

ICT

0417 Past Papers

Chapter 1

Hardware and Software

- 1 Circle **two** items which are internal hardware components.

Actuator Keyboard Linker Monitor
 Mouse Printer Processor Sound card

[2]

- 2 One component of the internal memory of a computer is Random Access Memory (RAM).

State **two** characteristics of RAM.

1

| | Question | Answer |
|---------|-----------------|-------------------------|
| 1 | 1 | Processor Sound card |
| 2 | 2 | |

| | Question | Answer |
|-------|-----------------|---------------------------------------------------------------------------------------------------------------|
| | 2 | Two from: RAM can be read from and written to RAM is volatile memory RAM is temporary storage |

[2]

- 6 A smartphone has many uses, for example making and receiving telephone calls.

Give **four** other uses of a smartphone.

| | | | |
|---------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 1 | 6 | Four from, for example: Global Positioning System//satellite navigation Calendar Video calling Social networking Online banking Emails Playing and streaming videos/music Text messaging Searching the internet Taking photos Gaming Control of home devices Language translation | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

[4]

Feb/March2021/12

- 1 Tick (✓) whether the following are examples of internal or external hardware devices.

| | internal (✓) | external (✓) |
|------------|-------------------------|-------------------------|
| Mouse | | |
| Video card | | |
| Printer | | |
| Actuator | | |

[2]

| | internal | external |
|------------|----------|----------|
| Mouse | | ✓ |
| Video card | ✓ | |
| Printer | | ✓ |
| Actuator | | ✓ |

2 marks for 4 correct ticks

1 mark for 2 or 3 correct ticks

0 marks for 0 or 1 tick

Feb/March2021/12

- 2 Geeta spends a great deal of time at work entering data into her computer.

State **three** items of hardware that Geeta should be provided with to help avoid RSI when she enters data into the computer.

1

2

2

Three from:
Ergonomic keyboard
Ergonomic mouse
Microphone
Wrist rest

3

[3]

- 3 Describe **four** characteristics of a tablet computer.

| | | |
|---------|----------|-----------------------------------------------------------------------------------------------------------------------|
| 1 | 3 | Four from: Screens tend to be anti-glare Uses touch screen Front and back facing cameras are included |
| 2 | | Has a built in battery Lightweight Uses Bluetooth/WiFi/3G/4G/5G |
| 3 | | Uses solid state memory Uses an onscreen keyboard |
| 4 | | Portable Small footprint |

[4]

- (b) One of the uses of a smartphone is the sending and receiving of emails.

Describe **four** other uses of a smartphone.

| | | |
|---------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 2(b) | Four from, for example: Order goods from the internet Use it to surf/search the internet GPS Telephone/internet banking Make/receive phone calls Instant message Streaming of music Streaming videos Text messaging Taking photos |
| 2 | | |
| 3 | | |
| 4 | | |

[4]

1 A computer consists of both hardware and software.

(a) Define the term hardware.

1(a)

The physical components of the computer

[1]

(b) Give **two** examples of internal hardware devices.

1

2

1(b)

Two from:

Processor

Motherboard

Video/graphic card

Sound card

[2]

(c) Define the term software.

[1]

(d) There are two types of software: system and applications.

Give **two** examples of applications software.

1

1(d)

Two from for example:

Word processing

Spreadsheet

Database

Presentation

[2]

1(c)

One from:

- Programs for controlling the operation of a computer
- Programs for processing of electronic data
- Program/data/applications

November 2021 | qp11

- 3 Describe **two** advantages of using a tablet computer rather than a laptop computer.

1

2

[2]

3

Two from:

- Tends to be faster to load up the operating system
- They are more lightweight so can be carried anywhere//More portable
- Don't generate as much heat
- Lower power consumption therefore batteries last longer

November 2021 | qp12

- 1 A computer consists of both hardware and software.

- (a) Give **two** examples of input devices which are part of a laptop computer.

1

2

Two from:

- Touchscreen
- Touchpad
- Webcam
- Microphone
- Keyboard

[2]

- (b) There are two types of software: system and applications.

Give **two** examples of system software.

1

.....

2

.....

Two from:

Compilers

Linkers

Device drivers

Operating systems

Utilities

November 2021 | qp12

[2]

- 3 (a) Describe **two** disadvantages of using a tablet computer rather than a laptop computer.

1

.....

2

.....

3(a)

Two from:

Can be more expensive to run if the internet is accessed by mobile data networks

Touch screen can be more error prone when typing the data

Laptop computers support more file formats

Does not have a physical keyboard therefore more difficult to type

Has a smaller screen therefore can be more difficult to read

- (b) Modern computers often do not have an optical drive.

State **two** ways music can be transferred onto a computer that does not contain an optical drive.

1

.....

2

.....

3(b)

Two from:

Streaming music from the internet

Sent by Bluetooth from another device

Plugging in an optical device/flash drive/HDD/SSD

Downloading music from the cloud

Direct input using a microphone

Sent by email attachment

[2]

1 A tablet computer has input and output devices.

(a) Give **two** examples of input devices which are part of a tablet computer.

1

2

1(a)

Two from:

Touchscreen
Camera
Microphone

(b) Give **two** examples of output devices which are part of a tablet computer.

1

1(b)

Two from:

2

Speakers
Screen

[2]

9 Rockit Motors has opened a car store in a shopping mall.

Customers can test drive the cars they are planning to purchase using virtual reality systems within the store.

(a) Name **two** devices which would be used in this virtual reality system.

1

9(a)

Two from:

2

Headset/head mounted displays/HMD
Data goggles
Steering wheel
Large monitor/screen/projector
Surround Speakers

[2]

(b) Explain the term virtual reality.

.....
.....
.....
.....
.....
.....

9(b)

Three from:

A computer-generated simulation
 Uses a three-dimensional environment
 Can be interacted with in a real or physical way
 The equipment is fitted with sensors

..... [3]

The manager of Rockit Motors has created many different types of documents including letters and memos for the company. Each of them is produced using its corporate house style.

(c) Explain why corporate house styles are required.

.....
.....
.....
.....
.....
.....
.....
.....
9(c)

Four from:

Ensures consistency across all documents
 Lets people know that the stationery/documents belong to the same Motor company
 Easier to recognise documents from the same company
 To reduce the time spent in setting up and formatting documents
 To reduce cost of setting up and formatting documents
 To reduce the risk of errors e.g. misspellings, logos omitted, etc.

..... [4]

- 1 A list of hardware items is given.

3D printer

Actuator

LCD monitor

Memory stick

Mouse

RAM

Touch screen

Video card

Webcam

Wide format printer

- (a) Identify **two** input devices from the given list.

1.....

1(a)

Webcam
Mouse

2.....

[2]

- (b) Identify **two** internal hardware devices from the given list.

1.....

1(b)

RAM
Video card

2.....

[2]

- 4 Smart technology is increasingly being used in everyday life. Many people are now using smart devices such as smartwatches.

- (a) Tick (✓) whether the following statements most appropriately refer to a **desktop computer**, a **tablet computer** or a **smartwatch**.

| | desktop computer (✓) | tablet computer (✓) | smartwatch (✓) |
|------------------------------------------------------------------|-------------------------|------------------------|-------------------|
| A computer made up of separate units | | | |
| Is an example of wearable technology | | | |
| A portable device that allows text to be typed relatively easily | | | |
| Most easily used for fitness and health monitoring by runners | | | |

[4]

| | desktop computer | tablet computer | smartwatch |
|------------------------------------------------------------------|------------------|-----------------|------------|
| A computer made up of separate units | ✓ | | |
| Is an example of wearable technology | | | ✓ |
| A portable device that allows text to be typed relatively easily | | ✓ | |
| Most easily used for fitness and health monitoring by runners | | | ✓ |

- (b) Smartphones are more likely to be used than laptop computers for everyday ICT use.

Describe **three** advantages of using a smartphone rather than a laptop computer.

1.....

4(b)

Three from:

More portable as it is lighter in weight

Smaller in size therefore can fit in your pocket

2.....

More likely to have the smartphone with you at all times

.....

Easier to receive and make phone calls on the move

.....

More of a chance of retaining the signal//can be used in more places than a laptop computer

.....
Less power consumption

3.....

May/June2020/11

- 1 A computer consists of both hardware and software.

- (a) Define the term software.

1(a)

Two from:

Software is programs and data

Programs for controlling the operation of a computer

Programs for processing of electronic data

.....

.....

.....

[2]

- (b) There are two types of software.

Identify the types.

1.....

1(b)

System software

Applications software

2.....

.....

[2]

- 2 Tick (✓) whether the following statements refer to a Command Line Interface (CLI) or a Graphical User Interface (GUI).

| | CLI (✓) | GUI (✓) |
|---------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The user has to type in every instruction | | |
| The user does not need to learn any of the instructions | | |
| Each instruction has to be typed in correctly | | |
| The user is in direct communication with the computer | | <p>The user has to type in every instruction ✓</p> <p>The user does not need to learn any of the instructions ✓</p> <p>Each instruction has to be typed in correctly ✓</p> <p>The user is in direct communication with the computer ✓</p> <p>Two marks for four correct ticks One mark for two or three correct ticks Zero marks for one correct tick</p> |

[2]

- 3 Every computer contains input and output devices and a central processing unit (CPU).

- (a) Describe the CPU including its role.

3(a)

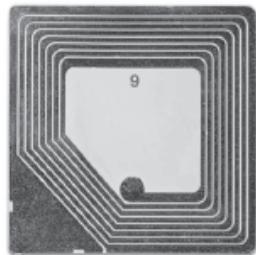
Four from:

- An item of hardware
- It carries out the instructions of a computer program
- It performs basic arithmetic calculations
- It performs logical operations
- It performs input/output operations of the computer
- It contains the internal storage/control unit

[4]

(b) Data can be read directly by using a number of different devices.

Name the most appropriate device used to read the following data.



| | | | |
|------------|-------------|-------------|------------------|
| Cheque No. | Branch Code | Account No. | Transaction Code |
| 05482 | 55448 | 654478 | 25447 |



3(b)

- (i) RFID reader
- (ii) Magnetic Ink Character Reader/MICR
- (iii) Bar code reader
- (iv) Chip reader

[4]

- 7 The headteacher of a school has decided to replace desktop computers with laptop computers.

Describe the advantages and disadvantages of using a laptop computer rather than a desktop computer.

Max three from:

Advantages

All elements are together in one unit therefore takes up less space
They are portable
Can be used in more places than a desktop

Max three from:

Disadvantages

Easier to steal/lose
Limited battery life so more likely to run out of power
Pointing devices can be more difficult to use
In built webcams can be more difficult to use rather than a desktop
If one piece of hardware breaks it can be more difficult to replace
Desktops have a better heat dispersion rate
More likely to be damaged as they are portable.
Screen size may be smaller
Less powerful

[4]

2

Tawarsoft [Version 12.1.2/213.162]
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C:\users\Test >

May/June2020/12

(a) Write down the type of interface shown.

2(a)

Command Line Interface/CLI

[1]

(b) Write down **two** disadvantages of using this type of interface.

1.....
2.....
2(b)

Two from:

Have to remember/learn the commands
Have to type in the commands accurately
Difficult to edit once commands typed in

[2]

7 Complete each sentence using the most appropriate output device from the following list.

3D printer

Buzzer

Dot matrix printer

Heater

Laser printer

LCD monitor

Light

Wide format printer

(a) The device that can produce prosthetic limbs is called a

[1]

(b) The device that can output soft copy is called a

[1]

(c) The device that can produce sound as its main output is called a

[1]

| | |
|------|-------------|
| 7(a) | 3D printer |
| 7(b) | LCD Monitor |
| 7(c) | Buzzer |

- 8 Tablet computers tend to be used more than desktop computers.

Describe the advantages and disadvantages of using a tablet computer rather than a desktop computer.

Max four from:

Advantages

- Tablet computers are more portable
- Can be used in more places than a desktop computer
- Smaller footprint as the units are not separate
- Powered by battery so can be used away from a power supply
- Internet connection may be better as device is portable

Max four from:

Disadvantages

- Tablet computers are easier to steal/lose
- As the elements of a desktop computer are separate they are easier to upgrade/tablet computers are one unit
- Batteries can run out/desktop computers have less chance of running out of power
- Screens are smaller
- Keyboard tends to be onscreen/touch screen therefore can be harder to use
- No mouse therefore pointing devices/touchscreen can be harder to use
- Webcams tend to be static therefore harder to use
- Less standard ports/sockets
- Desktop computers have a better heat dispersion rate
- Desktop computers are less likely to be damaged as they are not portable.

[6]

- 14 There are two types of storage within a computer, **internal memory** and **backing storage**.

Discuss the differences between internal memory and backing storage.

14

Six from:

- Internal storage examples RAM and ROM
- Internal storage is chip based
- Backing storage can be solid state, optical or magnetic
- Backing storage is permanent storage
- RAM loses memory when computer is turned off
- RAM contains current instruction
- ROM contains instructions to boot up the computer
- Backing storage has slower access speeds
- More storage in backing storage

[6]

- 1 There are two types of software: applications and system.

Tick (✓) the most appropriate type of software for each of the following.

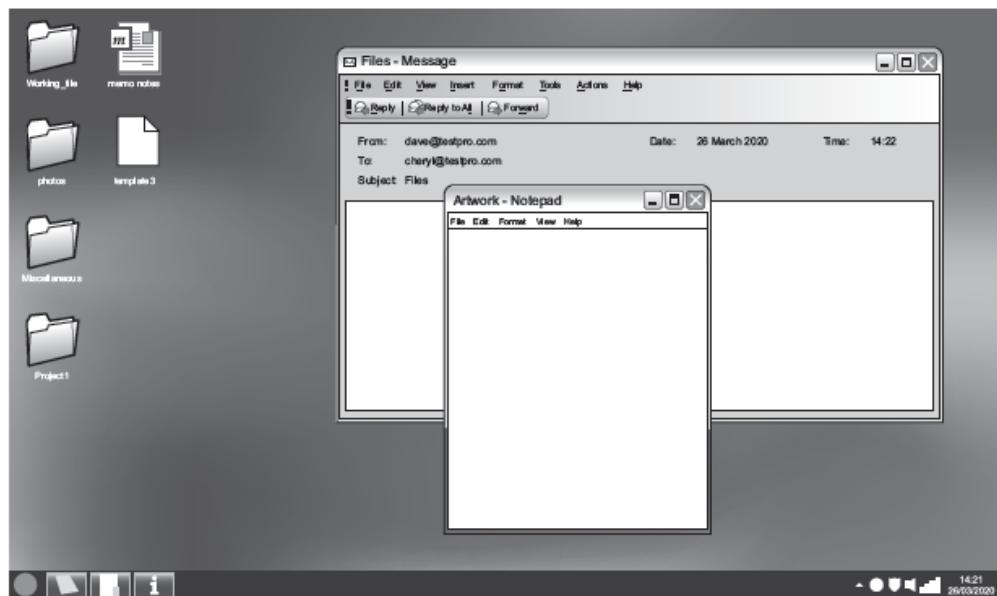
| | Applications (✓) | System (✓) |
|------------------------|---------------------|---------------|
| Device driver | | |
| Linker | | |
| Photo-editing software | | |
| Spreadsheet | | |

| | Applications | System |
|------------------------|--------------|--------|
| Device driver | | ✓ |
| Linker | | ✓ |
| Photo-editing software | ✓ | |
| Spreadsheet | ✓ | |

[2]

Two marks for four correct ticks
 One mark for two or three correct ticks
 Zero marks for one correct tick

2 (a) Write down the type of interface shown.



2(a) Graphical User Interface

[1]

(b) Write down **two** advantages of using this type of interface.

1.....

2(b)

Two from:

User does not need to learn the commands
User-friendly
Can locate applications more rapidly

[2]

- 5 The use of laptop computers and tablet computers by people on the move is becoming very popular.

Describe **four** advantages of using a tablet computer rather than a laptop computer.

1

Four from:

Faster switch on as the operating system does not need to load
Lighter and smaller than a laptop computer therefore more portable

2

Don't generate as much heat

Battery life tends to last longer

Smaller footprint

Easier to use the touch screen as the keyboard is not in the way

3

Less susceptible to viruses

Less parts//no separate peripherals, such as a mouse

Camera is easier to use

4

[4]

Oct/Nov2020/11

- 1 Complete the question using an appropriate item from the list given.

Blu-ray disc drive DVD RAM drive Hard disk drive Keyboard Laser printer
LCD monitor Magnetic tape drive Mouse Pen drive SSD

- (a) Identify **two** output devices from the list.

1

2

[2]

- (b) Identify **two** optical storage devices from the list.

1

2

[2]

| | |
|------|-------------------------------------|
| 1(a) | LCD monitor Laser printer |
| 1(b) | DVD RAM drive Blu-ray disc drive |

2 The Central Processing Unit consists of three components.

Tick (✓) whether the following statements refer to the ALU, the Control unit or the Main memory.

| | ALU (✓) | Control unit (✓) | Main memory (✓) |
|---------------------------------------------------|------------|------------------------|-----------------------|
| This is the immediate access storage | | | |
| This carries out the calculations | | | |
| This carries out logical decisions | | | |
| This directs the input and output flow in the CPU | | | |

[4]

| | ALU (✓) | Control Unit (✓) | Main memory (✓) |
|---------------------------------------------------|------------|------------------------|-----------------------|
| This is the immediate access storage | | | ✓ |
| This carries out the calculations | ✓ | | |
| This carries out logical decisions | ✓ | | |
| This directs the input and output flow in the CPU | | ✓ | |

12 A teacher is teaching students about history using a virtual reality (VR) system.

- (a) Identify **three** devices that could be used with a VR system.

1

2

3

[3]

- (b) The teacher carefully monitors the students' use of the VR system. She only allows them 20 minutes on the device before taking a break. This is to ensure that they remain healthy whilst using it.

Identify **three** health problems associated with the prolonged use of VR systems.

Problem 1

.....

Problem 2

.....

Problem 3

[3]

12(a)

Three from:

Controller wand/joystick/control buttons/microphone
 Tracking/force balls//trackpads//trackers
 Treadmill/motion platforms
 Pressure mats
 Data gloves/bodysuits
 Head mounted display/head mounted device/projector
 Headset/head mounted device/ear mounted device
 Goggles/VR eyeglasses
 Steering/gaming wheels/consoles
 Pedals/Paddles
 Cameras
 Motion sensors

12(b)

Three from:

Eye problems/strain
 Neck pain/back pain
 Headaches
 Balance problems/motion sickness
 Tiredness
 Injuries caused by being too involved in the VR system

- 1 Complete the question using an appropriate item from the list given.

| | | | | |
|-----------------|---------------|--------------------------|-----------------|-------------|
| Bar code reader | Blu-ray drive | DVD drive | Hard Disk Drive | Keyboard |
| Memory stick | Mouse | Optical Character Reader | SSD | TFT monitor |

- (a) Identify **two** solid state storage devices from the list.

1

2

[2]

- (b) Identify **two** direct data entry devices from the list.

1

2

| | |
|------|---------------------------------------------|
| 1(a) | SSD Memory stick |
| 1(b) | Bar code reader Optical Character Reader |

[2]

- 3 A computer system consists of a number of different items of hardware.

Write down the most appropriate item of hardware that fits the following descriptions.

- (a) A non-volatile device that stores the start-up commands.

..... [1]

- (b) A printer that produces physical objects.

..... [1]

- (c) A hardware device that reads analogue data from the environment.

..... [1]

| | |
|------|----------------------|
| 3(a) | ROM/Read Only Memory |
| 3(b) | 3D printer |
| 3(c) | Sensor |

- 12 Describe the differences between using a Graphical User Interface (GUI) and a Command Line Interface (CLI).

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.....
.....
.....
.....
.....
.....

[4]

SPECIMEN PAPER 2020/01

- 11 Smartphones use touch screen technology that requires a Graphical User Interface (GUI).

Describe **four** advantages of users having a GUI on a smartphone rather than a Command Line Interface (CLI).

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

| Question | Answer | Marks |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 11 | <p>Four advantages from</p> <p>GUI allows the use of pinching, scrolling and expanding but CLI does not allow this</p> <p>Icons speed up finding instructions, with CLI you have to type out the commands in full</p> <p>GUI is more visual therefore finding commands is quicker</p> <p>If a mistake is made in CLI it could have major consequences whereas in GUI a mistake has less impact</p> <p>GUI allows more multi-tasking</p> <p>GUI is faster to operate and more efficient as it uses a finger/stylus rather than a keyboard</p> <p>GUI is more user friendly; with CLI the commands have to be memorised</p> <p>In CLI several commands have to be typed in rather than one command in GUI</p> <p>GUI has more system resources</p> <p>Easier to remote access with GUI</p> <p>Fewer health problems ...</p> <p>... eye strain, carpal tunnel syndrome</p> | 4 |

SPECIMEN PAPER 2016/01

3 Tick **true** or **false** next to each of these statements.

| | 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. | | |

[2]

3

| | 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 correct answers – 2 marks

2 or 3 correct – 1 mark

1 correct – 0 marks

[2]

SPECIMEN PAPER 2016/01

11 Describe the differences between RAM and ROM.

.....

.....

.....

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.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[4]

11 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

[4]

SPECIMEN PAPER 2016/01

14 A company uses robots to manufacture cars.

Tick **three** advantages for the company of using robots rather than humans to manufacture cars.

| | <input checked="" type="checkbox"/> |
|--------------------------------------------------|-------------------------------------|
| Robots produce the same standard every time. | |
| Robots don't cost very much to buy. | |
| Robots don't need programming to perform a task. | |
| Robots are more accurate. | |
| Workers are no longer employed. | |
| Robots don't take breaks. | |
| Robots can think for themselves. | |
| Robots never make mistakes. | |

[3]

14 1 mark for each correct tick

| | |
|--------------------------------------------------|---|
| Robots produce the same standard every time. | ✓ |
| Robots don't cost very much to buy. | |
| Robots don't need programming to perform a task. | |
| Robots are more accurate. | ✓ |
| Workers are no longer employed. | |
| Robots don't take breaks. | ✓ |
| Robots can think for themselves. | |
| Robots never make mistakes. | |

[3]

February/March 2019/12

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

| | System Software (✓) | Applications Software (✓) |
|--------------------------|---------------------------|---------------------------------|
| Compiler | | |
| Word processing software | | |
| Spreadsheet software | | |
| Operating system | | |

[2]

| Question | Answer | | Marks |
|----------|----------------------------------------------------------------------------------------|--------------------------------------------------|-------|
| 2 | | System Software (✓) Applications Software (✓) | 2 |
| | Compiler | ✓ | |
| | Word processing software | | ✓ |
| | Spreadsheet software | | ✓ |
| | Operating system | ✓ | |
| | 4 correct ticks – 2 marks 2 or 3 correct ticks – 1 mark 1 correct tick – 0 marks | | |

- 3 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.

1

2

[2]

| Question | Answer | Marks |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 3 | 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 | 2 |

3 Circle **two** items which are used as internal hardware devices.

Keyboard

Linker

Mouse

Printer

Processor

Sound card

[2]

| Question | Answer | Marks |
|----------|------------|-------|
| 3 | Sound card | 1 |
| | Processor | 1 |

5 A virtual reality (VR) system is being used to train workers in a nuclear power station.

(a) Name **two** input devices that could be used with VR systems in this environment.

1.....

2.....

[2]

(b) Name **two** output devices that could be used with VR systems in this environment.

1.....

2.....

[2]

(c) Tick whether the following examples refer to **VR** or **Robotics**.

| | VR (✓) | Robotics (✓) |
|-----------------------------------------------------------------------------------|-----------|-----------------|
| Inserting a car engine into a real car. | | |
| Training a medical student to carry out an operation using a computer simulation. | | |
| Controlling a production line to manufacture pasta. | | |
| Taking a tour of a house before it has been built. | | |

[2]

| Question | |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5(a) | <p>Two from:</p> <p>Wand/joystick Pressure mats Data gloves/gloves with sensors Head mounted device(HMD)/Microphones Steering wheels/consoles Pedals Paddles Cameras Motion sensors</p> |
| 5(b) | <p>Two from:</p> <p>Headset/head mounted displays/goggles Speaker/headphones Monitor/projector Olfactory devices Haptic/tactile Virtual Retina Display (VRD)</p> |

| Question | Answer | Marks | | | | | | | | | | | | | | | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|----------|-----------------------------------------|--|---|-----------------------------------------------------------------------------------|---|--|-------------------------------------------------|--|---|----------------------------------------------------|---|--|---|
| 5(c) | <table border="1"> <thead> <tr> <th></th> <th>VR</th> <th>Robotics</th> </tr> </thead> <tbody> <tr> <td>Inserting a car engine into a real car.</td> <td></td> <td>✓</td> </tr> <tr> <td>Training a medical student to carry out an operation using a computer simulation.</td> <td>✓</td> <td></td> </tr> <tr> <td>Control a production line to manufacture pasta.</td> <td></td> <td>✓</td> </tr> <tr> <td>Taking a tour of a house before it has been built.</td> <td>✓</td> <td></td> </tr> </tbody> </table> <p>2 marks for 4 correct ticks 1 mark for 2 or 3 correct ticks 0 marks for 0 or 1 correct tick</p> | | VR | Robotics | Inserting a car engine into a real car. | | ✓ | Training a medical student to carry out an operation using a computer simulation. | ✓ | | Control a production line to manufacture pasta. | | ✓ | Taking a tour of a house before it has been built. | ✓ | | 2 |
| | VR | Robotics | | | | | | | | | | | | | | | |
| Inserting a car engine into a real car. | | ✓ | | | | | | | | | | | | | | | |
| Training a medical student to carry out an operation using a computer simulation. | ✓ | | | | | | | | | | | | | | | | |
| Control a production line to manufacture pasta. | | ✓ | | | | | | | | | | | | | | | |
| Taking a tour of a house before it has been built. | ✓ | | | | | | | | | | | | | | | | |

6 IT technicians are setting up a new file server for a school.

Describe the benefits and drawbacks of using a command line interface (CLI) rather than a graphical user interface (GUI) to set up a new file server.

.....
.....
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.....
.....
.....
.....
.....
.....
.....
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.....
.....

[6]

| Question | Answer | Marks |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 6 | <p>Six from:</p> <p>Benefits</p> <p>The user is not restricted to the predetermined options//the GUI uses icons and set menus The user has more control over the computer settings//in GUI computer settings are protected from the user Uses less memory than GUI Requires less processing power for the interface More processing power is made available for the task</p> <p>Drawbacks</p> <p>The commands used have to be learnt The commands used have to be remembered The commands used have to be typed in/entered exactly Have to remember the exact path/correct name of application More prone to errors on data entry Commands have to be typed in/in a GUI can use touchscreens/mice Tends to be used by specialist people//GUI is more user-friendly and can be used by non-experts</p> <p>To gain full marks both benefits and drawbacks are required</p> | 6 |

1 A computer consists of hardware and software.

(a) State what is meant by hardware.

.....

[1]

(b) State what is meant by software.

.....

[1]

(c) There are two types of software.

Name **one** of the two types of software used by a computer.

.....

[1]

(d) Name the piece of hardware found in a tablet computer that is both an input and output device.

.....

[1]

| Question | Answer | Marks |
|----------|-----------------------------------------------------------------------------------------------------------------|-------|
| 1(a) | Physical components of a computer system | 1 |
| 1(b) | One from: Programs for controlling the operation of a computer Programs for processing of data | 1 |
| 1(c) | One from: System Applications | 1 |
| 1(d) | Touchscreen | 1 |

2 There are many types of data storage.

Tick whether the following statements are examples of read-only memory (**ROM**), random access memory (**RAM**) or a hard disk drive (**HDD**).

| | ROM (✓) | RAM (✓) | HDD (✓) |
|-------------------------------------------------------------|-------------------|-------------------|-------------------|
| It loses its data when the computer is switched off. | | | |
| It is classed as backing storage. | | | |
| It stores the start-up instructions of the computer. | | | |
| It temporarily stores the current work of the current user. | | | |

[4]

| Question | Answer | Marks | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------------------------------------------------|--|---|--|-----------------------------------|--|--|---|------------------------------------------------------|---|--|--|-------------------------------------------------------------|--|---|--|---|
| 2 | <table border="1"> <thead> <tr> <th></th> <th>ROM</th> <th>RAM</th> <th>HDD</th> </tr> </thead> <tbody> <tr> <td>It loses its data when the computer is switched off.</td><td></td><td>✓</td><td></td></tr> <tr> <td>It is classed as backing storage.</td><td></td><td></td><td>✓</td></tr> <tr> <td>It stores the start-up instructions of the computer.</td><td>✓</td><td></td><td></td></tr> <tr> <td>It temporarily stores the current work of the current user.</td><td></td><td>✓</td><td></td></tr> </tbody> </table> | | ROM | RAM | HDD | It loses its data when the computer is switched off. | | ✓ | | It is classed as backing storage. | | | ✓ | It stores the start-up instructions of the computer. | ✓ | | | It temporarily stores the current work of the current user. | | ✓ | | 4 |
| | ROM | RAM | HDD | | | | | | | | | | | | | | | | | | | |
| It loses its data when the computer is switched off. | | ✓ | | | | | | | | | | | | | | | | | | | | |
| It is classed as backing storage. | | | ✓ | | | | | | | | | | | | | | | | | | | |
| It stores the start-up instructions of the computer. | ✓ | | | | | | | | | | | | | | | | | | | | | |
| It temporarily stores the current work of the current user. | | ✓ | | | | | | | | | | | | | | | | | | | | |

2 Tick the most appropriate type of computer that matches each description.

| | Desktop (✓) | Laptop (✓) | Smartphone (✓) |
|-------------------------------------------------------------------------|-----------------------|----------------------|--------------------------|
| A portable computer that would most easily fit into your pocket | | | |
| A computer that is not powered by batteries | | | |
| A computer that has the smallest screen | | | |
| A portable computer with a keyboard and with a built-in 15 inch monitor | | | |

[4]

| Question | Answer | | | Marks |
|----------|-------------------------------------------------------------------------|--------|------------|-------|
| | Desktop | Laptop | Smartphone | |
| 2 | A portable computer that would most easily fit into your pocket | | | ✓ |
| | A computer that is not powered by batteries | ✓ | | |
| | A computer that has the smallest screen | | | ✓ |
| | A portable computer with a keyboard and with a built-in 15 inch monitor | | ✓ | |

5 A computer contains system software and applications software.

(a) Explain what is meant by system software.

.....
..... [1]

(b) Explain what is meant by applications software.

.....
..... [1]

(c) Circle two types of system software.

Actuator

Linker

Operating system

Photo-editing software

Sensor

Spreadsheet

[2]

| Question | Answer | Marks |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 5(a) | One from: Programs that control and manage the computer's hardware//it runs the applications software Interface between the computer hardware and the user applications | 1 |
| 5(b) | Programs that allow the user to carry out specific tasks | 1 |
| 5(c) | Linker Operating system | 2 |

February/March 2018/12

- 1 Complete the following sentences, using items from the list below.

- | | | | | |
|--------------|-------------------|------------|--------|----------|
| Applications | A bar code reader | A compiler | A CPU | Hardware |
| A monitor | A printer | A scanner | System | USB |
- (a) software is designed to manage computer hardware. [1]
- (b) software examples include word processing and spreadsheets. [1]
- (c) produces output in the form of hard copy. [1]
- (d) converts high-level language programs into machine code. [1]

| Question | Answer | Marks |
|----------|--------------|-------|
| 1(a) | System | 1 |
| 1(b) | Applications | 1 |
| 1(c) | A printer | 1 |
| 1(d) | A compiler | 1 |

- 7 Tick the **three** most accurate statements regarding computer hardware.

| | Tick (✓) |
|------------------------------------------------------------|-------------|
| CPU means Computer Processing Unit | |
| Data in RAM is not lost when the computer is turned off | |
| ROM is Read Only Memory | |
| A printer is an input device | |
| A touch screen can be an input device and an output device | |
| The control unit is part of the CPU | |
| The CPU is stored on the hard disk | |
| A pen drive is an example of internal memory | |

[3]

| Question | Answer | Marks | | | | | | | | | | | | | | | | |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------|---------------------------------------------------------|--|-------------------------|---|------------------------------|--|------------------------------------------------------------|---|-------------------------------------|---|------------------------------------|--|----------------------------------------------|--|---|
| 7 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">CPU means Computer Processing Unit</td> <td style="text-align: center; padding: 2px;">Tick (✓)</td> </tr> <tr> <td style="padding: 2px;">Data in RAM is not lost when the computer is turned off</td> <td style="text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">ROM is Read Only Memory</td> <td style="text-align: center; padding: 2px;">✓</td> </tr> <tr> <td style="padding: 2px;">A printer is an input device</td> <td style="text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">A touch screen can be an input device and an output device</td> <td style="text-align: center; padding: 2px;">✓</td> </tr> <tr> <td style="padding: 2px;">The control unit is part of the CPU</td> <td style="text-align: center; padding: 2px;">✓</td> </tr> <tr> <td style="padding: 2px;">The CPU is stored on the hard disk</td> <td style="text-align: center; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">A pen drive is an example of internal memory</td> <td style="text-align: center; padding: 2px;"></td> </tr> </table> | CPU means Computer Processing Unit | Tick (✓) | Data in RAM is not lost when the computer is turned off | | ROM is Read Only Memory | ✓ | A printer is an input device | | A touch screen can be an input device and an output device | ✓ | The control unit is part of the CPU | ✓ | The CPU is stored on the hard disk | | A pen drive is an example of internal memory | | 3 |
| CPU means Computer Processing Unit | Tick (✓) | | | | | | | | | | | | | | | | | |
| Data in RAM is not lost when the computer is turned off | | | | | | | | | | | | | | | | | | |
| ROM is Read Only Memory | ✓ | | | | | | | | | | | | | | | | | |
| A printer is an input device | | | | | | | | | | | | | | | | | | |
| A touch screen can be an input device and an output device | ✓ | | | | | | | | | | | | | | | | | |
| The control unit is part of the CPU | ✓ | | | | | | | | | | | | | | | | | |
| The CPU is stored on the hard disk | | | | | | | | | | | | | | | | | | |
| A pen drive is an example of internal memory | | | | | | | | | | | | | | | | | | |

- 4 Circle the names of three devices which are used for input.

CD writer Laser printer Pen drive Mouse
 Speaker Touch screen Remote control Wide format printer

[3]

| Question | Answer | Marks |
|----------|-----------------------------------------|-------|
| 4 | Mouse Touch screen Remote control | 3 |

14 Many computer systems use virtual reality.

(a) Explain what is meant by virtual reality.

.....

[2]

(b) Name **two** pieces of hardware used in virtual reality systems.

- 1.....
 2.....

[2]

| Question | Answer | Marks |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 14(a) | Two from: Three-dimensional, computer generated environment It can be explored and interacted with, by a person Can manipulate objects or perform a series of actions Replicates an environment Makes use of the sensory experience | 2 |
| 14(b) | Two from: Virtual reality headset / head mounted display / Virtual reality goggles Speakers / headphone The tactile glove Joystick / controllers / driving wheel | 2 |

- 1 A computer contains internal hardware.

Write down the most appropriate item of internal hardware to match the descriptions.

- (a) This handles all the system instructions.

..... [1]

- (b) A printed circuit board that contains the main components of the computer.

..... [1]

- (c) This generates output to the speaker.

..... [1]

- (d) A type of memory where data is lost when the computer is switched off.

..... [1]

| Question | Answer | Marks |
|----------|----------------------------|-------|
| 1(a) | Processor / CPU | 1 |
| 1(b) | Motherboard | 1 |
| 1(c) | Sound card | 1 |
| 1(d) | RAM / Random Access Memory | 1 |

- 5 Circle two items which are used as external storage media.

CD RW

Hard disk

Monitor

Mouse

RAM

ROM

[2]

| Question | Answer | | | Marks |
|----------|--------|-----------|---------|-------|
| 5 | CD RW | Hard disk | Monitor | 2 |
| | Mouse | RAM | ROM | |

- 1 A computer contains internal hardware.

Write down the item of internal hardware from the list to match the descriptions.

| | | | | |
|------------|--------------------|--------------|------------|---------------------|
| CD ROM | Internal hard disk | Network card | RAM | ROM |
| Sound card | Touch screen | Trackerball | Video card | Wide format printer |

- (a) Stores the start-up instructions for the computer.

..... [1]

- (b) A magnetic medium that stores applications when they are not in use.

..... [1]

- (c) Memory where data is lost when the computer is turned off.

..... [1]

- (d) Generates images to display on the monitor.

..... [1]

| Question | Answer | Marks |
|----------|--------------------|-------|
| 1(a) | ROM | 1 |
| 1(b) | Internal hard disk | 1 |
| 1(c) | RAM | 1 |
| 1(d) | Video card | 1 |

2 For each application tick the most appropriate type of computer to match the description.

| | Desktop (✓) | Laptop (✓) | Smartphone (✓) |
|---------------------------------------------------------------|----------------|---------------|-------------------|
| A computer that is only used in one place. | | | |
| Must always be connected to an external power source to work. | | | |
| Small enough to fit into a pocket. | | | |
| A mobile device with a large keyboard and display. | | | |

[4]

| Question | Answer | | | | Marks |
|----------|---------------------------------------------------------------|----------------|---------------|-------------------|-------|
| 2 | | Desktop (✓) | Laptop (✓) | Smartphone (✓) | 4 |
| | A computer that is only used in one place. | ✓ | | | |
| | Must always be connected to an external power source to work. | ✓ | | | |
| | Small enough to fit into a pocket. | | | ✓ | |
| | A mobile device with a large keyboard and display. | | ✓ | | |

4 Circle two items which are used as output devices.

3D printer

Magnetic tape

Microphone

Monitor

Sensor

Web cam

[2]

| Question | Answer | Marks |
|----------|-----------------------|-------|
| 4 | 3D printer Monitor | 2 |

- 1 Tick whether the following are examples of **applications software** or **system software**.

| | applications software (✓) | system software (✓) |
|------------------|------------------------------------------|------------------------------------|
| Control software | | |
| Compiler | | |
| Word processing | | |
| Device drivers | | |

[2]

| Question | Answer | | | Marks |
|----------|-------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------|-------|
| 1 | | applications software (✓) | system software (✓) | 2 |
| | Control software | ✓ | | |
| | Compiler | | ✓ | |
| | Word processing | ✓ | | |
| | Device drivers | | ✓ | |
| | 2 marks for 4 correct ticks 1 mark for 2 or 3 correct ticks 0 marks for 0 or 1 tick | | | |

- 5 Describe the benefits and drawbacks of using a Graphical User Interface (GUI) rather than a Command Line Interface (CLI).

.....

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.....

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.....

.....

[4]

| Question | Answer | Marks |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 5 | <p><i>Benefits</i> Max three from: Easier to use as no need to type commands No need to memorise/learn commands Can exchange data between different applications Better help facilities</p> <p><i>Drawbacks</i> Max three from: Takes up more RAM/hard disk space/memory Can be slower for experienced programmers to use. Can be slower to run as graphics have to be loaded/larger program Restrictive can only use pre-defined functions Not in direct contact with OS/computer</p> | 4 |

October/November 2018/13

- 1 Complete the following sentences, using items from the list.

| | | | |
|------------|-----------------|-------------|---------------------|
| 3D printer | backing storage | CPU | hardware |
| ROM | scanner | software | RAM |
| | | touchscreen | wide format printer |

- (a) The core component in a computer that controls arithmetic operations is called a

..... [1]

- (b) The physical components of a computer are collectively called

..... [1]

- (c) The type of memory that is volatile is called

..... [1]

- (d) An output device that is also an input device is called a

..... [1]

| Question | Answer | Marks |
|----------|--------------|-------|
| 1(a) | CPU | 1 |
| 1(b) | hardware | 1 |
| 1(c) | RAM | 1 |
| 1(d) | touch screen | 1 |

1 Complete the following sentences using the most appropriate words from the list below.

| | | | | |
|-----------------|----------|------------|---------|---------|
| hard disk drive | hardware | microphone | OCR | printer |
| scanner | screen | software | speaker | virus |

- (a) The physical components of a computer are called..... [1]
- (b) The programs and data of a computer are called..... [1]
- (c) The device used to input sound is called a..... [1]
- (d) The device used to store data is called a..... [1]

| Question | Answer | Marks |
|----------|-----------------|-------|
| 1(a) | Hardware | 1 |
| 1(b) | Software | 1 |
| 1(c) | Microphone | 1 |
| 1(d) | Hard disk drive | 1 |

3 Tick whether the following statements about internal and external memory are true or false.

| | true (✓) | false (✗) |
|---------------------------------------------------------|-------------|--------------|
| A portable hard drive is an example of internal memory. | | |
| Magnetic tape is used to store backups of data. | | |
| RAM is internal memory. | | |
| ROM loses its data when the power is turned off. | | |

[2]

| Question | Answer | Marks | | | | | | | | | | | | | | | |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|-------|---------------------------------------------------------|--|---|-------------------------------------------------|---|--|-------------------------|---|--|--------------------------------------------------|--|---|---|
| 3 | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>true</th> <th>false</th> </tr> </thead> <tbody> <tr> <td>A portable hard drive is an example of internal memory.</td> <td></td> <td>✓</td> </tr> <tr> <td>Magnetic tape is used to store backups of data.</td> <td>✓</td> <td></td> </tr> <tr> <td>RAM is internal memory.</td> <td>✓</td> <td></td> </tr> <tr> <td>ROM loses its data when the power is turned off.</td> <td></td> <td>✓</td> </tr> </tbody> </table> <p>4 correct ticks 2 marks 2 or 3 correct ticks 1 mark and 1 or 0 ticks no marks</p> | | true | false | A portable hard drive is an example of internal memory. | | ✓ | Magnetic tape is used to store backups of data. | ✓ | | RAM is internal memory. | ✓ | | ROM loses its data when the power is turned off. | | ✓ | 2 |
| | true | false | | | | | | | | | | | | | | | |
| A portable hard drive is an example of internal memory. | | ✓ | | | | | | | | | | | | | | | |
| Magnetic tape is used to store backups of data. | ✓ | | | | | | | | | | | | | | | | |
| RAM is internal memory. | ✓ | | | | | | | | | | | | | | | | |
| ROM loses its data when the power is turned off. | | ✓ | | | | | | | | | | | | | | | |

- 14 Computer operating systems have developed since early computers used Command Line Interfaces (CLI). Many computers now use Graphical User Interfaces (GUI), some of which are capable of using touch screen technology.

Compare and contrast CLI and GUI.

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.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

[8]

May/June 2017/13

- 2 Tick whether the following statements are true or false.

| | true (✓) | false (✗) |
|-----------------------------------------------------------|-------------|--------------|
| An actuator is an item of software. | | |
| Hardware is the physical components of a computer system. | | |
| Software controls the operation of the computer. | | |
| A spreadsheet is an example of systems software. | | |

[2]

| Question | Answer | | Marks |
|----------|----------------------------------------------------------------------------------------------------|--------------|-------|
| | true (✓) | false (✗) | |
| 2 | An actuator is an item of software. | ✓ | |
| | Hardware is the physical components of a computer system. | ✓ | |
| | Software controls the operation of the computer. | ✓ | |
| | Spreadsheet is an example of systems software. | ✓ | |
| | 2 marks for 4 correct ticks 1 mark for 3 or 2 correct ticks 0 marks for 1 or 0 correct ticks | | 2 |

9 Describe the differences between ROM and RAM.



.....

.....

.....

.....

.....

.....

.....

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.....

.....

[4]

| Question | Answer | Marks |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 9 | <p>Any four from:</p> <ul style="list-style-type: none"> - ROM can only be read from whereas RAM can be read and written to - ROM is non-volatile whereas RAM is volatile - ROM stores the start-up instructions / boot file whereas RAM stores the current instruction - ROM is needed on boot up, whereas RAM is needed during processing / storing data | 4 |



- (b) People now tend to buy laptops rather than desktop computers. Despite this, desktop computers are still fairly popular.

Describe **three** advantages of using a desktop computer rather than a laptop computer.

1

2

3

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[3]

| | | |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 5(b) | <p>Any three from:</p> <p>As the elements are separate units there is more choice of devices/can be replaced if fails</p> <p>Can be easier to upgrade</p> <p>Easier to reduce glare on screen as it is separate</p> <p>Laptop more expensive for same performance</p> <p>Lower chance of it being stolen/lost</p> | 3 |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|

October/November 2017/12

- 15 A word processing program uses a Graphical User Interface (GUI). Using examples from the word processing program describe **three** features of a GUI.

1



2

3

[3]

| Question | Answer | Marks |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 15 | Any three from: A window plus reasonable example An icon/buttons/tabs plus reasonable example A menu/drop down menu plus reasonable example Pointer (to point to items on the menu) plus reasonable example | 3 |

October/November 2017/13

- 2 Tick whether the following are examples of **application** or **system** software.

| | application (✓) | system (✓) |
|-----------------------------|--------------------|---------------|
| Linker | | |
| Database management systems | | |
| Photo-editing software | | |
| Compiler | | |

[2]

| Question | Answer | Marks | | | | | | | | | | | | | | | |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|---------------|--------|--|---|-----------------------------|---|--|------------------------|---|--|----------|--|---|---|
| 2 | <table border="1"> <thead> <tr> <th></th> <th>application (✓)</th> <th>system (✓)</th> </tr> </thead> <tbody> <tr> <td>Linker</td><td></td><td>✓</td></tr> <tr> <td>Database management systems</td><td>✓</td><td></td></tr> <tr> <td>Photo-editing software</td><td>✓</td><td></td></tr> <tr> <td>Compiler</td><td></td><td>✓</td></tr> </tbody> </table> <p>4 correct answers - 2 marks 2 or 3 correct answers - 1 mark 0 or 1 correct answers - 0 marks</p> | | application (✓) | system (✓) | Linker | | ✓ | Database management systems | ✓ | | Photo-editing software | ✓ | | Compiler | | ✓ | 2 |
| | application (✓) | system (✓) | | | | | | | | | | | | | | | |
| Linker | | ✓ | | | | | | | | | | | | | | | |
| Database management systems | ✓ | | | | | | | | | | | | | | | | |
| Photo-editing software | ✓ | | | | | | | | | | | | | | | | |
| Compiler | | ✓ | | | | | | | | | | | | | | | |

February/March 2016/12

- 1 There are a number of different types of computer.

Write down the type of computer that best fits the following descriptions.

- (a) A computer that is difficult to move and has a separate monitor and keyboard.

..... [1]

- (b) A portable computer that includes a physical keyboard.

..... [1]

- (c) A thin portable computer that has a touch screen and a battery in a single unit, not normally used to make phone calls.

..... [1]

- (d) A mobile phone that can be used as a computer.

..... [1]

| | |
|------------------|-----|
| 1 (a) PC/desktop | [1] |
| (b) Laptop | [1] |
| (c) Tablet | [1] |
| (d) Smartphone | [1] |

- 2 Tick whether the following statements refer to a command-line interface (**CLI**) or a graphical user interface (**GUI**).

2

| | CLI (✓) | GUI (✓) |
|-----------------------------------------|------------|------------|
| Instructions have to be typed. | ✓ | |
| Applications are represented by icons. | | ✓ |
| Options are chosen from a menu. | | ✓ |
| Many instructions have to be memorised. | ✓ | |

Instructions have to be typed.

Applications are represented by icons.

Options are chosen from a menu.

Many instructions have to be memorised.

4 correct answers – 2 marks

2 or 3 correct answers – 1 mark

1 correct – 0 marks

2 Tick whether the following are examples of **applications** software or **systems** software.

| | applications (✓) | systems (✓) |
|-----------------|------------------|-------------|
| Word processing | | |
| Compilers | | |
| Interpreters | | |
| Spreadsheet | | |

May/June 2016/11

[2]

2

| | applications (✓) | systems (✓) |
|-----------------|------------------|-------------|
| Word processing | ✓ | |
| Interpreters | | ✓ |
| Spreadsheet | ✓ | |

4 correct answers – 2 marks
2 or 3 correct answers – 1 mark
1 correct – 0 marks

[2]

- 3 Tick whether the following statements about desktop and laptop computers are true or false.

| | true (✓) | false (✗) |
|------------------------------------------------------|----------|-----------|
| Most modern laptop computers have web cams built in. | | |
| Desktop computers are not very portable. | | |
| All desktop computers have a touchpad built in. | | |
| Laptop computers are rarely supplied with a mouse. | | |

[2]

3

| | TRUE (✓) | FALSE (✗) |
|----------------------------------------------------|-------------|--------------|
| Most modern laptop computers have webcams built in | ✓ | |
| Desktop computers are not very portable | ✓ | |
| All desktop computers have a touchpad built in | | ✓ |
| Laptop computers are rarely supplied with a mouse. | ✓ | |

4 correct answers – 2 marks

2 or 3 correct answers – 1 mark

1 correct – 0 marks

[2]

May/June 2016/12

- 1 Write down the **most** appropriate input device which matches the following descriptions:

(a) This is provided with a laptop to imitate the functions of a mouse.

..... [1]

(b) This is not a mouse but is used to manoeuvre objects around the screen in computer video games.

..... [1]

(c) This is used to type in text.

..... [1]

(d) This is used for direct input of hard copy images.

..... [1]

- | | |
|--------------------------|-----|
| 1 (a) Touchpad | [1] |
| (b) Joystick/trackerball | [1] |
| (c) Keyboard | [1] |
| (d) scanner | [1] |

May/June 2016/12

2 Tick whether the following statements are true or false.

| | true (✓) | false (✓) |
|-----------------------------------------------------------------------|-------------|--------------|
| A microphone is an output device. | | |
| The Control Unit is part of the Central Processing Unit. | | |
| The Arithmetic and Logic Unit is part of the Central Processing Unit. | | |
| A temperature sensor is an input device. | | |

[2]

2

| | TRUE (✓) | FALSE (✓) |
|----------------------------------------------------------------------|-------------|--------------|
| A mouse is an output device | | ✓ |
| The Control Unit is part of the Central Processing Unit | ✓ | |
| The Arithmetic and Logic Unit is part of the Central Processing Unit | ✓ | |
| A temperature sensor is an input device | ✓ | |

4 correct answers – 2 marks

2 or 3 correct answers – 1 mark

1 correct – 0 marks

[2]

May/June 2016/12

18 Discuss why different user interfaces require the use of different types of input device.

.....

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.....

.....

.....

.....

.....

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.....

.....

.....

HW

[8]

Level 3 (7–8 marks)

Candidates will describe in detail at least two types of user interface
Detailed reasons why a keyboard is used with CLI systems will be given
Detailed reasons why pointing devices are used with GUI systems
Detailed reasons why different input devices relating to other different types of user interface are used may be given
Descriptions of different types of pointing device
The information will be relevant, clear, organised and presented in a structured and coherent format
Specialist terms will be used correctly and appropriately

Level 2 (4–6 marks)

Candidates will describe at least two types of user interface
Reasons why a keyboard is used with CLI systems will be given
Reasons why pointing devices are used with GUI systems
Reasons why different input devices relating to different types of user interface are used may be given
Different types of pointing device will be listed
For the most part, the information will be relevant and presented in a structured and coherent format
Examples will be given and will be mostly appropriate
Specialist terms will be used appropriately and for the most part correctly

Level 1 (1–3 marks)

Candidates will identify at least one user interface
Input devices may be in the form of a list
There will be little or no use of specialist terms
Errors of grammar, punctuation and spelling may be intrusive

Level 0 (0 marks)

Response with no valid content

Examples***Command Line Interface***

With a CLI Instructions must be typed to get a computer to carry out an action
keyboard is used to type
Typing is key component of CLI
With CLI syntax has to be precise
Devices other than a keyboard would be less accurate when entering text

- 1 Data can be input to a computer using different devices.

Write down the **most** appropriate input device which will enable you to:

- (a) type an essay

..... [1]

- (b) select options from a drop down menu whilst moving the device

..... [1]

- (c) read the temperature

..... [1]

- (d) fly an aircraft in a video game.

..... [1]

| | |
|------------------------|-----|
| 1 (a) Keyboard | [1] |
| (b) Mouse | [1] |
| (c) Temperature sensor | [1] |
| (d) Joystick | [1] |

- 1 There are a number of different internal hardware devices.

Write down the most appropriate type of internal hardware that fits the following descriptions:

- (a) A volatile device that is used to store data.

..... [1]

- (b) This is the main printed circuit board found in computer systems.

..... [1]

- (c) A non-volatile chip that stores the start-up commands.

..... [1]

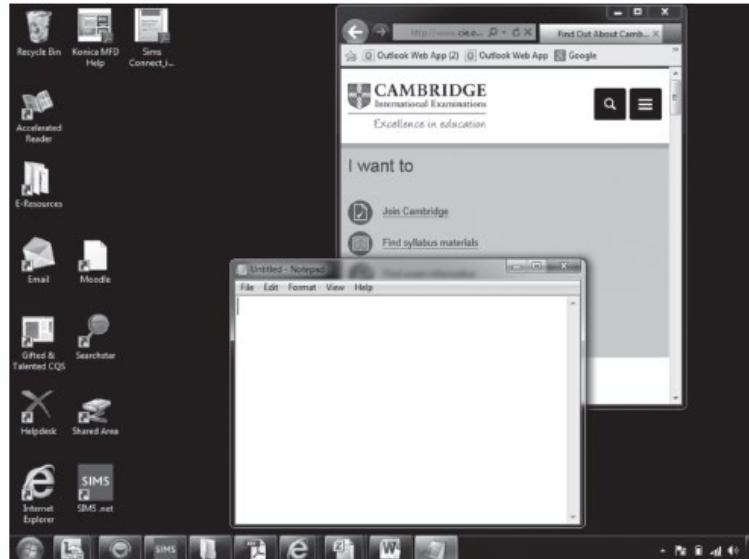
- (d) This electronic device provides a computer with the ability to produce sounds.

..... [1]

- | | |
|-----------------|-----|
| 1 (a) RAM | [1] |
| (b) Motherboard | [1] |
| (c) ROM | [1] |
| (d) Sound card | [1] |

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2



- (a) Give the type of interface shown above.

..... [1]

- (b) One of the features of this type of interface is an icon. Describe what is meant by the term icon.

..... [2]

- (c) Identify **one** way you would select an icon using this type of interface.

..... [1]

| | |
|-------------------------------------------------------------------------------|-----|
| 2 (a) Graphical User Interface or GUI | [1] |
| (b) An icon is a picture/image Used as a shortcut to a program/application | [2] |
| (c) Click/tap on it Use a pointer/gesture/mouse/enter key/pointing device | [1] |

October/November 2016/11

9 Virtual reality has an impact on everyday life.

(a) Name **two** devices that could be used with a virtual reality system.

| | |
|---------|-----------------------------------------------------------------------------------------|
| 1 |  HW |
| | |
| 2 | |
| | [2] |

(b) Virtual reality systems tend to be associated with gaming, but they are used in many different areas in everyday life.

Give **two** uses for virtual reality in everyday life.

| | |
|---------|-----|
| 1 | |
| | |
| 2 | |
| | [2] |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <p>9 (a) Two from:</p> <ul style="list-style-type: none"> Wand or joystick Treadmill Pressure mats Data gloves Headset/head mounted displays/Head mounted device(HMD) Goggles Steering/gaming wheels/consoles Pedals Paddles Cameras Motion sensors | [2] |
| <p>(b) Two from, for example:</p> <ul style="list-style-type: none"> Virtual museums Virtual theme parks Design of sports clothing Flight simulation Battlefield/combat simulation Virtual tours Medical training Walkthroughs Driving simulation <p>Any reasonable answers</p> | [2] |

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- 2 (a)** A computer system consists of hardware and software.

Explain what is meant by software.

.....

.....

[2]

- (b)** Name the type of software from its description.

(i) This type of software lets you manage the hardware and software resources.

.....

[1]

(ii) Give an example of this type of software.

.....

[1]

(iii) This type of software lets you carry out tasks such as creating a document or an image.

.....

[1]

(iv) Give an example of this type of software.

.....

[1]

2 (a) Two from:

Software is programs/set of instructions.
Software controls/runs a computer system/hardware.

[2]

(b) (i) System(s) (software)

[1]

(ii) For example: Operating system, file management system, utilities

[1]

(iii) Application(s) (software)

[1]

(iv) For example: Word processor, spreadsheet, database

[1]

October/November 2016/13

1 Tick whether the following statements are true or false.

| | true (✓) | false (✗) |
|-------------------------------------------------------------|---------------------|----------------------|
| Tablet computers have touch screens. | | |
| Smartphones will only connect to the internet through WiFi. | | |
| A tablet computer has a separate keyboard. | | |
| Smartphones use a touchpad. | | |

[2]

1 Tick whether the following statements are true or false.

| | true (✓) | false (✗) |
|--------------------------------------------------------------|---------------------|----------------------|
| Tablet computers have touch screens. | ✓ | |
| Smartphones will only connect to the internet through Wi-Fi. | | ✓ |
| A tablet computer has a separate keyboard. | | ✓ |
| Smartphones use a touchpad. | | ✓ |

[2]

4 correct answers – 2 marks

2 or 3 correct answers – 1 mark

0 or 1 correct answer – 0 marks

2

```

Administrator: Command Prompt - diskpart
Microsoft Windows [Version 6.0.6001]
Copyright <c> 2006 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>diskpart

Microsoft DiskPart version 6.0.6001
Copyright (C) 1999-2007 Microsoft Corporation.
On computer: WIN-DIIMKIGIOS6

DISKPART> list disk

Disk # Status Size Free Dyn Gpt
Disk 0 Online 50 GB 0 B

DISKPART>

```

- (a) Give the type of interface shown above.

..... [1]

- (b) Give a disadvantage of using this type of user interface.

..... [1]

- (c) Another type of interface is a graphical user interface (GUI).

Tick whether the following statements are true or false.

| | true (✓) | false (✓) |
|----------------------------------------------------------------------|-------------|--------------|
| A GUI involves the use of windows and menus. | | |
| User interaction with a GUI is intuitive. | | |
| A GUI takes up a lot of memory and resources. | | |
| Users have to learn a list of system commands in order to use a GUI. | | |

[2]

2 (a) Command line interface/CLI

[1]

- (b) One from:

more difficult to edit entered commands
need to know the commands
Incorrect commands can affect the operation of the computer.
Syntax needs to be exact for the program to work.

[1]

(c) Tick whether the following statements are true or false.

| | true (✓) | false (✗) |
|----------------------------------------------------------------------|-------------|--------------|
| A GUI involves the use of windows and menus. | ✓ | |
| User interaction with a GUI is intuitive. | ✓ | |
| A GUI takes up a lot of memory and resources. | ✓ | |
| Users have to learn a list of system commands in order to use a GUI. | | ✓ |

[2]

4 correct answers – 2 marks

2 or 3 correct answers – 1 mark

0 or 1 correct answer – 0 marks

3 Tick whether the following statements are true or false.

| | true (✓) | false (✗) |
|-----------------------------------------------------------|-------------|--------------|
| ROM is Real Optical Memory. | | |
| RAM stores the instructions you are currently working on. | | |
| ROM stores the BIOS. | | |
| RAM allows the user to read and write data. | | |

[2]

3 Tick whether the following statements are true or false.

| | true (✓) | false (✗) |
|-----------------------------------------------------------|-------------|--------------|
| ROM is Real Optical Memory. | | ✓ |
| RAM stores the instructions you are currently working on. | ✓ | |
| ROM stores the BIOS. | ✓ | |
| RAM allows the user to read and write data. | ✓ | |

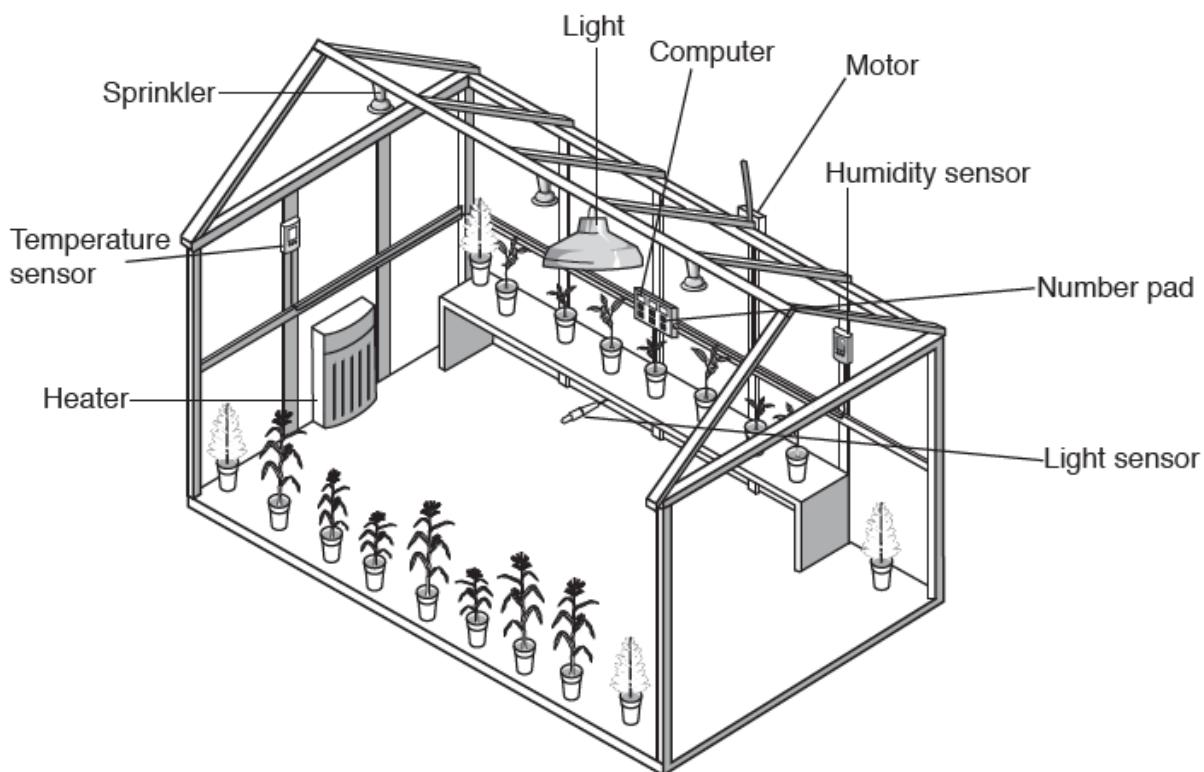
[2]

4 correct answers – 2 marks

2 or 3 correct answers – 1 mark

0 or 1 correct answer – 0 marks

- 1 This diagram shows a computer controlled greenhouse.



- (a) Identify three input devices which are shown in the diagram above.

1
2
3

[3]

- (b) Identify three output devices which are shown in the diagram above.

1
2
3

[3]

1 (a) Three from:

Temperature sensor
Light sensor
Humidity sensor
Number pad

[3]

(b) Three from:

Sprinkler
Heater
Light
Motor

[3]

11 Most computers have backing storage as well as main/internal memory (RAM/ROM).

(a) Explain why backing storage is needed.

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

[4]

11 (a) Four from:

If computer is switched off, work in RAM is lost but backing storage stores data for future use
More likely that data is accidentally deleted in RAM
RAM is more expensive than backing storage per unit of memory
RAM is bulkier than backing storage per unit of memory
Software package may be so large that it is physically impossible for RAM to store it.
Operating system may be so large that it is physically impossible for ROM to store it.
Data may need to be transferred from one computer to another and can't do that with RAM

[4]

(b) Describe why main/internal memory is needed.

.....
.....
.....
.....
.....
.....
.....
..... [4]

(b) Four from:

Memory is needed which cannot be changed – ROM

Memory is needed which can be changed – RAM

Instructions that need to be unchanged have to be stored such as BIOS/ program cycles in a washing machine/program instructions in games

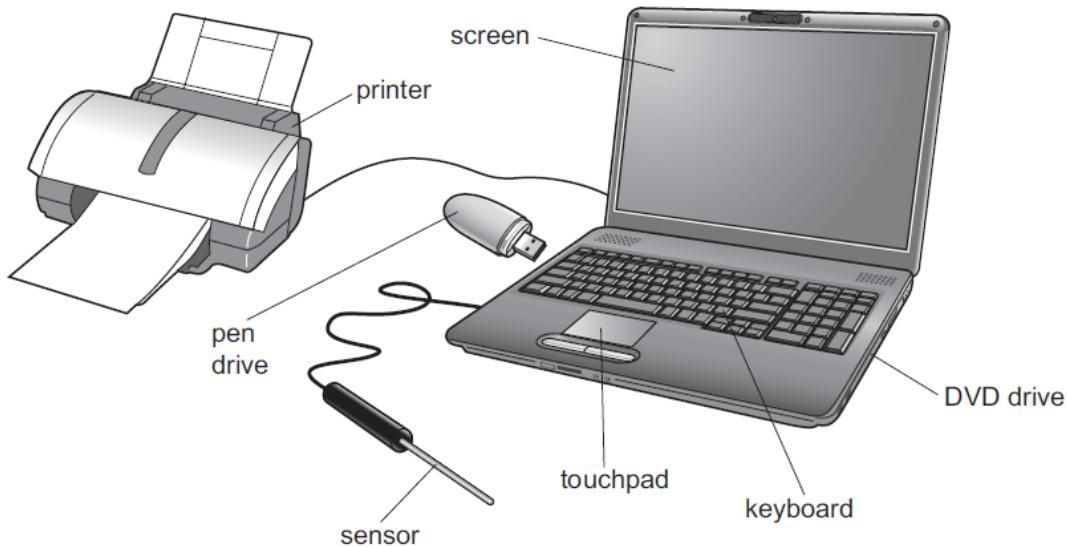
There needs to be memory that holds the work that is being currently done by the user

There needs to be memory that holds the software that is being currently used by the user

Non-volatile memory is needed – ROM

[4]

- 1 This diagram shows a laptop computer being used in a measuring experiment.



- (a) Apart from the keyboard, name two input devices shown in the diagram above.

1.....
2..... [2]

- (b) Name two output devices shown in the diagram above.

1.....
2..... [2]

- (c) Name two storage devices shown in the diagram above.

1.....
2..... [2]

| | | |
|---|----------------------------|------------|
| 1 | (a) Sensor Touchpad | [1] [1] |
| | (b) Printer Screen | [1] [1] |
| | (c) Pen drive DVD drive | [1] [1] |

May/June 2015/12

- 1 This diagram shows a tower PC.



- (a) Name **two** input devices apart from a keyboard and mouse, which could connect directly to the tower.

1

2

[2]

- (b) Name **two** storage **devices** which would be available in the PC shown above.

1

2

[2]

3 Below is a list
Tick the device

- (c) Name **two** output devices which could connect directly to the PC shown above.

1

2

[2]

| |
|------------------|
| 1 (a) Two from: |
| Joystick |
| Microphone |
| Tracker ball |
| Concept keyboard |
| Touch screen |
| Scanner |
| Digital camera |
| Graphics tablet |
| Webcam |

3

| | Input device ✓ | Output device ✓ | Storage device ✓ | |
|-----------------------------------|-----------------------|------------------------|-------------------------|-----|
| Making a backup of work | | | ✓ | [1] |
| Typing a document | ✓ | | | [1] |
| Printing out student records | | ✓ | | [1] |
| Reading details from a bar code | ✓ | | | [1] |
| Making a soft copy for future use | | | ✓ | [1] |

May/June 2015/13

- 1 This diagram shows a smart phone.



- (a) Name two input devices shown on the phone diagram.

1

2

[2]

- (b) Name one storage device which would be available in the phone shown above.

..... [1]

- (c) Identify three ways the phone shown above could be used to contact a bank apart from making a phone call to the bank.

1

.....

2

.....

3

.....

[3]

- 1 (a) Two from:

Touch screen
Microphone
(Push) button
Camera

[2]

- (b) One from:

(Flash) memory card reader

[1]

- (c) Three from:

Send emails
Send texts
Access website and send secure message

[3]

- 2 For each use, tick the **most** appropriate type of application software.

| Use | Modelling ✓ | Database ✓ | Word processing ✓ |
|-------------------------------------|----------------|---------------|----------------------|
| Writing a letter | | | |
| Flight simulation | | | |
| Storing student records in a school | | | |
| Producing a business card | | | |

[4]

2

| Use | Modelling ✓ | Database ✓ | Word Processing ✓ |
|-------------------------------------|----------------|---------------|----------------------|
| Writing a letter | | | ✓ |
| Flight simulation | ✓ | | |
| Storing student records in a school | | ✓ | |
| Producing a business card | | | ✓ |

[1]

[1]

[1]

[1]

- 3 Tick the type of computer which would be **most** appropriate for each use of ICT.

| Use | Mainframe ✓ | Laptop ✓ | Desktop ✓ |
|--------------------------------------------------------------------------|----------------|-------------|--------------|
| Entering data from a Biology survey while out of school | | | |
| Massive transactions which need the use of many CPUs | | | |
| Students who need to transport their computer from home to use in school | | | |
| Personal use with better performance at lower cost | | | |

[4]

3

| Use | Mainframe ✓ | Laptop ✓ | Desktop ✓ |
|--------------------------------------------------------------------------|----------------|-------------|--------------|
| Entering data from a Biology survey while out of school | | ✓ | |
| Massive transactions which need the use of many CPUs | ✓ | | |
| Students who need to transport their computer from home to use in school | | ✓ | |
| Personal use with better performance at lower cost | | | ✓ |

[1]

[1]

[1]

[1]

.....

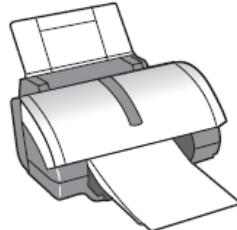
May/June 2014/11

1 Name the items A, B, C and D using the words from the list.

A



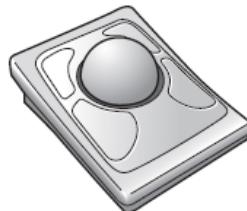
B



C



D



Desktop computer

Dot matrix printer

Graph plotter

Hard disc

Inkjet printer

Laptop computer

Optical disc

Trackerball

A _____

B _____

C _____

D _____ May/June 2014/11

- 1 A Desktop computer
B Inkjet printer
C Optical disc
D Trackerball

[1]
[1]
[1]
[1]

2 Identify two devices which are used in control systems to output data.

1 _____

2 _____ [2]

2 Two from:

Motor
Light
Heater
Monitor
Printer
Graph plotter
LED display
LCD display
Buzzer

May/June 2014/12

1 Name the items A, B, C and D using the words from the list.

A



B



C



D



Bar code reader

CD ROM

Desktop computer

Graph plotter

Graphics tablet

Laptop computer

Laser printer

Mouse

| | | | |
|----------|----------|-----------------|-----|
| 1 | A | Laptop computer | [1] |
| | B | Laser printer | [1] |
| | C | Bar code reader | [1] |
| | D | Graphics tablet | [1] |

2 Identify **two** input devices which are used in mobile phones when making a phone call.

1 [1]

2 [2]

- 2** Two from:
 Touch screen
 Microphone
 Buttons
 Keypad

[2]

May/June 2014/13

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

A



B



C



D



Bar Code Reader

CD ROM Drive

Digital Camera

Joystick

Memory Stick

Mouse

Speakers

Web cam

A _____

B _____

C _____

D _____

[4]

- 1 A Speakers
B Web cam
C Joystick
D Memory stick

[1]
[1]
[1]
[1]

- 2 Identify two features of a Graphical User Interface.

1 _____

May/June 2014/13

2 _____

- 2 Two from:
Windows
Icons
Menus
Pointer/Pointing device

[2]

- 3 Complete the table below by identifying an appropriate type of software which would be used to carry out each of the following tasks.

| Software | Task |
|----------|-------------------------------|
| | Typing a letter |
| | Calculating profit and loss |
| | Viewing pages on the Internet |
| | Creating a slide show |

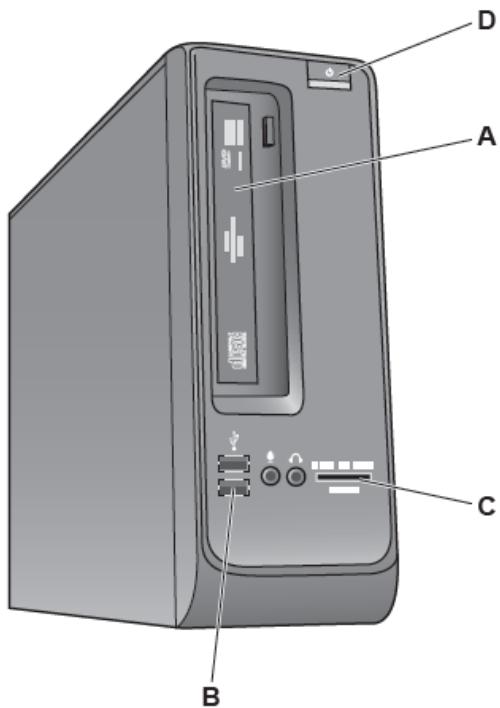
[4]

3

| Software | Task | |
|---------------------|-------------------------------|-----|
| Word processing/DTP | Typing a letter | [1] |
| Spreadsheet | Calculating profit and loss | [1] |
| Web browser | Viewing pages on the internet | [1] |
| Presentation | Creating a slide show | [1] |

October/November 2014/11

- 1 Here is a PC tower. Name the items A, B, C, and D using different words from the list.



hard disk drive
memory card slot
printer leads

LCD
on/off button
USB ports

LED
optical disc drive

A B

C D

[4]

- 1 A optical disc drive
C memory card slot

- B USB ports
D on/off button

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4 Tick the box which best describes each of the following items.

| | Hardware | Software |
|----------------------------|----------|----------|
| Spreadsheet | | |
| Digital camera | | |
| Bar code reader | | |
| Web page authoring program | | |

[4]

4

| | Hardware | Software |
|----------------------------|----------|----------|
| Spreadsheet | | ✓ |
| Digital camera | ✓ | |
| Bar code reader | ✓ | |
| Web page authoring program | | ✓ |

[1]

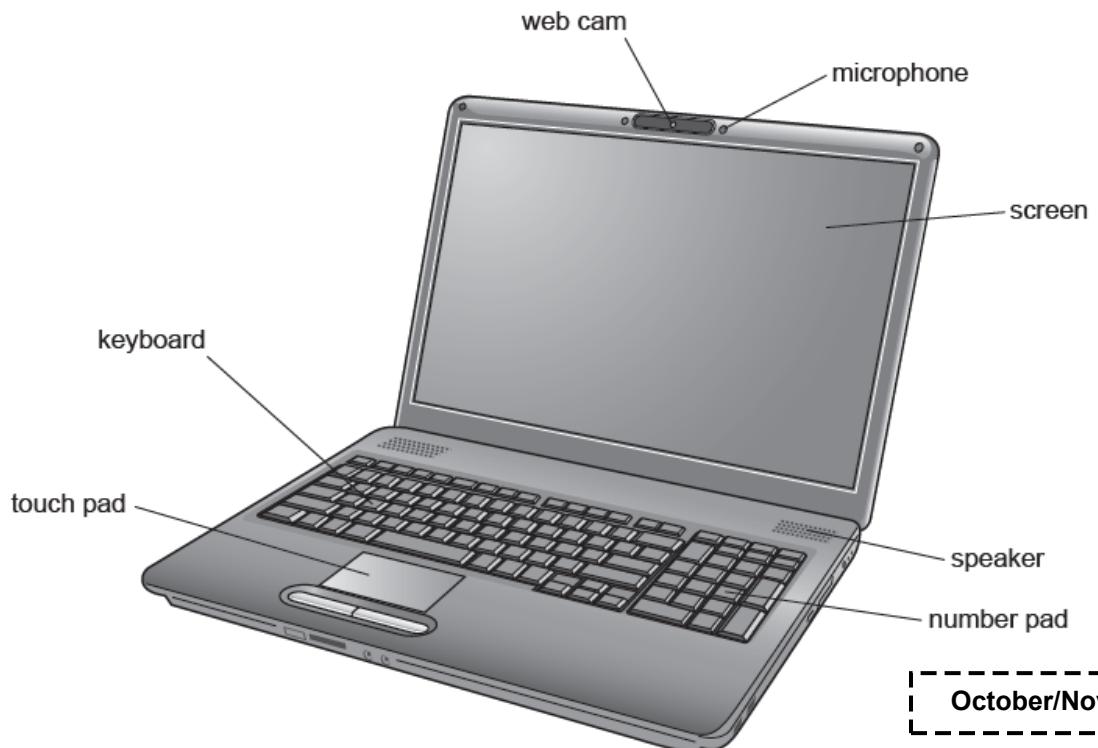
[1]

[1]

[1]

October/November 2014/12

- 1 This diagram shows a laptop computer.



October/November 2014/12

- (a) Name two input devices shown in the diagram above.

1

2

[2]

- (b) Name two output devices shown in the diagram above.

1

2

[2]

- 1 (a) Two from:
Number pad
Keyboard
Microphone
Web cam
Touchpad

[2]

- (b) Screen
Speaker

[1]

[1]

- 4 Complete the table below by identifying the **most** appropriate type of **software** which would be used to carry out each of the following tasks.

| Software | Task |
|----------|----------------------------------------------|
| | Monitoring atmospheric pressure |
| | Keeping temperature constant in a greenhouse |
| | Modelling personal finances |
| | Creating a slideshow |
| | Finding information on the internet |

October/November 2014/12 [5]

4

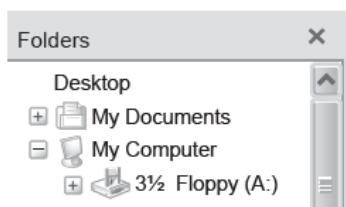
| Software | Task | |
|-----------------------|----------------------------------------------|-----|
| Measuring program | monitoring atmospheric pressure | [1] |
| Control program | keeping temperature constant in a greenhouse | [1] |
| Spreadsheet | Modelling personal finances | [1] |
| Presentation software | Creating a slide show | [1] |
| Search engine | finding information on the internet | [1] |

- 6 (a) Write down the type of interface shown in the picture below.



[1]

- (b) Write down the type of interface shown in the picture below.



[1]

6 (a) Command Line Interface/CLI

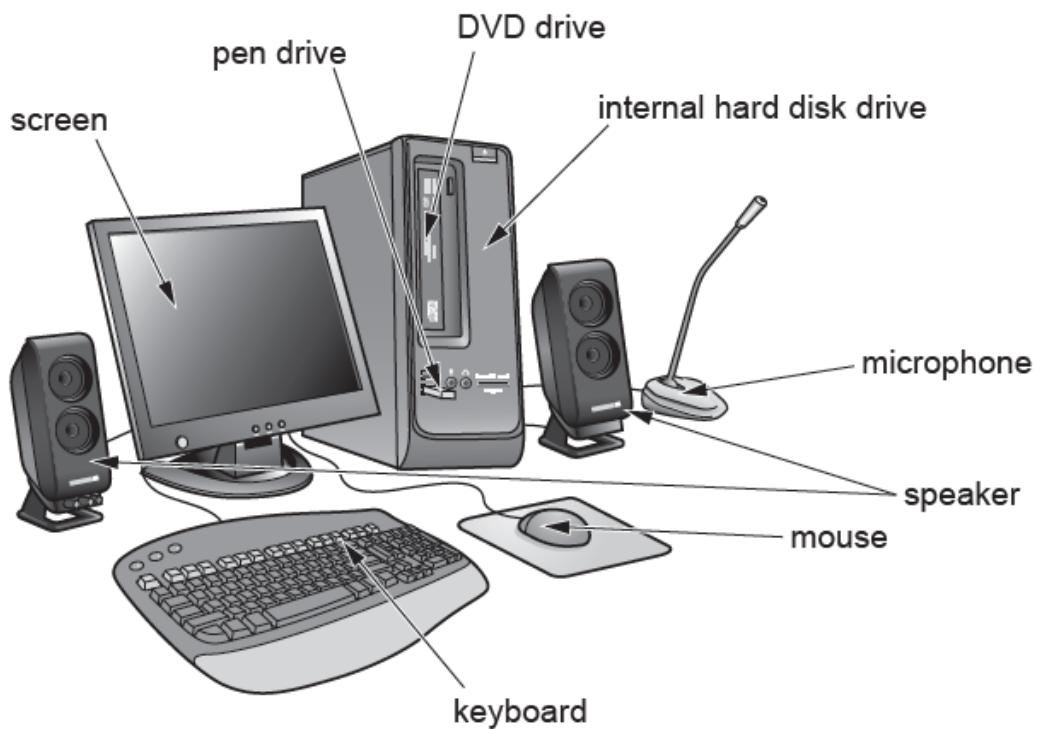
[1]

(b) Graphical User Interface/GUI

[1]

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1 This diagram shows a desktop computer.



(a) Name **two** input devices shown in the diagram above.

1

2

[2]

(b) Name **two** output devices shown in the diagram above.

1

2

[2]

(c) Name **two** storage devices shown in the diagram above.

1

2

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[2]

1 (a) **Two** from:
Microphone
Keyboard
Mouse

[2]

(b) Speakers
Screen

[1]
[1]

(c) **Two** from:
DVD drive
Internal hard disc drive
Pen drive

[2]