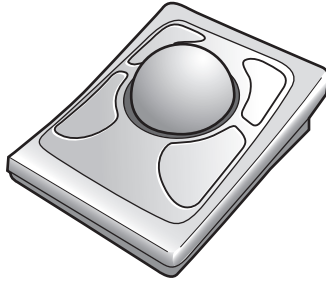


1 Name the input devices **A**, **B**, **C** and **D** using the words from the list.

A



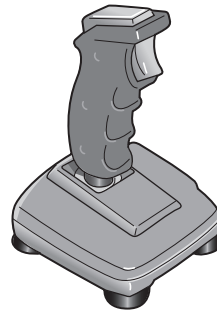
B



C



D



Chip reader

Digital camera

Joystick

Light pen

Microphone

Remote control

Scanner

Trackerball

A .....

B .....

C .....

D ..... [4]

2 Ring **two** items which are storage media.

Flash memory card

Graph plotter

Magnetic disc

OCR

OMR

Touch pad [2]

3 Tick **TRUE** or **FALSE** next to each of these statements.

	TRUE	FALSE
An internet browser is used to look at pages on the world wide web.		
Desktop computers don't have hard disk drives.		
DTP software can be used to produce magazines.		
Measurement software is used for environmental monitoring.		
Sensors are output devices.		

[5]

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

**A bar code reader**

**A dot matrix printer**

**A graph plotter**

**A graphics tablet**

**A microphone**

**A multimedia projector**

**A pressure sensor**

**A speaker**

**A touch pad**

**A web cam**

- (a) ..... is used in CAD applications to produce very large printouts.
- (b) ..... is used to display data from a computer onto a very large screen.
- (c) ..... sends data to a microprocessor in a washing machine.
- (d) ..... is used to control the pointer on a laptop screen.
- (e) ..... is used to input sounds for use in presentation software.

[5]

5 A school teacher keeps records of her students' test scores on a computer. At the end of each term she prints out letters to parents showing these results. She also uses the computer to predict the students' future test scores. Tick **three** items of software which she could use.

	✓
Word processing software	
Measuring software	
Control software	
Spreadsheet software	
Animation software	
Database software	

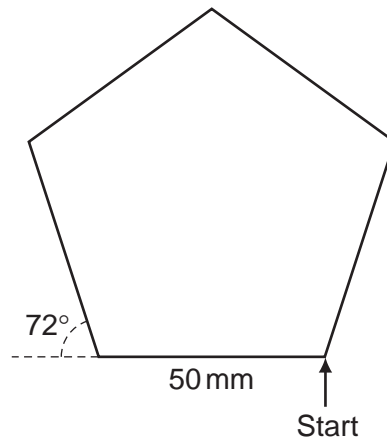
[3]

[Turn over]

6 A floor turtle can use the following instructions:

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

For  
Examiner's  
Use



Complete the set of instructions to draw this shape by filling in the blank lines.

PEN DOWN

..... 90

REPEAT .....

FORWARD .....

..... 72

.....

[5]

- 7 Give **three** features of a relational database that are not found in a flat file database.

1 .....

.....

2 .....

.....

3 .....

..... [3]

- 8 Tick **TRUE** or **FALSE** next to each statement.

	TRUE	FALSE
Online processing requires a transaction file to be created.		
Batch processing results in immediate updating of records.		
Real time processing requires immediate response from a computer.		
Online processing is needed for operating ATMs.		

[4]

- 9 The manager of a bookshop uses a database to store data about the books she sells. This is part of the database.

Title of book	Fiction	Number in stock	Next order due
Full Circle	N	15	20/11/10
Sanditon	Y	15	18/11/10
Vanity Fair	Y	20	16/12/10
The Old Curiosity Shop	Y	10	23/11/10

Using the data above **only**, write down one item of data for each data type below.

- (a) Boolean .....
- (b) Alphanumeric .....
- (c) Date .....
- (d) Numeric .....

[4]

- 10** Multi-national companies often use video conferencing instead of face to face meetings.

Tick whether the following statements are **TRUE** or **FALSE**.

	TRUE	FALSE
A large hall has to be hired for video conferences to take place.		
Documents can be shared amongst participants in a video conference.		
A microphone or headset is an essential item of equipment in video conferencing.		
A codec is needed to convert data for transmission during a video conference.		

[4]

- 11** Explain why the following are used with PCs.

Pen drives .....

.....

Blu-ray .....

.....

Fixed hard disc drives .....

..... [3]

- 12** An oil company is investigating whether they are likely to find oil at a certain site. They will use an expert system to help them. There are a number of inputs and outputs used with such a system. List **four** examples of these.

1 .....

2 .....

3 .....

4 ..... [4]

13 Draw **four** lines on the diagram to match the use to its most **appropriate** output device.

Use	Output device
to produce high quality hard copy	dot matrix printer
to print on multipart forms	motor
to move objects in a computer controlled system	speakers
to output voiceovers	laser printer

[4]

14 A small office has four standalone computers. The office manager wants to connect the computers together to form a LAN.

(a) Name a network device which would have to be present in each computer before they could be networked.

..... [1]

(b) Give **two** reasons why a WLAN would be preferable to a cabled LAN.

1 .....

.....

2 .....

..... [2]

(c) Give **two** reasons why the manager should **not** use Bluetooth technology to create the network.

1 .....

.....

2 .....

..... [2]

- [6]

- 1
- 2
- 3
- [3]

- 15** Describe **two** health issues, other than RSI, caused by the prolonged use of computers. For each health issue give a method of prevention.

Health issue 1 .....

.....

Method of prevention .....

.....

Health issue 2 .....

.....

Method of prevention .....

..... [4]

- 16** Aysha wants to enter customer details into her company's database.

- (a)** In the box below, design a user friendly input screen which has appropriate spacing for each field as well as navigation aids. The fields to be included are:

Name

Address

Date of Birth

Customer Id

Gender

[5]

After the new system is designed and before it is implemented, Aysha wants to test it with live data.

*For  
Examiner's  
Use*

**(b)** Describe what is meant by live data and how it is used to test a system.

.....

.....

.....

.....

.....

.....

.....

..... [4]

**17** Identify **three** methods which could be used to implement a new system.

1 .....

.....

2 .....

.....

3 .....

..... [3]

- 18 When a new system is implemented, documentation is provided with it. Identify **four** items which would be found in technical documentation but **not** in user documentation.

For  
Examiner's  
Use

.....

.....

.....

.....

.....

.....

.....

..... [4]

- 19 A geography teacher wants to use a computer to monitor the weather conditions using the school weather station.

(a) Name **three** sensors in the weather station.

1 ..... [3]

2 .....

3 .....

(b) Explain why computers are unable to read the data directly from these sensors.

.....

.....

.....

..... [2]

(c) What device is needed to enable the computer to read the data?

..... [1]

[6]

1

2

3

4

[4]

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- 1 A Trackerball (1)  
 B Scanner (1)  
 C Chip reader (1)  
 D Joystick (1) [4]

- 2 **Flash memory card (1)** **Graph plotter** **Magnetic disc (1)**  
**OCR** **OMR** **Touchpad** [2]

- 3
- |  | True | False |     |
|--|------|-------|-----|
| An Internet browser is used to look at pages on the world wide web | ✓    |       | (1) |
| Desk top computers don't have hard disk drives                     |      | ✓     | (1) |
| DTP software can be used to produce magazines                      | ✓    |       | (1) |
| Measurement software is used for data logging                      | ✓    |       | (1) |
| Sensors are output devices   |      | ✓     | (1) |
- [5]

- 4 (a) **A graph plotter** is used in CAD applications to produce very large printouts. [1]
- (b) **A multimedia projector** is used to display data from a computer onto a very large screen. [1]
- (c) **A pressure sensor** is used to send data to a microprocessor controlled washing machine. [1]
- (d) **A touchpad** is an input device found in laptops. [1]
- (e) **A microphone** is used to record voices for use in presentation software. [1]

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5

Word processing software	✓	(1)
Measuring software		
Control software		
Spreadsheet software	✓	(1)
Animation software		
Database software	✓	(1)

[3]

6 **LEFT** 90  
**REPEAT** 5  
**FORWARD** 50  
**RIGHT** 72  
**END REPEAT**

1 mark for each correct statement

[5]

7 **Three** from:  
More than one table/file  
Tables are linked  
Primary keys  
Foreign keys  
Less duplication of data  
Data from more than one table can be used in the same report

[3]

8

	True	False	
On-line processing requires a transaction file to be created		✓	(1)
Batch processing results in immediate updating of records		✓	(1)
Real time processing requires immediate response from a computer	✓		(1)
On-line processing is needed for operating ATMs	✓		(1)

[4]

9 (a) Y or N

[1]

(b) Full Circle/Sanditon/Vanity Fair/The Old Curiosity Shop

[1]

(c) 20/11/10 or 18/11/10 or 16/12/10 or 23/11/10

[1]

(d) 10 or 15 or 20

[1]

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10

	True	False	
A large hall has to be hired for video conferences to take place		✓	(1)
Documents can be shared amongst participants in a video conference	✓		(1)
A microphone/headset is an essential item of equipment in video conferencing	✓		(1)
A codec is needed to convert data for transmission during a video conference	✓		(1)

[4]

- 11 So that users can transfer data from one computer to another/to backup files/security dongle (1)  
 To enable large high definition/quality video files to be recorded (1)  
 So that users can have quick access to their data/software/so that software can be stored (1) [3]

12 **Four** from:

Questions appear on screen  
 Questions about geological profile are asked  
 Geological profile is typed in  
 Answers to questions are typed in  
 Further questions appear on screen  
 Suggested probabilities of oil are output  
 Suggested depths of likely deposits are output  
 Predictions of geological strata/contour maps are output  
 Probabilities of finding oil are output

[4]

- 13 To produce high quality high volume output → Dot Matrix printer  
 To print on multipart forms → A motor  
 To move objects in computer controlled system → Speakers  
 To output voiceovers → Laser printer

[4]

- 14 (a) Network card [1]

(b) **Two** from:

Reduced cost of cabling  
 Safer – won't trip over wires  
 Easier to connect other devices to the network  
 Some situations make it impossible to use wired networks  
 Makes the computer portable as long as it's within range of the wireless access point/use it anywhere within range of the WAC [2]

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**(c) Two** from:

Very slow data transfer speeds  
Short distance of coverage/limited signal strength  
Greater risk of interception of data/less secure  
Supports a limited number of devices in a network

[2]

**(d) 6 max** from:

They are worried that unauthorised users may get into the network  
Introduction of viruses/malware...  
... which could result in data being deleted  
Spyware could be used...  
... which logs key presses to get passwords to access the system  
Personal data could be deleted by hackers  
Accidental deletion/corruption of data...  
... loss of payroll data would mean workers would not be paid  
Data could be amended by hackers...  
... changing payroll data might result in lower wages being paid  
Data could be copied by hackers and passed on to other people/workers...  
... worker could be embarrassed about other workers knowing their pay

[6]

**(e) Three** from:

Use Biometrics  
Have usernames and passwords  
Encrypt data  
Install a virus checker/anti virus  
Introduce firewall(s)  
Install anti-spyware  
Use an intranet/don't connect network to internet  
Introduce methods of physical security such as locks and security guards  
Introduce levels of access

[3]

**15 Two** matched pairs from:

Headaches  
Get anti-glare screens/look away from screen periodically/take regular breaks/adjusting contrast and brightness/use non refreshing screens  
Back problems/neck pain  
Get straight back chairs/sit with straight back/don't slouch/change position/level of screen/specially designed chairs  
Sight problems/Eye strain/dry eyes  
Have eyesight tested/get glasses/get anti glare screens/look away from screen periodically/take regular breaks/adjusting contrast and brightness/use non refreshing screens

Can only have one mark if prevention point is repeated

[4]

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- 16 (a) Five** from:  
 All fields included  
 Appropriate spacing for all fields  
 Buttons to go forward/backwards  
 Screen filled/not too much white space  
 Data has text boxes for completion  
 Date of birth is a drop down list  
 Gender field has radio buttons for male/female/tick box/drop down  
 Button to save data [5]
- (b) Four** from:  
 Data that has already been used in the previous system  
 Data that has known results  
 A table of expected results is drawn up  
 Live data is input to the system  
 Actual results are recorded  
 The results are compared  
 Any resulting differences will highlight limitations of the system [4]
- 17 Three** from:  
 Direct changeover  
 Parallel running  
 Phased implementation  
 Pilot running [3]
- 18 Four** from:  
 Program coding  
 Program flowcharts  
 System flowcharts  
 File structures  
 List of variables  
 Validation routines [4]
- 19 (a) Three** from:  
 Temperature  
 Pressure  
 Motion  
 Moisture  
 Humidity  
 Light [3]
- (b)** Sensor measures analogue (1)  
 Computer works in digital (1) [2]
- (c)** Analogue to Digital convertor [1]

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**20 Six from:**

***Laser printer advantages***

Fast output

Relatively quiet

Cheap to buy compared to dot matrix printer

***Laser printer disadvantages***

More expensive running costs than dot matrix

***Inkjet printer advantages***

Faster output than dot matrix printer

Relatively quiet compared with dot matrix printer

Cheap to buy

***Inkjet printer disadvantages***

Ink more expensive than dot matrix

Ink needs changing regularly on long print runs

Difficult to print a sealed secure payslip

***Dot matrix printer advantages***

Cheaper running costs

Continuous paper feed available

Can print multi part forms

Can print through a payslip cover

Can produce carbon copies

High quality is not needed when printing payslips

***Dot matrix printer disadvantages***

More expensive to buy

Noisy

Relatively slow

One mark available for reasoned conclusion

Points which are repeated will only gain credit on the first mention

[6]

**21 Four from:**

Less likely to go to the wrong address/number

Personal data unlikely to be intercepted by another office worker/no need to do printouts therefore more secure

Quicker/Easier to transmit message/Received quicker by person addressed to

Attached documents are better quality

Multimedia attachments can be sent

You can send from anywhere there is an internet connection

Easier to send to several recipients at the same time

Email has lower running costs such as paper/ink

Email is more environmentally friendly

Email attachments can be edited by recipient easier than fax

More people have access to email than fax machines

[4]