**
iii. Information that has been encrypted is known as …… ***cipher*** ……..text
iv. ***Cloud computing*** internet based computing where resources are shared.
v. To prohibit copying of intellectual rights without permission, a ***copyright*** …. is given

b) List any two **career opportunities** a computer literate individual can take up. ***(02 marks)***

⇒ ***Programming***
⇒ ***System analysis***
⇒ ***Web authoring***
⇒ ***Tutoring / teaching / training***

⇒ ***Graphic designs***
⇒ ***System administration***
⇒ ***Network administration***
⇒ ***Data entry***
⇒ ***ICT technician***

c) Outline any three **netiquettes** that should be followed by computer users.

(03 marks)

⇒ ***Identify yourself***
⇒ ***Use appropriate language***
⇒ ***Be brief and concise***
⇒ ***Respect other user's privacy***
⇒ ***Only use common acronyms***
⇒ ***Avoid overuse of emoticons.***
⇒ ***Avoid spam***
⇒ ***Avoid SHOUTING (using capitals for a full sentence)***
⇒ ***Avoid posting inflammatory or offensive comments online (a.k.a flaming).***
⇒ ***Respect others' privacy by not sharing personal information, photos, or videos that another person may not want published online.***
⇒ ***Stick to the topic when posting in online forums or when commenting on photos or videos, such as YouTube or Facebook comments.***
⇒ ***Don't swear or use offensive language.***
⇒ ***Avoid replying to negative comments with more negative comments. Instead, break the cycle with a positive post.***
⇒ ***If someone asks a question and you know the answer, offer to help.***
⇒ ***Thank others who help you online.***

SECTION C (20 Marks)
Attempt any one question from this section

27. Explain the functions of the following features of an e-mail ***(04 marks)***
    i. Forward: ***Helps a user to send a received message to another recipient***
    ii. BCC: ***Helps a user to send the same email to many recipients but each cannot see the recipient of the same message***
    iii. Address book: ***stores e-mail addresses***
    iv. Draft: ***stores emails not sent***

b) Explain any four reasons why an individual would prefer e-mail communication to ordinary means of sending postal mails? ***(08 marks)***

- ✓ ***It's quick; e mail takes seconds to send compared to ordinary postal mails.***
- ✓ ***It's cheap. Compared to posting messages***
- ✓ ***It is easier to send the same message can easily be sent to many recipients at once by use of a mailing list compared to postal mails***
- ✓ ***Messages can be replied to or forwarded with speed and ease because the software automatically inputs the address of the sender.***
- ✓ ***Other files can be sent as attachments which has increased the popularity of email in business unlike with postal mails***
- ✓ ***It is convenient because a message can be sent anywhere in the world without having to leave one's desk.***
- ✓ ***It is possible to send multimedia content as e-mail***
- ✓ ***The sender is informed in case the email is not sent so that is able to find other ways of delivering the message.***
- ✓ ***A copy of the message is kept for future reference unlike postal mails***

c) Mention any three draw backs of using e-mail communication? ***(06 marks)***

- ✓ ***Email will not be delivered if there is a small error in the address or could be sent to a wrong person.***
- ✓ ***The sender and receiver both need internet access and e-mail accounts-most people in***
- ✓ ***Some people are not keen on checking their mail boxes. So an urgent message may not be read in time.***
- ✓ ***Most viruses are spread via email.***
- ✓ ***The privacy of an email message cannot be guaranteed. So confidential messages ought not to be sent via e-mail.***
- ✓ ***Requires knowledge of computers and can only be used by computer literates.***

d) Differentiate between a soft bounce and a hard bounce in emails. ***(02 marks)***

A soft bounce is a condition where the email fails to reach the destination because the inbox of the receiver is full

A hard bounce is a situation where the e-mail is not sent because of an invalid email address

28. Explain the following terms as used with programming ***(03 marks)***
    i. An algorithm: ***is a sequence of steps that can solve a problem***

ii. A compiler: ***is a program that translates instructions from high level programming language into machine code at once***
iii. A variable ***is a named reference to a value stored in memory***

b) Write an algorithm for a computer program that prompts a user to enter two values multiplies them and displays the result ***(10 marks)***

Start ***// 1 mark)***
Declare variables a, b and c ***//(any variable names used) // 2 marks***
Read the values of a and b ***//(any two variables among the declared)//2 mks***
Multiply a and b and assign the result to c ***// 2 marks***
c ←---- a *b ***// 1mark***
Display the result of c ***//1 mark***
Stop ***// 1 mark***

c) Using a suitable programming language, write a program that can accept a value and obtains its square root and displays the result ***(07 marks)***

```
#include <stdio.h>                                          (1 mark)
#include <math.h>                                           (1 mark)
int main()
{
int number; square_root;        //any variable names used   (2 marks)
printf("enter the number\n");   //should prompt the user to enter the value   (1 mark)
scanf("%d\n", &number);
square_root=sqrt(number);       // sqrt() should be used    (1 mark)
printf("The square root of the number is: %d", square_root); //display result (1 mark)
getch();
return 0;
}
```

29.

Write brief notes about the following components of a system unit. ***(10 marks)***

i. Power supply
ii. Motherboard
iii. Ports
iv. Expansion slot
v. CMOS battery

b) Mention any five features/ applets of the system control panel and their uses.

(10 marks)

Network Connections which is used to manage all networks including Local Area Network, Wide Area Network.

Device Manager which lists all installed and known devices and indicates device status

User Accounts that is used to manage access to the computer. It is used to Create and manage local user accounts by determining the user privileges or account type, providing user passwords and adding or removing user accounts.

Date, Time, Language, and Regional Options which is used to adjust date and time, change region and time zone settings.

Appearance and Themes which is used for customization of display, folder Options, and Taskbar and Start Menu. It is also used to make interface changes.

Screensaver

Add or Remove Programs has three tools in one and it can be used to change or remove Programs, add New Programs, add/Remove Windows Components Wizard.