

Worksheet 2

1. Several items of data are input to a computer using direct data entry methods. Write down the most appropriate input device to input each item of data.
- (a) data written in special ink at the bottom of bank cheques [1]
Magnetic Ink Character Reader/Optical Character Reader
 - (b) information on the label of a supermarket product [1]
bar code reader
 - (c) shaded in boxes on a student's examination answer sheet [1]
Optical Mark Reader
 - (d) debit card details input at an ATM
magnetic stripe reader/chip and PIN reader

2. Circle two items which are used as output devices. [2]

bar code reader

multimedia projector

touch pad

joystick

PIN pad scanner

laser printer

temperature sensor

3. Tick true or false next to each of these statements [2]

	True	False
Computer programs are examples of hardware.		✓
A Command Line Interface is a form of operating system.	✓	
A tablet computer is larger than a desktop computer.		✓
A compiler is an example of applications software		✓

4. Johann is going on holiday to a different country. He will need to take his passport. He has a new type of passport which has an RFID chip in it. He will be passing through automated passport control gates.

- a) Describe what an RFID chip consists of. [2]

Any two from:

- an integrated circuit...
- ...which contains an aerial...
- ...which receives and transmits data

- b) Describe how RFID will be used as he passes through passport control. [3]

Any three from:

- he places his passport against the RFID reader
- he stands in front of a scanner/fingerprint scanner is used
- his facial characteristics/fingerprints are compared with...
- ...those stored on the RFID chip

5. Describe the differences between RAM and ROM. [4]

Any four from:

- ROM cannot be changed
- RAM can be read from and written to
- ROM is read only memory and RAM is random access memory
- ROM holds instructions that need to be unchanged, such as BIOS/program cycles in a washing machine/program instructions in games
- RAM holds the work that is currently being done by the user

6. Tick whether the following are examples of System Software or Applications Software

	System Software	Applications Software
Compiler	✓	
Word processing software		✓
Spreadsheet software		✓
Operating system	✓	

7. Command Line Interface (CLI) and Graphical User Interface (GUI) are examples of interfaces found in computer systems. Give two advantages of a computer having a GUI rather than a CLI. [2]

Two from:

The user does not have to learn/remember commands

More user friendly

Can be used on more devices e.g. smartphones

A mouse/finger can be used to select icons

Using a mouse/finger is simpler than typing in commands

Fewer errors are made than typing in commands

8. Circle three items which are used as output devices. [3]

Buzzer

LCD monitor

Trackerball

CD/RW drive

Speaker

Web cam

Keyboard

Solid state drive

9. A drone is a remote-controlled flying vehicle. A drone is being used to monitor floods in Mumbai.

a) Complete the following sentences, using the most appropriate word or words from the list

below.

Buzzer

pressure sensor

temperature sensor

Joystick

ROM

video camera

Monitor

Speaker

I. The drone is microprocessor controlled with input from a [1]

joystick

II. Images of the floods are captured using a [1]

video camera

III. The images sent from the drone are displayed on a [1]

monitor

b) Name three advantages of using a drone to monitor the floods rather than collecting the data manually. [3]

Three from:

Data is continuously sent back to the operator/whereas a person would collect it and send it back

The drone can work in hazardous conditions

Drones get a wider view of the flood

Can go where people cannot

10. An electric bus system is being considered for New Delhi. Passengers will use smart cards to travel on the bus. They will have to add money to their smart card before they can travel.

a) Compare and contrast the use of smart cards rather than using cash to pay for a journey. [6]

Similarities

Both used for transactions

Both are portable

Both allow payment at point of use

Max five from:

Differences

Faster process/reading using the card

Someone needs to check correct payment made with cash/card is

automatically checked

May not have enough money on the card and may not know this

When the money has run out on the card it cannot be used until it is topped up

Card details can be used for statistics to plan for use for the bus journey/times

A card can be blocked when stolen

More security in place if the card gets stolen

Sometimes you need the correct cash amount/no change given

More likely to have cash in your pocket

If you pay by cash, you know how much you have paid/no double payment

No physical cash with a card so less chance of stealing by employees

b) The new electric bus system will help to reduce the air pollution in the city. Sensors are used in the system. Name a sensor that could be used to detect high levels of air pollution. [1]

One from:

Nitrogen oxide (sensor)

Light (sensor)

Gas (sensor)

CO₂ (sensor)

pH (sensor)

11. Smartphones are being increasingly used by tourists when travelling overseas.

Discuss, using examples, the benefits and drawbacks of the use of smartphones by tourists. [8]

Drawbacks

Distractions when using the phone

Battery life can be short so needs regular re-charging

Re-charging sockets may be different

Cost of international use can be high

Need a phone plan/phone that can make international calls/data

More likely to be stolen

Loss of signal

Screen size small so difficult to read

Benefits

Phone home without having to find a landline/phone box

Text messages can be sent home rather than finding a landline/ phone box

Take photographs without having to use a separate camera

Take videos without having to use a separate video camera

Look up tourist information easily

Translate the languages immediately

Contact accommodation without having to go to tourist information

Make bookings immediately/without visiting the theatre/hotel/event

Can be used for sat nav without having to carry maps