30.22.1 Computer Studies Paper 1 (451/1)

1 a) - To ensure that no one else / unauthorized person has access to the password/system *(1 mark)*
(Any reason related to security of the password)
b) – To ensure certainity of the chosen password *(1 mark)*

2.

	Dot matrix	Laser printer
Quality	Low quality	High quality
Noise	Noisy	Silent
Cost	Cheaper	Expensive

3 a) (i) =B2 *C2 or =PRODUCT(B2,C2) OR =PRODUCT(B2:C2) (1Mark)
(ii) =Sum(D2:D4) or =D2+D3+D4
or =(B2*C2) +(B3*C3)+(B4*C4) (Any @ 1 *mark*)

(b) = B2*1.16 *C2 *0.9 or =B2*116%*C2*90% or =(B2+B2*0.16)+(C2*0.1)
VAT- *(1 mark)*
Order- *(1 mark)*

4. Uses of computers in meteorology
- Data collection from the environment
- Analysis of complex weather patterns
- Weather forecasting

Answer should be tied to meteorological functions
Any @ 1 *mark* each

5. a) Embedded object: a separate object/image/graphic/clip imported into the file permanently *(1 mark)*
b) Autoflow: Facility that allows text/cursor to flow automatically from one text box to the next when the first text is full. *(1 mark)*

6. a)
- Parallel
- Pilot
- Phase-in/phase out(phased stage)
- Direct

(½ mark each)

b) Parallel changeover **(1 *mark*)**
Reason: The system operations are not interrupted prior to the changeover in terms of time and quality of production *(1 mark)*

7 a) Job scheduling – where job/ tasks are assigned to the processor and main memory depending on their priority *(1 mark)*
b) Interrupt handling- halting of other processes taken by the processor so as to attend to remote enquiries or halting a processor for another task to be performed. *(1 mark)*

8. Toggle keys
- Caps Lock
- Num Lock
- Insert key/OVR
- Scroll Lock

(½ mark each)

9 a) Transposition error- Kajiado as Kajaido
Transcription/ misreading- 8726 as 8126 *(1 mark)*

b) Control of the errors is through

- Proofreading
- Spellchecking
- Double entry
- Improve legibility
- Use of direct data capture devices
- Being careful when typing
- Validation of input data

(any two @ 1 mark)

10. Third generation languages are imperative programming languages or structured languages that use English like statements in coding. They require compilation/translation to machine language equivalent by use of compilers or interpreters. They do not have database manipulation capabilities.
Examples: COBOL, FORTRAN, LISP, ALGOL, C, ADA, PASCAL, BASIC…. others
Describe (1 mark)
Examples (@ $^1/_2$ mark each)

(2 marks)

11. (a) (i) Unique number/name/identification code assigned to a computer/network resource that identifies a computer in a network
(1 mark)
(ii) Purpose: Uniquely identifies a computer in a network
(1 mark)

b) (i) .org - NGO's, nonprofit making bodies
(ii) .gov- Government bodies

(2 marks @ $^1/_2$ mark each)

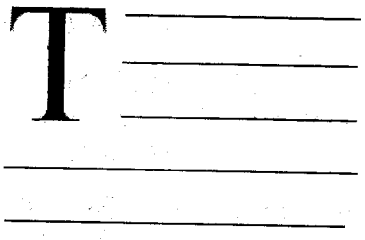
12. a) Address bus
Data bus/SATA bus/IDE/ATA/ I/O
Control bus

(any 2@1 mark each)

b) Address bus - Memory location/used to locate storage positions/transmit memory locations
Data bus- Data transmission
Control bus- Transmit control signals/ transmit instruction signals
(2marks)

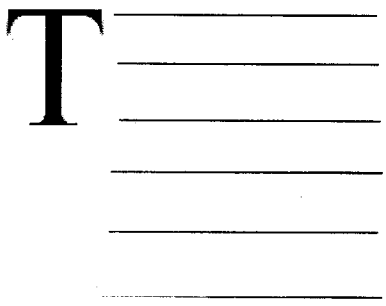
13 (a) Main /Primary/standard document
Data source/secondary @ $^1/_2$ *mark* each

(b) Dropped $^1/_2$ *mark*
The dropped character is within the paragraph



$^1/_2$ *mark* for description / illustrations

In margin $^1/_2$ *mark*
The dropped character is within the left margin



½ *mark* for description / illustrations

14. ICT serves as a:
- Source of information for the best farming practices
- Searching tool for best markets for their produce and the cheapest suppliers for farm inputs
- Marketing tool for farm produce/products
- Medium for transactions including EFT by the farmers
- Manage greenhouses

Rule : A technology and farm activity have to be there in the answer

(Any 3 @ 1 mark each)

15. Either
- ICT manager
- Systems Analyst
- Database Administrator

Or
- Database Administrator
- Systems Analyst
- ICT manager

Systems analyst should be in the middle

(1 mark)

16. (a) (i)

M=1
F=1

M	F
1	1X1=1
2	1X2=2
3	2X3=6
4	6X4=24
5	24X5=120
6	120X 6=720

OR 720 ***(2 marks)***

(ii) M =1
F=1
F=FXM=1X1
M=N=Yes ***(2 marks)***

b) Pseudo code

1. Read N
2. M=1 F=1
3. Repeat steps 4 and 5 while M<N
4. F= F*M
5. M=N
   M=M+1
6. Print F
7. Exit

Or

```
Read N
M=1
F=1
Repeat
F=F*M
M=M+1
Until M=N
Print F
End
```

Or

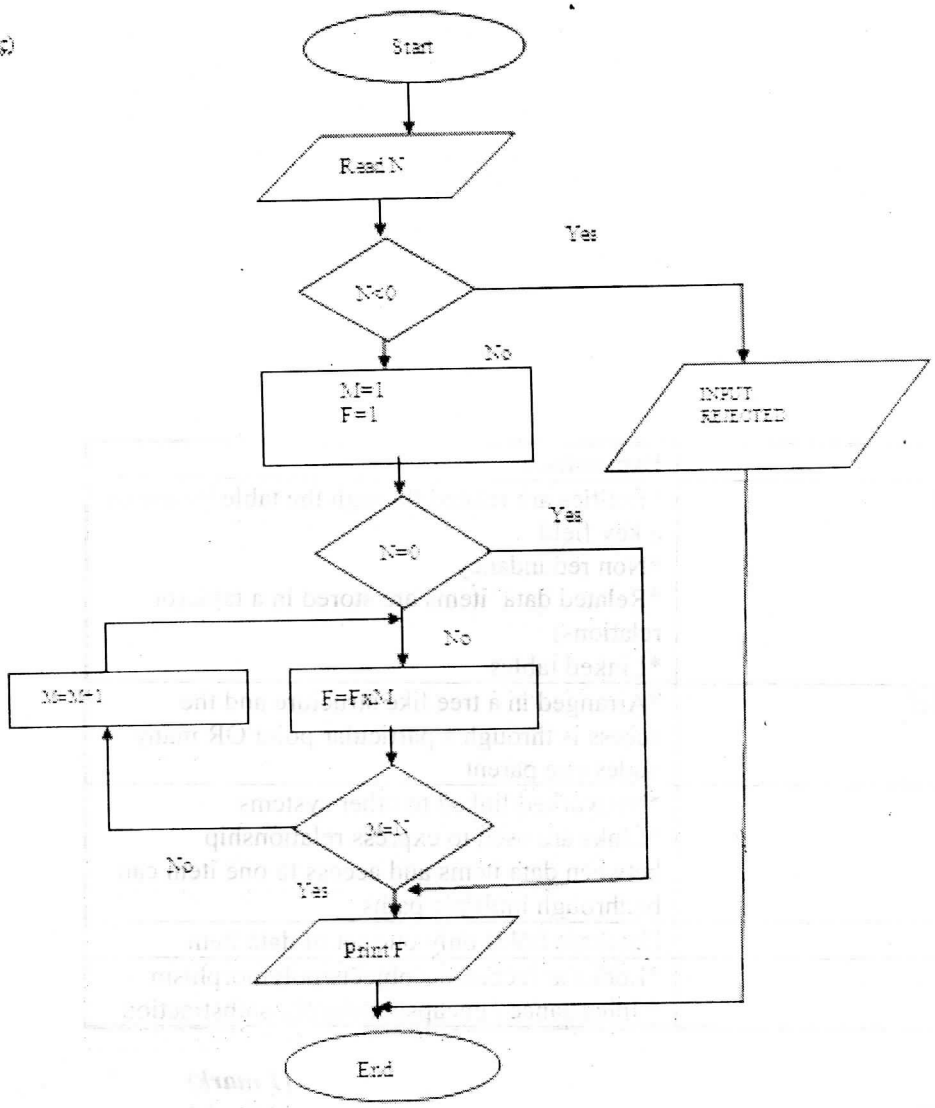
```
Read N
M=1
F=1
For(i=1, M<>N,i++)
F=FxM
M=M+1
Print F
```

Or

```
Read N
M=1
F=1
While M<>N Do
Begin
F=FxM
 M=M+1
End
Print F
```

Any pseudo code like the above ***(@ 7 marks)***

16. (a)



(4marks)

17 a) YOB: 2009-[Age]

While taking 2009 to be the current year

SQL Format: =Now( )- Age

=Now(yyyy)-Age

OR= Year-Age

=Year(Now)-Age

Appropriate label – 1 *mark*

Formula - 1 *Mark*

b) Typing

>15 AND<25

In the criteria row of the query.

Or

Between 15 and 25

Select Name from db where

Age>15 and age<25;

Or

Select * from db where age>15 and age<25

c) (i)

=Count ([Name])

Or

=Count ([Age])

Or

=Count ([Course])

Or

Recordcount []

(ii)

=Average ([Age])

d)

Model	Explanation
Relational Database Model	*Entities are related through the table by use of a key field *Non redundancy *Related data items are stored in a table(or relations) *Linked tables
Hierarchical Database Model	*Arranged in a tree like structure and the access is through a particular point OR many nodes one parent
Network Database Model	*Networked/linked to other systems *Links are used to express relationship between data items and access to one item can be through multiple paths
Flat File Model	Database holds only one set of data item
Object Oriented Model	*Looks at records as objects/polymorphism * Inheritance / encapsulation/class/abstraction

18. (a) (i) Star *(1 mark)*

(ii) Hub or Switch/Router *(1mark)*

(iii)

- File sharing
- Manage users accounts
- Manage host applications
- Manage files/store/hold files for other workstations
- Control the use of resources
- Can be a link to another network/gateways
- Manage/control workstations
- Contain programs which are used by workstations
- Receives request/information from and to the workstations *(Any four @ 1 mark each)*

(iv)

Advantages

- Allow for concentration of network resources
- Give administrator central focal point for management
- Easy to configure/downgrade/upscale
- Easy to trouble shoot
- Faster connection
- Each work station does not have to queue for printing
- If a link to one of the workstations breaks down, the others can continue functioning independently

(Any two @ 1 mark each)

Disadvantages

- Costly to install
- Costly to install because each workstation has a its own printer
- Uses more cables than ring and bus topologies
- In case the server or the hub fails the network facilities are lost.
- Installation is time consuming because each node forms a segment of its own.

(Any one @ 1 mark)

(v)

- Server
- Modem
- Router
- Firewall
- Extra cables
- Repeater
- Bridge
- Transceiver
- Satellite dishes
- Printers
- Keyboard
- Monitor
- Telephone line

(Any three @ 1 mark each)

(vi)

- Hacking
- Tapping/trespassing
- Virus infections
- Vandalism of cables
- Cracking

(Any two @ 1 mark each)

(b)Spyware :- rouge /malicious program for spying/collecting information e.g. passwords from other systems without the user knowledge. ***(1mark)***

19) (a) (i)

- ROM
- Hard disk 2GB HDD

(2*marks*)

(ii)

- Scanner
- Mouse
- Floppy drive
- CD Drive
- Network
- HDD drive

(Any three @ 1 mark each)

(iii)

- Plotter
- High resolution graphics adapter/SVGA/XVGA
- Graphic tablet
- Digitizer
- Light pen
- Touch screen

(Any two @ 1 mark each)

(b)

- one can switch between applications fast/easily
- integrated use less storage space due to sharing of the some applications
- they are cheaper
- easier to install
- easier to learn since they have related features/to use
- maintenance is easier since only one vendor will be responsible in case of any problem
- Ease of transfer of data from one application to the other.

(Any three @ 1 mark each)

(c) (i)

- using storage media from infected computer
- internet use browsing
- Downloading files
- Through the network
- Opening unsolicited /questionable mails
- Playing fake games/using fake games
- Use of pirated software
- Freeware/shareware. **(Any three @ 1 mark each)**

(ii)

- To enable remove upcoming viruses/new viruses
- For maintenance purposes (patches)
- To upgrade/replace outdated antiviruses. ***(Any two @ 1 mark each)***

20)

(i)

1010.101
+ 11.011
1110.000_2 ***(2 marks)***

14_{10} ***(1 mark)*** (ECF)

(ii)

1010.011
- 11.011
1110.000 ***(2 marks)***

7_{10} ***(1 mark)*** (ECF)

(b) (i)

0.5625
x2
1.1250 1
x2
0.2500 0
x2
0.5000 0
x2
1.0000 1

Mark in pairs
(ECF)
Max of 2 *marks* @ 1 *mark* a pair

0.1001_2 1*mark* (consider ECF)

(ii)

0.3125		
x2		
0.6250	0	
x2		Mark in pairs
1.2500	1	(ECF)
x2		Max of 2 *marks* @ 1 *mark* a pair
0.5000	0	
x2		
1.0000	1	

0.0101_2 1*mark* (consider ECF)

(c) 101 ⟶ 0101 } conversion into four bits = ***(1 mark)***
111 ⟶ 0111 }

0111 ⟶ 1000 Switching of bits. ***(½ marks)***
+1 Adding 1 ***(½ marks)***
1001

Final

0101
1001
1110 Ans ***(1 mark)***

30.22.2 Computer Studies Paper 2 (451/2)

1.

(a)	Settings to cm All margins 2cm pgm-20cm	1 mark 1 mark	***(2 marks)***
(b)	• Centered title • Font style • Font size = 45 points • Grey background	1 mark 1 mark 1 mark 1 mark	***(4 marks)***
(c)	Heading styles • Font face = Arial • Size = 20 points • Weight = bold • Character spacing • Alignment -centre	 @ 1 mark @ 1 mark @ 1 mark @ 1 mark @ 1 mark	***(5 marks)***
(d)	Word Count • 8 paragraphs • Style • Size = 14 • First line indent • Hyphenation disabled • Justification = Full • Superscript 13^{th} x2	 @ 2 marks 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark	***(22 marks)***
(e)	• Drop cap • Lines to drop • Single column	1 mark 1 mark 1 mark	***(3 marks)***

(f)	Advertisement • Two text boxes • Text box formatting • Text formatting • Position w.r.t text • Text box borders	 4 marks 2 mark 2 mark 1 mark 1 mark	 ***(10 marks)***
(g)	Each line with formatting Text below the lines 4pts, 0.75pts	2 marks 1 mark	***(3 marks)***
(h)	Print out	1 mark	***(1 mark)***

2. **Spreadsheet.**

2. (a)	• 10 Rows @ 1 mark each • Columns with mean rates @ ½ mark per col • Save • 2 headings correct (½ mark each) • Mean rates @½ mark • Others and copying @½ mark	10 marks 1 mark 1 mark 1 mark	***(13 marks)***
(b)	• Formulae for the first trader(1st currency) • Other currencies 1 mark each • Copy for other traders • Overall sum • Column label	5 marks 4 marks ½x4 = 2 marks 2 marks 1 mark	***(14 marks)***
(c)	• Highlighting range • Formatting to 0 decimal	1 mark 1 mark	***(2 marks)***
(d)	• Title • X – axis • Y- axis • Legend • Correct chart (Bar) • Insert new column • Formulae • Column label • Copying to other cells • Selecting the cells {names and values} • Chart on own sheet	1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 2 marks 1 mark 1 mark 2 marks 1 mark	***(13 marks)***
(e)	• Function (highest profit earner) max. • Correct range • Identify the person {label} and name	1 mark 1 mark 1 mark	***(3 marks)***
(f)	(i) Setting the text direction of labels to 45^0 in the first table. • Selection • the text direction • Centre vertically the records	 1 mark 1 mark	***(2 marks)***
(g)	• Selection • Centering vertically	½ mark ½ mark	***(1 mark)***
(h)	Printing • Worksheet • Graph	 1 mark 1 mark	***(2 marks)***