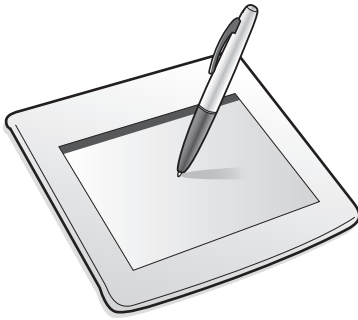
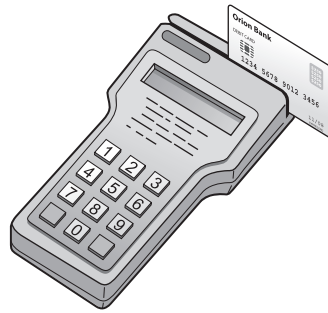


1 Name the input devices **A**, **B**, **C** and **D** using the words from the list.

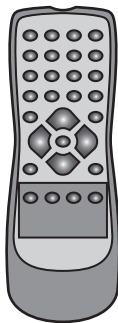
A



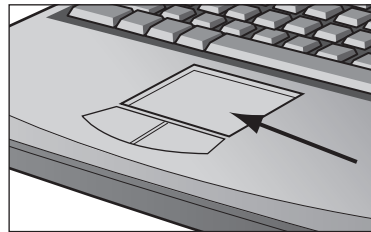
B



C



D



Buzzer

Digital camera

Graphics tablet

Laser printer

Magnetic Stripe Reader

Pen drive

Remote control

Touch pad

A

B

C

D

[4]

2 Ring **two** items which are used for data storage.

CD RW

Plotter

Hard disc

Keyboard

Mouse

PIN

[2]

- 3 Tick **TRUE** or **FALSE** next to each of these statements about methods of implementation.

	TRUE	FALSE
Direct changeover needs two sets of workers to be employed		
Parallel running means that the original system is still available		
Phased implementation is implementing the system in parts		
Parallel running is the cheapest form of implementation		

[4]

- 4 Complete each sentence below using one item from the list.

bar code reader**chip****DVD RW****keyboard****laser printer****magnetic tape**

- (a) The **most suitable** storage medium for making backups of data held on a network server is a
- (b) The part of a bank card that stores data about the PIN is a
- (c) An optical disc which can have data updated is a
- (d) Details of a product are scanned at a POS using a

[4]

- 5 Draw **five** lines on the diagram to match the software to how it could be used in a school.

Software

Use

Word processing software**finding specific web sites****Measuring program****storing student records****Presentation software****writing a letter to parents****Search engine****monitoring temperature in a science experiment****Database****producing a multimedia slide show**

[5]

- 6 Describe **two** uses of optical media and for each one give a reason why optical media are preferred to magnetic tapes for that use.

Use 1

.....

Reason 1

.....

Use 2

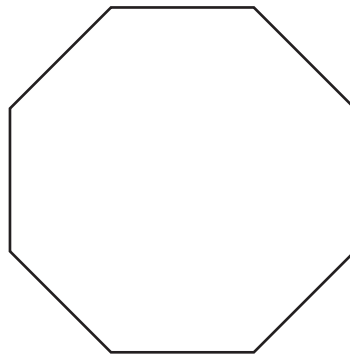
.....

Reason 2

..... [4]

- 7 A student wishes to use a floor turtle to draw this shape:

Name and explain the meaning of **three** instructions that the turtle graphics software would need to contain in order to draw the shape.



Instruction 1

Meaning

.....

Instruction 2

Meaning

.....

Instruction 3

Meaning

..... [6]

- 8 Other than a phone call, list **three** uses of mobile telephones for communication.

1

2

3 [3]

- 9 A hospital monitors each patient's condition using a computer.

- (a) Tick **three** physical variables that would be monitored.

	✓
Pulse rate	
Room temperature	
Humidity	
Body temperature	
Light	
Blood pressure	

[3]

- (b) Explain why computers cannot read physical variables directly.

.....

.....

.....

..... [2]

- (c) Give **three** advantages of using a computer rather than a nurse to monitor a patient's condition.

.....

.....

.....

.....

.....

..... [3]

- 10 The manageress of a supermarket uses a database to store data about the products she sells. This is part of the database.

Product Id	Producer	Food type	Number in stock	Re-order level
0049179000794	Herbot	Frozen Carrots	112	50
0027200190653	Caeser	Baking Powder	125	70
0010029000016	Brutus	Margarine	78	75
0014569021017	Malin	Garlic paste	206	100
0010479001213	Holly	Chicken	113	70
0048168310121	Vitriol	Tinned peas	87	50
0035465710111	Almanac	Frozen sweetcorn	79	45

- (a) How many records are there in this part of the database?

..... [1]

- (b) How many fields are there in this part of the database?

..... [1]

- (c) The records shown are to be sorted in ascending order of number in stock. What will be the **Food type** of the first record in the database after it has been sorted?

..... [1]

- (d) Identity the field type of the **Product Id** field.

..... [1]

- (e) A customer comes to the POS with three cartons of Brutus margarine. The checkout operator scans the bar code of the first item and enters the quantity 3 using the number pad.

Describe the computer processing which now takes place for stock control.

For
Examiner's
Use

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [5]

- 11 The head teacher of a school has asked some pupils to convert the printed school magazine into a slide show. Describe **two** features of presentation software, including their use, which would not be present in a printed version.

Feature 1

.....

.....

Feature 2

.....

..... [4]

- 12** John and his family have three computers in their home. He wants to connect the computers into a network which will also connect to the internet.

(a) Give **two** advantages of doing this.

1

.....

2

..... [2]

(b) Give **two** disadvantages of doing this.

1

.....

2

..... [2]

- 13** The use of computer networks can lead to problems of keeping data secure and confidential. Two methods of overcoming this are the use of authentication techniques and data encryption.

(a) Describe **two** authentication techniques.

1

.....

2

..... [2]

(b) Describe data encryption.

.....

.....

.....

..... [2]

- 14** Sarbjit owns a small company with little money to spare. He wishes to replace the existing computerised system with a new one. He has already made backups of the existing system. He has employed a systems analyst, Tom, to plan the new system.

- (a)** Tom wishes to collect information about the existing system.
Give **four** methods he could use and for each give a reason why it would be used.

Method 1

Reason

.....

Method 2

Reason

.....

Method 3

Reason

.....

Method 4

Reason

..... [8]

- (b)** Tom will need to design the file structure of the new system. List **four** items which would need to be included in this design.

1

2

3

4 [4]

- (c) After the system is developed it will be implemented. Describe the most appropriate method Sarbjit should choose giving **two** reasons.

For
Examiner's
Use

Method

.....

Reason 1

.....

Reason 2

..... [3]

- 15 Explain the differences between a command line interface and a graphical user interface.

.....

.....

.....

.....

.....

.....

.....

..... [4]

16 Marie has purchased a laptop computer. She wants to use it for internet shopping.

*For
Examiner's
Use*

(a) Identify **two** additional items she would need to purchase in order to do this.

- 1
-
- 2
- [2]

(b) Give **four** advantages to Marie of using internet shopping.

- 1
-
- 2
-
- 3
-
- 4
- [4]

(c) Give **four** disadvantages to Marie of using internet shopping.

- 1
-
- 2
-
- 3
-
- 4
- [4]

- 17 Chip and pin systems are used at ATMs. A customer wishing to withdraw cash inserts their card. The ATM checks to see if the card is valid and, if so, asks the customer to type their PIN. Describe the computer processing which takes place from this point.

For
Examiner's
Use

.....

.....

.....

.....

.....

.....

.....

..... [4]

- 18 Pilot training is often carried out using simulators. Give **two** reasons why these are used to train pilots.

1

.....

2

..... [2]

- 19 Hackers try to defraud online banking customers by pretending to be their bank. Name and describe **two** methods by which they do this.

1

.....

.....

.....

2

.....

.....

..... [4]

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- 1 A Graphics tablet (1)
 B Magnetic stripe reader (1)
 C Remote control (1)
 D Touch pad (1) [4]

- 2 **CD RW (1)** **Graph plotter** **Hard disc (1)**
Keyboard **Mouse** **PIN** [2]

- 3
- | | True | False | |
|--|------|-------|-----|
| Direct changeover needs two sets of workers to be employed | | ✓ | (1) |
| Parallel running means that the original system is still available | ✓ | ✓ | (1) |
| Phased implementation is implementing the system in parts | ✓ | | (1) |
| Parallel running is the cheapest form of implementation | | ✓ | (1) |
- [4]

- 4 (a) The most suitable storage medium for making backups of data held on a network server is a **magnetic tape** [1]
 (b) Data about the details of a PIN are stored on a bank card on a **chip** [1]
 (c) An optical disc which can have data updated is a **DVD RW** [1]
 (d) Details of a product are scanned at a POS using a **bar code reader** [1]

- 5
- | | | |
|--------------------------|---|--|
| Word processing software | → | Finding specific web sites |
| Measuring program | → | Storing student records |
| Presentation software | → | A head teacher writing a letter to parents |
| Search engine | → | Monitoring temperature in a science experiment |
| Database | → | Producing a multimedia slide show about the school |
- [5]

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6 Two matched pairs from:

Companies selling their software/games
Cheap method of production/quick to access data

Making personal backups/transferring data (from one computer to another)
Cheap to buy/quicker to retrieve data/expensive to buy tape drives

Downloading/copying films/music
Faster/easier to access individual scenes/tracks/better or higher quality

Two for each matched pair – 4 marks maximum

[4]

7 Three matched pairs from:

INSTRUCTION	MEANING
FORWARD n	Move n mm forward
BACKWARD n	Move n mm backward
LEFT t	Turn <u>left</u> t degrees
RIGHT t	Turn <u>right</u> t degrees
PENUP	Lift the pen
PENDOWN	Lower the pen
REPEAT n	Repeat the <u>following</u> instructions n times
END REPEAT	Finish the REPEAT loop

1 for instruction
1 for meaning

[6]

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8 Three from:

Text messaging
 Sending a photograph (as soon as it has been taken)
 (Sending) emails
 Using social networking sites
 Creating blogs

[3]

9 (a)

Pulse rate	✓	(1)
Room temperature		
Humidity		
Body temperature	✓	(1)
Light		
Blood pressure	✓	(1)

[3]

(b) Physical variables are analogue data

[1]

Computers can only work with digital data

[1]

(c) Three from:

Can monitor continuously/readings can be taken more frequently
 Nurses can get tired and forget to take readings/nurses are so busy they might not be able to take readings regularly
 Computer readings are more accurate/human errors are reduced
 More than one variable can be measured at any one time
 Results can be analysed automatically/charts are produced automatically
 Automatic warnings can be generated/faster to react
 Nurses are free to do other tasks
 Reduces chances of nurses being exposed to contagious diseases
 Reduced cost of wage bill

[3]

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10 (a) 7 [1]

(b) 5 [1]

(c) Margarine [1]

(d) Text/alphanumeric [1]

(e) Five from:
 The stock file is searched
 Until a match is found with the entered bar code number/product id number
 The number in stock of the matching record is read
 Three is subtracted from the number in stock
 The number in stock is compared with the re-order number
 It will now be equal to the re-order number
 More goods are automatically re-ordered
 The new value of number in stock is written back to the file [5]

11 Two matched features and uses from:

Animation

To move images or text

Video

Videos of school plays/performances/sports events

Sound

Background music/school concerts/voiceovers/sound effects when changing/opening a slide

Hyperlinks

To link to other slides

Slide transitions

To keep the viewer's attention [4]

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- 12 (a) Two from:**
 All machines can access internet at the same time
 Only one printer is needed
 Only one scanner is needed
 Data can be shared between computers/data can be accessed by one computer from another more easily
 Software can be shared
 All computers can access the internet through one connection
 Network games can be played [2]
- 12 (b) Two from:**
 Greater risk of hackers
 Greater risk of viruses
 Internet usage by children could be more difficult to monitor
 The significant cost of extra equipment [2]
- 13 (a) Two from:**
User ID and one of password/PIN/memorable data – password has to be entered before access is gained/password can be changed frequently to avoid hackers guessing them/unsuccessful logins can throw you out of the system

Magnetic stripe/smart card/electronic key/bar code system/ID card/Dongle
 Prevents people without cards accessing system

Biometric data
 Fingerprint/retina/iris/face/voice recognition used as input/biometric data is difficult to replicate/is unique [2]
- (b) Two from:**
 Key needed to encrypt
 Data is jumbled up
 Key must be known to decrypt it
 Prevents people from understanding data/reading data [2]

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- 14 (a)** Interview [1]
Can change questions in light of previous answers/interviewer can detect body language [1]
- Questionnaire [1]
Quicker to get every worker's response/easier to collate responses [1]
- Examining documents [1]
Can see exact details of inputs and outputs [1]
- Observation [1]
Easier to see data flow/can get more accurate overview of whole system [1]
- (b) Four** from:
Field name
Field type
Key field
Field length
Validation check/rules [4]
- (c)** Direct changeover
Two from:
Cannot afford to pay two sets of workers
Would give him immediate benefits
Does not need to set up pilot scheme – small company [2]
- 15 Four** from:
A graphical user interface has icons to help the user identify applications/folders
A GUI has a system of menus to help the user choose options
A GUI has windows to enable user to multi task
A GUI has a pointer/pointing device to help navigate around the screen/to click to open files/software
A CLI only allows you to type in commands
With CLI syntax has to be precise
Commands difficult to edit once entered
Have to learn a lot of commands exactly/have to be familiar with the commands [4]

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- 16 (a) Two** from:
ISP contract
Router/modem [2]
- (b) Four** from:
Less danger of mugging
Can shop when shops are closed
Doesn't have to spend time queuing/going around different shops/travelling to shop/can compare prices at different shops more easily
Can look at wide range of shops
No travelling expenses/don't waste fuel
Easier to search and find what you're looking for [4]
- (c) Four** from:
Lack of socialising/social contacts
Hackers may intercept data and defraud customer/steal identity
Deprived of personal touch
Phone bills can increase
Without broadband other family members cannot use the phone
Cannot see/feel goods in reality/goods delivered may not be the same standard as those ordered
More vulnerable to phishing/pharming
More vulnerable to viruses
Goods may not be delivered/can't check the standard of goods before buying
May be hidden costs such as delivery charges [4]
- 17 Four** from:
Customer is asked if they want a receipt
The PIN number is compared with that stored in the chip
If they are the same the transaction proceeds
If they are not the same the customer is asked to re-enter PIN
If three attempts transaction rejected and card withheld
The customer is asked which service is required
The customer selects required service (cash)
The customer is asked how much money they want to withdraw
The customer's account is checked to see if it has sufficient funds
The amount is checked against the card limit
If there are sufficient funds (and the amount is within the card limit) the transaction is authorised/if not transaction is rejected
The amount is deducted from the customer account
The bank notes are issued
The card is returned (by the computer)
If required receipt is printed [4]

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18 Two from:

If the airplane crashed you wouldn't need to replace it – saving money

If the airplane crashed nobody is injured

It is easy to recreate extreme weather conditions

It is easy to create unusual flying conditions/any situation

Can recreate mechanical/computer failure from previous real situations

[2]

19 Two matched pairs from:

Phishing

[1]

Hackers send an e-mail (appearing to be from the bank) asking for a customer's (account) details/includes a website link so customers details are gathered

[1]

Pharming

[1]

Installing malicious code on a pc or server causing users to access websites which look authentic/websites are used to gain bank details/redirects a genuine website's traffic to hacker's website

[1]