1.3.1 Input, Output and Storage Devices

1. (a) Define the terms

   (i)   input device; **[1]**

   (ii) output device. **[1]**

(b) A supermarket has a number of point of sale (POS) terminals.

State **two** input devices and **one** output device that would be found at each POS terminal, describing what they are used for. **[6]**

4. (a) Explain the meaning of the terms

   (i)   input device,

   (ii) output device. **[2]**

1 An office worker is responsible for communicating with other businesses and managing the computer systems in the office.

(c) State a sensible use that the office worker could make of

   (i)   a hard disk,

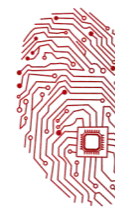   (ii) a rewritable CD (CD-RW),

   (iii) a CD-ROM. **[3]**

1(b) A shopkeeper uses a stand-alone computer for producing

• order forms for sending to suppliers

• records of sales and purchases as evidence for the taxation authorities

• leaflets advertising special offers.

(ii) The computer has a hard drive, a CD-RW drive and a DVD drive.

State a different use, by the shopkeeper, for each of these three storage media. In each case say why it is appropriate for that use. **[6]**

1.3.1 Input, Output and Storage Devices

May/June 2007. P1

1 A student uses her home computer to:

• play games which she gets from a library;

• finish work that she brings home after starting it at school;

• produce a finished copy of the work to hand in to her teacher;

• communicate with her friends.

State the peripheral devices, apart from keyboard, mouse and monitor, which she would need. Explain why each would be necessary. **[8]**

Oct/NOV 2007. P1

1 (c) A computerised information system is set up in a busy town centre.

The system gives details of transport, shops, sales of goods, places to eat and hotels.

Describe the hardware and the software of the HCI (Human Computer Interface) giving reasons for your answers. **[4]**

May/June 2008. P1

1. (a) State what is meant by the

    (i)   hardware of a computer system, **[1]**

A computer system controls a cashcard machine (ATM).

(b) For each of the following, state one device that could be used in the ATM and state what it would be used for.

    (i)   Input
    (ii)   Output
    (iii)   Storage **[6]**

Oct/NOV 2008. P1

1 (a) State the purpose of the following devices in a computer system.

    (i) An input device
    (ii) An output device
    (iii) A storage device **[3]**

1.3.1 Input, Output and Storage Devices

A computer system is used to monitor and control the temperature of the water in a fish tank.

(b) State an example of each of the following types of device which would be necessary in the computer system and state what they would be used for.

  (i)   An input device
  (ii) An output device
  (iii) A storage device   **[6]**

8 The workers in the office use three different types of storage medium. For each of the three types, state a use to which the medium could be put and justify your answer.

  (i)   Hard Disk
  (ii) DVD-RW
  (iii) CD-ROM   **[6]**

May/June 2009

1. (a) State the purpose of the following devices in a computer system.

  (i)   An input device
  (ii)   An output device
  (iii)   A storage device   **[3]**

(b) A printer is a hard copy output device.

State three different types of printer.

For each of your choices give an example of an application where it would be used, justifying your choice.   **[9]**

Oct/NOV 2009. P11

3. (a) State the meaning of the terms:

  (i)   input device,
  (ii)   storage device,
  (iii)   output device.   **[3]**

Oct/NOV 2009. P12

1 A student has a stand-alone computer at home and also uses the computers at school. She uses a USB stick, a DVD-RW drive and a CD-ROM drive on her home computer.
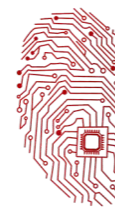
 (a) State a use that the student could make of each of the following, justifying your choices.
        (i)   USB stick   **[2]**
        (ii) DVD-RW drive   **[2]**

(iii) CD-ROM drive. **[2]**

(b)   State one other storage device that the student would need at home and say why it would be needed.   **[2]**

May/June 2010. P11/P12

1 (b) State two pieces of hardware, apart from the PCs, which would be needed in order to enable two computers to communicate. Justify your answers. **[4]**

2 Goods in a shop are labelled with barcodes. These barcodes are used when goods are sold at the checkout. The shop uses a computer system, attached to the checkout, to store a file of records relating to the goods on sale.

(a)   State appropriate peripheral hardware for this system, justifying your choices. **[8]**

May/June 2010. P13

2 An examination board sets multiple-choice examination papers that are automatically marked by a computer system. The system allows for monitoring by the personnel in the department and keeps the results until they are required.

(a)   Select appropriate peripheral hardware for this system, justifying your choices. **[8]**

Oct/NOV 2010. P11/ P12

11 The operator sometimes needs to alter the type of work done by a machine. A form-based HCI is used to input the new data.

(a)   State two output peripherals that would be used for the HCI. Justify your answers. **[4]**

Oct/NOV 2010. P13

A farmer has a large herd of dairy cows. The cows are milked twice a day. During the time that they are being milked each cow is given some extra food to supplement what they eat in the fields. Each cow needs a different amount and type of extra food.

A systems analyst is employed to oversee the computerisation of the feeding system.

11 When the farmer wishes to change the food given to a cow, a terminal in the cow shed is used. A menu-based HCI is used to input the new data.

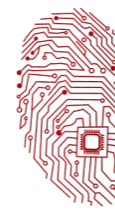(a) State two hardware peripherals used for the HCI. Justify your answers. **[4]**

May/June 2011. P11 /P12

1. (a) Define the terms:

(i)   hardware

(ii) software **[2]**

(b) Define what is meant by:

(i) an input device **[1]**
(ii) an output device **[1]**

(c) A local hockey league is run by a secretary from home. The secretary is responsible for all fixtures and league tables.

The secretary is blind and uses her home computer for carrying out the necessary tasks.

State a suitable hardware peripheral for each of input, output and storage, which the secretary could use. Justify your choices. **[6]**

May/June 2011. P13

1 (b) Describe the purpose of having a peripheral storage device as part of a computer system. **[2]**

(c) A robotic vacuum cleaner moves around a room in a straight line until unable to go any further, at which point it changes direction. This continues until it is switched off.

State a suitable configuration of hardware peripherals that the computer controlling the robot could use. Justify your choices. **[6]**

Oct/NOV 2011. P11

1 (a) Describe the purpose of storage devices.

(b) A student has a computer at home as well as using computers at school. **[2]**

6 An air conditioning system is used to control the temperature in a room.

State an example of each of the following types of peripheral which would be used on the

State two different storage devices that the student would use on her computer and explain what she would use each for. **[4]**
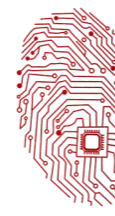
Oct/Nov 2011. P12

1 (a) State the purpose of the following:

(i) Input devices
(ii) Output devices. **[2]**

(b) A point-of-sale (POS) terminal in a supermarket has a number of input devices.

1.3.1 Input, Output and Storage Devices

State **two** different input devices used at the POS terminal and state the purpose of each. **[4]**

6 State an example of each of the following types of storage medium and give a use for each.

    (i)   Magnetic Example Use **[2]**
    (ii) Solid state Example Use **[2]**

Oct/Nov 2011. P13

1 (a) Describe the purpose of the following:

    (i)   Input devices;
    (ii) Output devices. **[2]**

(b) A point-of-sale (POS) terminal in a supermarket has a number of output devices.

State two different output devices used at the POS terminal and state the purpose of each. **[4]**

6 State two different types of optical storage medium.

Give a use that a school student could make of each with their computer at home. **[4]**

May/June 2012.P11/ P12

1 (b) Define what is meant by:

    (i)   an input device **[1]**
    (ii)   an output device **[1]**

(c) A local hockey league is run by a secretary from home. The secretary is responsible for all fixtures and league tables.

The secretary is blind and uses her home computer for carrying out the necessary tasks.

State a suitable hardware peripheral for each of input, output and storage, which the secretary could use. Justify your choices **[6]**
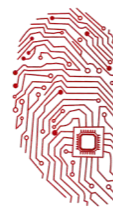
May/June 2012.P13

1 (b) Describe the purpose of having a peripheral storage device as part of a computer system. **[2]**

(c) A robotic vacuum cleaner moves around a room in a straight line until unable to go any further, at which point it changes direction. This continues until it is switched off.

State a suitable configuration of hardware peripherals that the computer controlling the robot could use. Justify your choices. **[6]**

1.3.1 Input, Output and Storage Devices

Oct/Nov 2012. P11

8   An interactive information system is being designed for use in the terminal building of an airport.

(a) (i) State an input device which would be suitable for use in this application.   **[2]**

(ii) State an output device which would be suitable for use in this application   **[2]**

Oct/Nov 2012. P12

1 (a) (i) Define what is meant by hardware.   **[1]**

(ii) Define an input device and state why it is needed.   **[3]**

8 A pocket sized game system is based around a microprocessor.

(a) (i) State an input device which would be suitable for use in this application.   **[2]**

(ii) State an output device which would be suitable for use in this application.   **[2]**

Oct/Nov 2012. P13

1 (a) (i) Define what is meant by hardware.   **[1]**

(ii) Define an output device and state why it is needed.   **[3]**

8 An interactive information system is being designed for use by the air-traffic controllers at an airport. Information about all planes must be available to the controllers who then ensure that the planes stay far enough apart not to be a danger to each other.

(a) (i) State an input device which would be suitable for use in this application.   **[2]**

(ii) State an output device which would be suitable for use in this application.   **[2]**

May/June 2013.P11/ P12

2 (a) State three different types of secondary storage media. Explain how digital data is stored on each.   **[6]**

4 (a) An airport uses electronic devices as part of its security systems.

One system matches the face of a passenger with the photograph in their passport.

What two input devices would be needed to do this? Give reasons for your choice of device.   **[4]**

6 A large company has four separate departments. The following table describes each department and shows tasks that involve a computer system.

1.3.1 Input, Output and Storage Devices

		DEPARTMENT	TASKS
(i)		Production - The factory where products are manufactured	Produce quality control stickers to place them on finished items
(ii)		Design Office - Where new products are designed	Produce and present prototypes of new models
(iii)		Marketing	Answer customer queries and produce sales brochures
(iv)		Finance - Wages and salaries department	Produce wage/salary slips each month

(a) Describe, with a reason, a suitable output device which could be used in each of the four departments. Your devices should be different.

    (i)   Production
    (ii) Design Office
    (iii) Marketing
    (iv) Finance Device Reason   **[8]**

7 A game of "noughts and crosses" is shown below. Players take alternate turns to place their X or O in one of the empty boxes until one player gets three identical symbols in a line (across, down or diagonal) or the grid becomes full. The grid shows the game after the first five turns. Player X has the next turn.

	X	**O**
	X	
O	**O**	

(c) In the game shown, the computer was player 'O' and player 'X' was a human.

Name a suitable input device to allow a human player to select a square to place their 'X'.

Give a reason for your choice of device.   **[2]**

May/June 2013.P13

3 A computer system is being developed to monitor seismic (earthquake) activity in the Antarctic. Sensors are being used to detect ground tremors.

(b) The information received is processed and then displayed on large output screens in a control room.

(ii) Describe the input devices you would expect to see in the control room. Justify your choice of devices.   **[3]**

4 Computer Aided Design (CAD) uses many specialist input and output devices.

Name three specialist input or output devices and describe what they are used for in the CAD package.   **[6]**

1.3.1 Input, Output and Storage Devices

9 A supermarket uses barcodes as part of its item price retrieval and automatic stock control system.

A customer takes items to the point-of-sale (POS) checkout. The barcodes are scanned.

(b) Name two devices needed at the POS checkout. Give a reason for your choice of device. **[4]**

Oct/Nov 2013.P11

2 A large oil refinery is monitored and controlled by a computer system.

The operators in the refinery's control room monitor processes (for example, checking the temperature) and take actions (for example, open or close valves).

(b) Name two suitable input devices which could be used in this interface. Give reasons for your choice of devices.**[4]**

6 (c) The data logging device is used for automatic data capture.

Name another device used for automatic data capture and describe an application where it is used. **[2]**

Oct/Nov 2013.P13

1 (a) Define the terms hardware and software. **[2]**

(b) A cinema allows its customers to buy tickets from an automatic dispensing machine.

Payment can be made either with cash, or by debit or credit card.

State two input and two output devices that would be needed and give reasons for your choice of device. **[8]**

4 Magnetic is one type of storage medium used by secondary storage devices.

(a) Name two other different types of storage medium.

Give two devices that use each type of named medium. **[6]**

May/June 2014. P11/P12

1 Four types of storage, labelled A, B, C, D are shown in the table below.
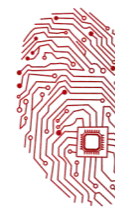
(a) Four types of memory, media or devices are shown in the first column.

Consider each medium or device and put a tick (✓) in the appropriate column A, B, C or D to indicate the type of storage to which it belongs.

You should only put one tick (✓) in each column.

A	B	C	D

1.3.1 Input, Output and Storage Devices

	primary memory storage	magnetic secondary storage	optical secondary storage	solid state secondary storage
DVD–RAM				
ROM				
hard disk				
flash memory				

[4]

5 The following answers were seen on a Computing exam paper. Explain why each of the answers is incorrect:

"ROM is used to store data that is currently in use when running some applications software". **[1]**

May/June 2014. P13

4 A supermarket uses barcodes on all its products.

(a) When products pass through the point-of-sale (POS), various data are captured. Name three suitable input devices at the POS. **[3]**

Oct/Nov 2014. P11

7 Researchers have been monitoring noise levels at a large airport. They have also monitored levels of air pollution. The pollutants that they monitored were the gases nitrogen oxide and carbon dioxide. Monitoring devices were placed around the boundary of the airport.

(a) Name a suitable device to measure each of the two following quantities:

noise level

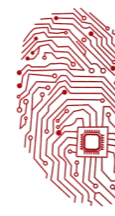air pollution level **[2]**

Oct/Nov 2014. P12/P13

4 Secondary storage media are categorised as:

- magnetic
- optical
- solid state

        (a) Give one example of each type of storage medium. **[3]**

(b) Describe a use for each of the types of storage medium named above. Give a different use in each case. **[3]**

(c) Give two advantages of using optical media when compared to magnetic media. **[2]**

5 A microprocessor-controlled alarm clock uses the 24-hour clock. The current time is stored in two 8-bit memory locations:

- the hours value is stored in memory location A
- the minutes value is stored in memory location B

(e) The microprocessor contains both RAM and ROM. Give one function of each type of memory in the alarm clock.

[2]

May/June 2015.P11

3 (a) Six storage media and three types of storage technology are shown below.

Draw a line to link each storage medium to the appropriate storage type.

Storage medium

| CD-ROM |

| SD/XD memory card |

Storage type

| Magnetic |

| DVD-R |

| Optical |

| Blu-ray disc |

| External hard disk |

| Solid state |

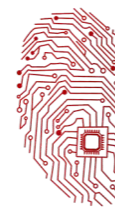| Pen drive/memory stick |

[6]

1.3.1 Input, Output and Storage Devices

May/June 2015.P12

6 The following list shows five storage media:

- CD-ROM
- DVD-RAM
- internal hard disk
- external hard disk
- flash memory

   (a) The table below shows five applications. For each application, choose the most appropriate storage medium from the list.

Application	Storage Medium
A programming text book provided with sample code in electronic form	
Storage of photographs in a digital camera	
A backup of the complete PC file system; to be kept off-line	
Storage of operating system and applications software	
Simultaneous recording and playback of video files with removable optical media	

[5]

   (b) (i) Name the storage medium which is an example of a solid state memory. **[1]**

   (ii) Give two benefits of using solid state memories. **[2]**

7 (a) (i) Choose between:

laser printer / inkjet printer *(circle your choice)*

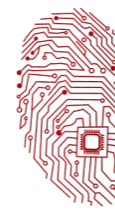Describe **one** feature and **one** drawback of your chosen type of printer. **[2]**

(ii) Choose between:

3D printer / graph plotter *(circle your choice)*

Describe one feature and one drawback of your chosen device. **[2]**

(b) Name each input device described below:

It reads parallel dark and light lines which represent a string of characters ....

Used for entry of numbers and arithmetic symbols only. ....

Users select options by simply making finger contact with its surface ....

It has buttons to make selections and a small wheel to allow scrolling...

[4]

May/June 2015.P13

1 There are currently three types of secondary storage medium:

- magnetic
- optical
- solid state
  (a) Give one example of each type of storage medium. Describe how data are stored on each of these types.
  (i) Magnetic **[2]**
  (ii) Optical **[2]**
  (iii) Solid state **[2]**

(b) Give two advantages of solid state media when compared to magnetic media. **[2]**

3 A company designs and sells car parts. The company has three departments which have the following tasks to perform:

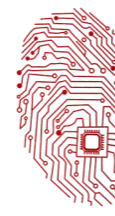| Department	Task
Design	design and test new car parts
Finance	produce hard copy reports on production costs, sales and profits
Marketing and Sales	present information to prospective customers

All tasks will use specialist software, a monitor, a keyboard and a mouse.

(a) (ii) Name one other device suitable for this task. Justify your choice. **[2]**

(b) Produce hard copy reports on production costs, sales and profits.

(ii) Name one other device suitable for this task. Justify your choice. **[2]**

1.3.1 Input, Output and Storage Devices

(c) Present information to prospective customers

(ii) Name one other device suitable for this task. Justify your choice **[2]**

9608 (Computer Science)

May/June 2015. P11/ P12

4 (a) Sensors are one type of input device. For each of the following situations, name a different sensor that could be used.

(i) air conditioning in an office building **[1]**

(ii) maintaining correct growing conditions in a greenhouse **[1]**

(iii) detecting an intruder in a building **[1]**

6 (a) Name the most suitable input or output device for each of the following uses. Give a different device in each case.

Description of Use	Input or Output Device
input of credit card number into an online form	
selection of an option at an airport information kiosk	
output of a single high-quality photograph	
output of several hundred high-quality leaflets	
input of a hard copy image into a computer	

[5]

May/June 2015. P13

4 (c) DVD-RAM and flash memory are two examples of storage devices.

Describe **two** differences in how they operate. **[2]**

1.3.1 Input, Output and Storage Devices

Oct/Nov 2015. P11/P13

5 A computer system in a control room is used to monitor earthquake activity.

An earthquake zone has a number of sensors to detect seismic activity.

The system detects when seismic activity is greater than 3 on the Richter Scale. Whenever this happens, a printer in the control room prints a report.

    (i) Identify the steps that are required in this monitoring system. **[4]**

    (ii) When the system detects high activity, operators may need to respond rapidly. A printer is useful for hard copies, but may not be the best way to inform operators.

        Give a reason why. **[1]**

    (iii) Name an alternative output device for this monitoring system and give a reason for your choice. **[2]**

Oct/Nov 2015. P12

2 (a) Describe how a laser mouse operates. **[3]**

(b) The following table shows a list of five statements which describe the stages when a page is printed using an inkjet printer.

Put each statement in the correct sequence by writing the numbers 1 to 5 in the right-hand column.

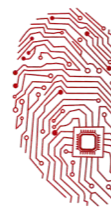| Statement	Sequence number
Paper feed stepper motor activated; sheet of paper fed from paper tray	
Printer driver translates data into a suitable format for the printer	
The print head moves across the page; ink is sprayed each time the print head pauses for a fraction of a second	
Paper feed stepper motor advances paper a fraction of a cm after each complete head pass	
Printer receives data from the computer and stores the data in the printer's buffer	

[5]

Oct/Nov 2016. P11/P13

4 Describe the basic internal operation of the following devices:

    (i) Keyboard **[2]**

    (ii) Optical disc **[2]**

    (iii) Optical mouse **[2]**

    (iv) Scanner **[2]**

1.3.1 Input, Output and Storage Devices

7 A student plays computer games on a games console.
(a) Identify **two** input devices and **one** output device used in a games console. **[3]**