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Question 3

(a) **Table 1** shows the actions performed by a company on its stored files. Tick the actions that will ensure that the files are kept confidential and secured.

Table 1

S/N	ACTIONS	TICK
1.	Use of anti-virus	
2.	Use of backup	
3.	Use of biometrics	
4.	Use of folder	
5.	Use of manual file	
6.	Use of password	

(b) List **two** disadvantages of computer files as compared to manual files.

(c)(i) Define *charts* as it relates to *MS Excel*.

(ii) Give **two** types of charts in *MS Excel*.

Observation

The expected answer is:

o

SN	ACTIONS	TICK
1.	Use of antivirus	√
2.	Use of backup	√
3.	Use of biometrics	√
4.	Use of folder	

5.	Use of manual file	
6.	Use of password	√

◦ **Disadvantages of computer files compared to manual files**

- Data inconsistency – different file may contain different information of a particular object or person
- Data redundancy – this leads to when the same data is stored in multiple location
- Data sharing- each application program uses its own specific data files, thus, such data cannot be shared to multiple users
- Data isolation- data is isolated in separate files, hence, it is difficult to update and to access particular information from data files
- Unauthorised user can find your files easily
- Hacker can take advantage of your computer file system if it is not password protected or encrypted
- Difficulty in Accessing the file
- Expensive to maintain
- Integrity Problems
- Security Problems
- Easily overwritten
- files are easily corrupted
- Power failure/irregular supply of electricity
- Danger of computer fraud
- Limited Data Sharing
- Skilled labour with proficiency in computers is required.

◦ (i) **Definition of charts**

- A chart is a tool that allow data in a worksheet to be visually display in a variety of different format
- such as Bar, Column, Pie, Line, Area, Doughnut, scatter, surface, or Radar charts.
- It is a visual representation of data in both columns and rows from a worksheet which can bring more understanding to the data than just looking at the numbers.
- A chart is a graphical representation of data which allow user to see the result of data for better understanding and to predict current and future data in excel.
- A chart is a visual representation of data in both columns and rows.
- Charts allow the audience to see the meaning behind the numbers, and also show comparisons and trends much easier.
- A chart is a tool used in Excel to communicate data graphically.

(ii) types of charts

- Column Chart
- Line Chart
- Pie Chart
- Doughnut Chart
- Bar Chart
- Area Chart
- XY (Scatter) Chart
- Bubble Chart
- Stock Chart
- Surface Chart
- Radar Chart
- Combo Chart
- Pivot Chart

The question tested candidates 'knowledge of computer files. The Chief Examiner reported that most of the candidates struggled with the question.

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Question 1

- (a) Define the term *output device*.
- (b) Give the **two** types of printers.
- (c)(i) Construct a *Truth Table* for an AND gate with **two** input signals.
- (ii) State the output of an OR gate with the input signals 0 and 1.
- (d) List **two** types of *logic gate* that gives an output of 1 when all of its input signals are 1.

Observation

The expected answer is:

(a) Definition of output device

An output device is an electronic device that displays information from the computer to the user either in form of soft copy and/or hard copy format or in the form of audio and/or video format. Examples include printers, monitors, speakers, plotters.

An output device is any piece of computer hardware equipment which converts information into a human-perceptible form such as text, graphics, tactile, audio, or video.

An output device is any piece of computer hardware equipment which converts information into a physical machine-readable form for use with other non-computerized equipment

It is a device that receives the processed data from the computer and transforms it in the form of audio/ video signal, or physical reproductions.

A computer's output devices are those parts of computer hardware equipment or peripheral that convert the information or data received from a computer into readable form. It can be text, graphics, audio, or video.

Computer output devices receive information from the computer and carry data that has been processed by the computer to the user.

(b) Types of printers

Impact printers and non-impact printers

(c) (i) Truth Table for AND gate

A	B	Z=A.B
0	0	0
1	0	0
0	1	0
1	1	1

(ii) The output of OR gate with input “0” and “1” is **1**

(d) Two types of logic gate that gives “1” as output when all of its input are “1” are:

OR gate;

AND gate;

XNOR gate.

The question tested candidates' knowledge of hardware. The Chief Examiner reported that most of the candidates who attempted the question showed good knowledge of the area tested.

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Question 2

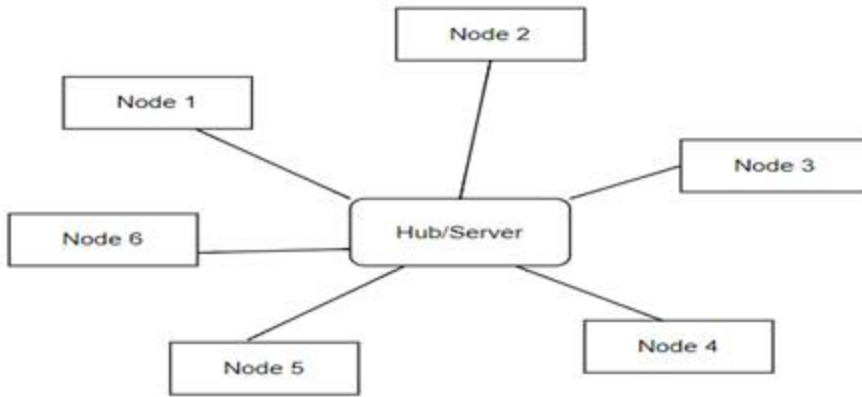
- (a) Use appropriate labelled diagrams to illustrate the following network topologies:
1. Star topology;
 2. Bus topology;
 3. Ring topology;
- (b) State **one** advantage of:
- (i) star topology;
 - (ii) Bus topology;
- (c) Use appropriate labelled diagrams to illustrate the following network topologies:
1. Star topology;
 2. Bus topology;
 3. Ring topology;
- (d) State **one** advantage of:
1. Star topology;
 2. Bus topology;
- (e) Give **one** disadvantage of:
1. Bus topology;
 2. Ring topology;

Observation

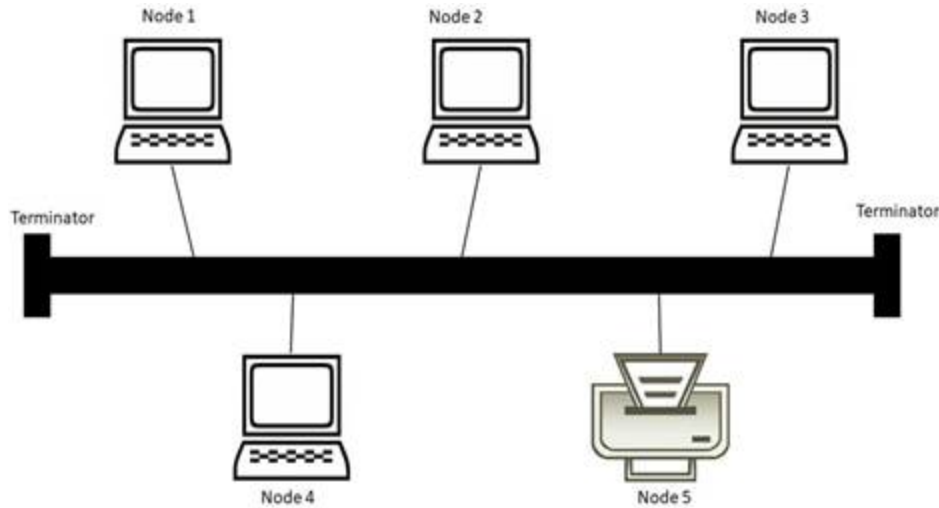
The expected answer is:

- **Network topologies**

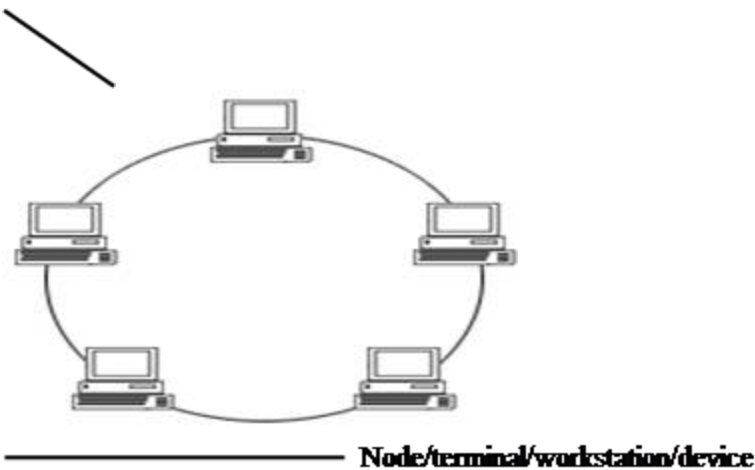
- (i) **star topology**



(ii) bus topology



(iii) ring topology



Token/cable/flow of message/trunk

Advantages of:

(i) star topology

- Easy to install, configure and wire
- All cables run to a central hub reduced problem of cut cable
- It eliminates a number of lengthy cables runs if the hub is properly positioned
- Troubleshooting becomes easier due to shorter cable length
- when one workstation fails, other workstations do not fail because of the central hub.
- Better fault tolerance since no disruptions to the network when connecting or removing devices

- Easy to detect faults because the link is often easily identified
- User friendly: Easy to remove and add parts
- It is very reliable- if one cable or device fails then all the others will still work
- Highly efficient/It is high-performing as no data collisions can occur
- Less expensive because each device only needs one I/O port and wishes to be connected with hub of one link
- Robust in nature
- Centralized network
- No point-to-point connections
- Multiple stars can be created to extend the network's reach/highly scalable
- Safe to use
- Easily manageable/Centralized management.
- It provides very high speed of data transfer.
- Multiple device types can be connected
- Some businesses may benefit from a wireless star topology system
- Multiple approaches can be taken with star topology systems.
- Low network traffic
- it is ideal for making a large network

(ii) Bus topology

- Easy to connect a computer or peripheral to a linear bus
 - Requires less cable length than a star topology
 - It works very efficiently well when there is a small network
 - It is easy to connect or remove devices in this network without affecting any other device
 - It is cost effective as compared to other network topology i. e. mesh and star
 - It is easy to expand by joining the two cables together
 - The length of cable required is less than a star topology.
 - Easy to understand
 - The failure of one station does not affect the rest of the network.
 - No hubs or switches are required.
 - Multiple nodes can be installed without difficulty.
 - It is easy to set-up and extend bus network.
 - Multiple peripherals can be supported through bus topology.
 - Wiring terminators take no power requirements.
- **Disadvantages of:**
 - **bus topology**
- It is not good for large networks
 - Identification of problems becomes difficult if the whole network goes down
 - Troubleshooting individual device issues is very hard
 - Terminators are required at both ends of the main cable
 - Additional devices slow the network down
 - If the main cable is damage, the whole network fails or splits into two
 - Packet loss is high
 - It is very slow as compared to other topologies
 - There is a limit on central cable length and number of nodes that can be connected
 - Maintenance costs can get higher with time
 - Efficiency of Bus network reduces, as the number of devices connected to it increases.
 - It is not suitable for networks with heavy traffic.
 - Security is very low because all the computers receive the sent signal from the source.
 - A break in the backbone can cause an entire network to collapse
 - Bus termination issues can lead to network issues.
 - The computers may share data, but they don't communicate.
 - A T-connection failure immediately limits access.
 - Not meant to be used as a stand-alone solution.
 - Difficult to administer and troubleshoot
 - A cable break can disable the entire network, and there is no redundancy
 - One virus in the network will affect all of the systems
 - Data traffic is high
 - Limited cable length and number of stations

- It uses point-to-point mode of transmission.
 - **ring topology**
- Due to the unidirectional ring all data being transferred over the network must pass through each workstation on the network which can make it slower
- The entire network will be impacted if one workstation shuts down
- The hardware (MAU's) needed to connect each workstation to the network is more expensive than ethernet cards and hubs/switches.
- It is expensive
- Addition and removal of any node during a network is difficult and may cause issue in the network activity
- Difficult to troubleshoot the ring
- More problems caused by cut cabling because all cables do not run to a central hub as in a star topology.
- In order for all the computer to communicate with each other all computer must be turn on
- They are not scalable
- Unique wiring required
- More complex networking and operational protocol

It requires expert administration

- The network is highly dependent on the wire/cable which connects different component
- Data packets must pass through every computer between the sender and also a recipient side, therefore, this makes it slower
- All nodes require a token to send/receive data. So, all the computers have to wait for the empty token to reach them.
- Installing new workstations will disrupt the network
- The bandwidth of a ring topology gets shared on all links between devices.
- Each workstation connected will be able to access others information. This creates some security and privacy concerns since unauthorized people can easily intrude sensitive information.

The question tested candidates' knowledge of networking. It was reported that the candidates who attempted this question showed relatively good knowledge of networking.

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Question 4

- (a) (i) What is *Slide Master* in *MS PowerPoint* presentation?
 (ii) Outline the steps to rename the *Slide Master* in *MS PowerPoint*.
 (b) Explain the following features in *MS PowerPoint*.

(i) *Handout*

Master;

(ii) *Notes Master.*

Observation

The expected answer is:

- (i) **Definition of Slide Master**

Slide Master is the slide that controls all information about the theme, layout, background, colour, font and the positioning of all slides in a presentation.

Slide Master is the design template used for the slides within a presentation.

A slide master is the top slide in a hierarchy/ thumbnail pane of slides that stores/controls information about the theme/background /colour/font /effects/ placeholder /sizes /positioning and slide layouts of a presentation.

It is the main slide that defines/modifies/ sets the layout of a presentation, and adjusts the look of an existing theme

The slide master controls all aspects of a slide's appearance, including its background colour, font style, and any recurring text or pictures.

The slide master is the basic framework and control centre of any good presentation

(ii) **Steps to rename the *Slide Master* in *MS PowerPoint*:**

- right-click on the Slide Master
- click on "Rename Master"
- type the name
- click on "Rename" button

OR

- click slide master on the view tab
- Right click the slide master/ layout thumbnail on the left pane that contains the slide master
- click rename – a rename dialog box will appear

- Then type the new name and click rename – then on the slide master tab, click close master view.

- **Explanation of features in MS PowerPoint**

- (i) **Handout master:**

- Handout master is used to edit/set the appearance of all printed handouts / layout of presentation handouts.
 - Handout Master is used to edit the appearance of presentation handouts including the layout, headers and footers and background.
 - The Handout Master shows the arrangement of handouts for slides printed two, three, four, six, or nine per page plus the arrangement for printing outlines.

- (ii) **Notes Master**

- Notes master allows a user to modify the appearance of the notes page.
- Note master is a feature that allows user to control/ change/edit layouts, font size, font type, font style/adjust settings of the notes section of power point.
- The notes master determines/formats the background elements/ modifies fonts, and position headers and footers and default layout of a notes page.
- The notes master allows user to create, edit, and customize presentation/ to customize presentation looks when printed out with notes.
- The Notes Master contains several placeholders and background area that can be modified as required.

The question tested candidates' knowledge of Microsoft PowerPoint presentation.

It was reported that most of the candidates who attempted this question showed poor knowledge of the application.

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Question 5

A palindrome is a word which can be written in reversed order and it retains its meaning and spelling. Examples are Lawal, Ada, Abba, etc.

Write a simple QBASIC instruction that will accept word from the keyboard and check if it is a Palindrome or **not**.

The program must display a message showing if the word is a Palindrome or **not**.

Observation

The expected answer is:

Question five

QBASIC Program to accept palindrome

```

10      CLS
20      DIM Enword AS STRING
30      DIM Revword AS STRING
40      INPUT "Enter a word:"; Enword
50      FOR i = LEN(Enword) TO 1 STEP -1
60          Revword = Revword + MID$(Enword, i, 1)
70      NEXT i
80      PRINT
90      IF LCASE$(Enword) = LCASE$(Revword) THEN
100         PRINT "This is a palindrome:" Enword;
110         PRINT "Reversed word:" Revword
120     ELSE
130         PRINT "This is not a palindrome:"
140         PRINT Enword; "Reversed word:"; Revword
150     ENDIF
160     END

```

OR

CLS

```

10      INPUT "ENTER A WORD:", W$
20      X = LEN(W$)

```

```

30     FOR i = X TO 1 STEP -1
40     wrd$ = wrd$ + MID$(W$, i, 1)
50     NEXT i
60     PRINT
70     PRINT "The original word is: "; LCASE$(W$)
80     PRINT "The reverse word is"; LCASE$( wrd$)
90     PRINT
100    IF LCASE$(W$) = LCASE$( wrd$) THEN
120    PRINT "It is Palindrome"
130    ELSE
140    PRINT "Not Palindrome"
150    END IF
160    END

```

OR

```

CLS
INPUT "ENTER A WORD:", W$
X = LEN(W$)
FOR i = X TO 1 STEP -1
m$ = MID$(W$, i, 1)
 wrd$ = wrd$ + m$
NEXT i
PRINT
PRINT "The original word is: "; W$
PRINT "The reverse word is"; wrd$
PRINT
IF W$ = wrd$ THEN
PRINT "It is Palindrome"
ELSE
PRINT "Not Palindrome"
END IF
END

```

OR**Using SUB procedure**

```

DECLARE Sub palin(w$)
CLS
INPUT "ENTER A WORD:", W$
callpalin(w$)
END
Sub palin(w$)
X = LEN(W$)
FOR i = X TO 1 STEP -1
 rev$ = rev$ + MID$(W$, i, 1)
NEXT i
IF rev$ = w$ THEN
PRINT "It is Palindrome"
ELSE
PRINT "Not Palindrome"
END IF
END SUB

```

OR**Using FUNCTION procedure**

```

DECLARE FUNCTION palindrome$ (w$)
CLS
INPUT "Enter any word"; w$
a$ = w$
IF a$ = palindrome$(w$) THEN

```

```
PRINT w$; " is palindrome word";  
ELSE  
PRINT w$; " is not palindrome word";  
END IF  
FUNCTION palindrome$ (w$)  
FOR i = LEN(w$) TO 1 STEP -1  
rev$ = rev$ + MID$(w$, i, 1)  
NEXT i  
palindrome$ = rev$  
END FUNCTION
```

The question tested the candidates' knowledge in BASIC programming. The candidates exhibited poor knowledge of BASIC programming.

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