

**MS3**  
**£3.00**

**WELSH JOINT EDUCATION COMMITTEE**  
**CYD-BWYLLGOR ADDYSG CYMRU**

**General Certificate of Secondary Education**

**Tystysgrif Gyffredinol Addysg Uwchradd**

**MARKING SCHEMES**

**SUMMER 2007**

**INFORMATION AND  
COMMUNICATION TECHNOLOGY**

**WJEC**  
**CBAC**

## **INTRODUCTION**

The marking schemes which follow were those used by the WJEC for the 2007 examination in GCSE INFORMATION AND COMMUNICATION TECHNOLOGY. They were finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conferences were held shortly after the papers were taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conferences was to ensure that the marking schemes were interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conferences, teachers may have different views on certain matters of detail or interpretation.

The WJEC regrets that it cannot enter into any discussion or correspondence about these marking schemes.

## ICT - FOUNDATION TIER

### PAPER 1

| Question No                        | Answer   | Max mark |                   |                    |   |                      |  |                                    |   |             |   |   |
|------------------------------------|--|----------|-------------------|--------------------|---|----------------------|--|------------------------------------|---|-------------|---|---|
| 1                                  | <p><b>Tick two boxes only</b></p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 2px;">CAD</td> <td style="width: 40px;"></td> </tr> <tr> <td style="padding: 2px;">Address books</td> <td style="text-align: center; vertical-align: middle;">✓</td> </tr> <tr> <td style="padding: 2px;">Drawing graphs</td> <td></td> </tr> <tr> <td style="padding: 2px;">Scanners</td> <td></td> </tr> <tr> <td style="padding: 2px;">Attachments</td> <td style="text-align: center; vertical-align: middle;">✓</td> </tr> </table> <p><i>If three boxes ticked 1 mark only</i><br/> <i>If 4 boxes ticked no mark</i></p> | CAD      |                   | Address books      | ✓ | Drawing graphs       |  | Scanners                           |   | Attachments | ✓ | 2 |
| CAD                                |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Address books                      | ✓  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Drawing graphs                     |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Scanners                           |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Attachments                        | ✓  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| 2(a)                               | <p>A network of networks / WAN/World Wide Web</p> <p>NOT IDEA OF LARGE NETWORK<br/>NOT 'WORLD WIDE CONNECTION'</p>   | 1        |                   |                    |   |                      |  |                                    |   |             |   |   |
| 2(b)                               | <p>1 mark each</p> <p>(i)     <b>Advertise products.</b><br/>          WEBSITE</p> <p>(ii)    <b>Look for information</b><br/>          SEARCH ENGINE</p> <p>(iii)   <b>Allow customers to buy goods online</b><br/>          SHOPPING CART</p>  | 3        |                   |                    |   |                      |  |                                    |   |             |   |   |
| 3 (a)                              | <p>OMR</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="width: 80%;"></td> <td style="text-align: center;">Tick one box only</td> </tr> <tr> <td style="padding: 2px;">Scanning postcodes</td> <td></td> </tr> <tr> <td style="padding: 2px;">Reading bank cheques</td> <td></td> </tr> <tr> <td style="padding: 2px;">Taking a class attendance register</td> <td style="text-align: center; vertical-align: middle;">✓</td> </tr> </table> <p><i>If more than one box ticked no marks</i></p>  |          | Tick one box only | Scanning postcodes |   | Reading bank cheques |  | Taking a class attendance register | ✓ | 1           |   |   |
|                                    | Tick one box only  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Scanning postcodes                 |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Reading bank cheques               |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Taking a class attendance register | ✓  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| 3(b)                               | <p>Tick <b>one</b> box to show which is a suitable example of the use of OCR.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="width: 80%;"></td> <td style="text-align: center;">Tick one box only</td> </tr> <tr> <td style="padding: 2px;">Scanning postcodes</td> <td style="text-align: center; vertical-align: middle;">✓</td> </tr> <tr> <td style="padding: 2px;">Reading bank cheques</td> <td></td> </tr> <tr> <td style="padding: 2px;">Taking a class attendance register</td> <td></td> </tr> </table> <p><i>If more than one box ticked no marks</i></p>   |          | Tick one box only | Scanning postcodes | ✓ | Reading bank cheques |  | Taking a class attendance register |   | 1           |   |   |
|                                    | Tick one box only  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Scanning postcodes                 | ✓  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Reading bank cheques               |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |
| Taking a class attendance register |  |          |                   |                    |   |                      |  |                                    |   |             |   |   |

|  |   |                                |          |  |   |   |   |          |
|--|---|--------------------------------|----------|--|---|---|---|----------|
| 3(c)   | Any two of;<br>Country of origin/Country code /'origin code'/Country of manufacture<br>Manufacturers code / number / id<br>Product code<br>Check digit<br><i>NB Code or number but not name</i>   | <b>2</b>                       |          |  |   |   |   |          |
| 4 (a)  | Any four of;<br><i>Change fonts / font style / wordart /different fonts (not font by itself)</i><br>Bold fonts ( <i>not bold by itself</i> )<br>Change font size / Font size<br>Insert picture/clipart/graphic<br>Add border/thicker border /border art <i>not 'border'</i><br>Larger size/paper<br>Centre text/ centre alignment/Centre justification ( <i>Not 'centre' by itself, not 'alignment'</i> ) | <b>4</b>                       |          |  |   |   |   |          |
| 4 (b)  | <i>Date / New Years Day / What charity / Contact details / Distance / Prize money / entry fee / age groups</i><br><br><i>Any reasonable answer</i>  | <b>1</b>                       |          |  |   |   |   |          |
| 4 (c)  | <i>Any two of;</i><br><br>Flier<br>Newspaper adverts / web<br>Letters<br>Programme<br>ID Cards<br>Tickets<br>Entry form / application form<br>Sponsorship form<br>Newsletter<br>Leaflet<br><i>Any reasonable answer</i>   | <b>2</b>                       |          |  |   |   |   |          |
| 4 (d)  | <table border="1"> <tr> <td>Check the spelling is correct.</td> <td><b>B</b></td> </tr> <tr> <td>Take data from a database and put in into a letter automatically</td> <td>A</td> </tr> <tr> <td>Suggest different words with a similar meaning.</td> <td>C</td> </tr> </table>   | Check the spelling is correct. | <b>B</b> | Take data from a database and put in into a letter automatically | A | Suggest different words with a similar meaning. | C | <b>2</b> |
| Check the spelling is correct.                                   | <b>B</b>  |                                |          |  |   |   |   |          |
| Take data from a database and put in into a letter automatically | A   |                                |          |  |   |   |   |          |
| Suggest different words with a similar meaning.                  | C   |                                |          |  |   |   |   |          |
| 5 (a)  | £120 / 120  | <b>1</b>                       |          |  |   |   |   |          |
| 5 (b)  | A =B5+C5+D5+E5<br>or<br>C =SUM(B5:E5)   | <b>1</b>                       |          |  |   |   |   |          |
| 5 (c) (i)  | Line / trend / linear / line chart  | <b>1</b>                       |          |  |   |   |   |          |

|            |   |          |
|------------|---|----------|
| 5 (c) (ii) | Bar graph<br>Column Graph<br>Pie chart<br>Histogram<br><i>Not flowchart or scatter graph</i>  | <b>1</b> |
| 5 (d)      | Accurate calculations<br>What if investigations<br>Produce / print bills<br>Saves data and formula<br>Automatic recalculation<br>Can sort / search / filter data<br><i>Not 'examples of use'</i><br><i>Not 'easy'</i><br><i>Must not be general must relate to spreadsheet</i><br><i>Any reasonable answer.</i>   | <b>2</b> |
| 6(a)       | 7856 / Eggs   | <b>1</b> |
| 6(b)       | Cheque<br>Debit card<br>Credit card<br>Store card<br>Loyalty card / bonus points<br>Vouchers<br>EFT<br><br><i>Only allow smart card if explained as a store or loyalty type card.</i>   | <b>3</b> |
| 6(c)       | <i>Any two advantages;</i><br>Customer <b>service at the POS</b> is much quicker, shorter queues<br><i>(Not 'faster'/'saves time' unless explained)</i><br>Few mistakes in charging customers..<br>Itemised bill can be provided for the customer.<br>Cash back<br>Weighing scales/ don't have to weigh goods earlier/convenience factor<br>Automatic reordering so item likely to be in stock<br>Idea of stock control/reorder levels<br>Can Top up mobile phones / electricity cards<br>Price check<br>Lottery Ticket<br><i>Any reasonable answer</i> | <b>2</b> |

| 6 (d)                                | <p><i>Any one disadvantage;</i><br/> Power cuts / computer crash<br/> More expensive goods<br/> Embarrassment if cards don't work<br/> Delays when servers busy<br/> Delays if code not on file<br/> Code not readable<br/> Inaccurate data<br/> <i>Any reasonable answer</i></p>  | <b>1</b>                             |                        |                               |          |                         |                       |          |
|--------------------------------------|--|--------------------------------------|------------------------|-------------------------------|----------|-------------------------|-----------------------|----------|
| 7 (a)                                | <i>Customer Number or Item code</i>  | <b>1</b>                             |                        |                               |          |                         |                       |          |
| 7 (b)                                | Delivery or Size   | <b>1</b>                             |                        |                               |          |                         |                       |          |
| 7 (c)                                | 2 or<br>A Khaliq and D Jones   | <b>1</b>                             |                        |                               |          |                         |                       |          |
| 7 (d)                                | <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><i>Fieldname</i></th> <th style="text-align: center;"><i>Search criteria</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>Delivery</b></td> <td style="text-align: center;"><b>Y</b></td> </tr> <tr> <td></td> <td style="text-align: center;"><i>Or</i>      <b>True</b></td> </tr> </tbody> </table> | <i>Fieldname</i>                     | <i>Search criteria</i> | <b>Delivery</b>               | <b>Y</b> |                         | <i>Or</i> <b>True</b> | <b>1</b> |
| <i>Fieldname</i>                     | <i>Search criteria</i>   |                                      |                        |                               |          |                         |                       |          |
| <b>Delivery</b>                      | <b>Y</b>   |                                      |                        |                               |          |                         |                       |          |
|                                      | <i>Or</i> <b>True</b>  |                                      |                        |                               |          |                         |                       |          |
| 7 (e)                                | <p>Must be Large <b>or</b> Small<br/> Must contain 5 letters<br/> List / lookup wizard/table / combo box<br/> <i>Not 'use L and S' if only coding suggested</i><br/> <i>Not just type it in properly</i></p>   | <b>1</b>                             |                        |                               |          |                         |                       |          |
| 7 (f)                                | <p><i>If more than one box ticked no marks</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td>Information is raw facts and figures</td> <td></td> </tr> <tr> <td>Information is processed data</td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Information is the news</td> <td></td> </tr> </tbody> </table>   | Information is raw facts and figures |                        | Information is processed data | ✓        | Information is the news |                       | <b>1</b> |
| Information is raw facts and figures |  |                                      |                        |                               |          |                         |                       |          |
| Information is processed data        | ✓  |                                      |                        |                               |          |                         |                       |          |
| Information is the news              |  |                                      |                        |                               |          |                         |                       |          |
| 7 (g)                                | <p>Faster searches / faster access to data / faster access<br/> Do sorts<br/> Increased security / backups / password protect files / access rights<br/> Easier to edit / easier to search<br/> Can use it in a mail merge<br/> Saving on office space<br/> <i>Not draw graphs unless qualified with a suitable example</i><br/> <i>Not 'easier access or easier to find' unless well qualified</i><br/> <i>Any reasonable answer</i></p>    | <b>1</b>                             |                        |                               |          |                         |                       |          |

|       |  |          |
|-------|--|----------|
| 8 (a) | <p><b>1 mark for suitable sensor</b><br/> Pressure sensor /pressure pad<br/> Light beam<br/> Light sensor<br/> Laser<br/> Infrared<br/> Movement<br/> <i>Any reasonable answer. Not alarm</i><br/> <b>1 mark</b> Testing a condition / if pressed /broken<br/> <b>1 mark</b> computer response /control of a device /alarm</p>   | <b>3</b> |
| 8 (b) | <p><i>Any two of;</i><br/> Soil moisture/humidity<br/> PH<br/> Heat / temperature sensor<br/> Humidity / air humidity<br/> Light/sunlight<br/> <i>Can't give 'humidity' twice</i><br/> <i>Any reasonable answer. but must relate to environment</i></p>  | <b>2</b> |
| 9 (a) | <p>Any three of;<br/> Using the Internet to find out things / websites / pictures<br/> (Condone package name e.g.Word )/ Wordprocessing to write report<br/> (Condone package name e.g. Access)/Databases to search or process data<br/> Scanners to scan pictures<br/> CD ROMs <i>encyclopaedia to lookup information</i><br/> Email tutors<br/> Chat lines to tutors<br/> Sensors in science<br/> USB / floppy discs to save work/backup work<br/> (Condone package name e.g.) Powerpoint to make a slide show<br/> Digital cameras to take <i>photos</i><br/> Spellchecker to look for spelling mistakes<br/> Online revision sites.<br/> Videoconferencing to talk to pupils in a different country<br/> <i>Must be a description of what HW or SW can be used for</i><br/> <i>Any reasonable answer</i></p> | <b>3</b> |
| 9 (b) | <p><i>Any two of;</i><br/> Windows<br/> Icons / picture that loads program<br/> Menus<br/> Pointers<br/> Help/screen assistant<br/> Tutorials<br/> Videos<br/> Interactive elements<br/> Intuitive features<br/> <i>Any reasonable answer</i></p>  | <b>2</b> |

|        |  |          |
|--------|--|----------|
| 10 (a) | Shared files / data<br>Shared programs<br>Shared hardware<br>Software installed once so saves time<br>Email<br>Monitor use<br>Use any computer on the network<br><i>Any reasonable answer</i>  | <b>2</b> |
| 10 (b) | <p><b>1 mark problem and 1 mark prevention x 2</b></p> <p><b>Problem</b>            <b>Hacking /hackers/</b><br/>         Prevention           Passwords<br/>                                      Encryption<br/>                                      Smart Cards<br/>                                      Firewalls</p> <p><b>Problem</b>            <b>Computer fraud/data theft/identity theft prevention</b><br/>         Use only secure sites<br/>         Passwords</p> <p><b>Problem</b>            <b>Destroying data prevention</b><br/>         make read only / write protect notch<br/>         Smart cards to restrict access to rooms</p> <p><b>Problem</b>            <b>Spreading a virus / viruses</b><br/>         Prevention           Virus detection and eradication programs/ 'anti virus' software<br/>                                      Don't open unknown emails<br/>                                      Don't download onto hard disc<br/>                                      Firewalls if not used above</p> <p><b>Problem</b>            <b>Cyber bullying /harassment/abusive Emails / grooming / specific abuse</b><br/>         Prevention           Monitor emails<br/>                                      Monitor blogging sites<br/>                                      Monitor mobile phone calls<br/>                                      Don't give out personal details</p> <p><b>Problem</b>            <b>Distribute pornographic material</b><br/>         Prevention           Monitor emails<br/>                                      Monitor blogging sites /web pages<br/>                                      Monitor mobile phone calls</p> <p><i>Prevention mark ok if crime not named correctly</i><br/> <i>Not the same prevention to be used twice</i><br/> <i>Any reasonable answer</i></p> | <b>4</b> |

|        |   |           |
|--------|---|-----------|
| 11(a)  | Print mini statement<br>Transfer money / send money to another account not 'place'<br>Change PIN<br>Pay in cash / cheques<br>Pay bills<br>Get top ups / top up mobile phones<br>Get / see balance / print balance<br>Print receipt<br>Order cheque book<br>Order theatre tickets<br>Order statement<br>Choose language<br>Give to charity<br><i>Any reasonable answer</i>   | <b>3</b>  |
| 11 (b) | <b><i>Online banking</i></b><br>Available 24 / 7 /365 / done anytime<br>No need to travel to bank / save time /disabled people no need to travel / don't have to leave home / can be done at home<br>– Save transport cost<br>– Transfer funds <b>quickly</b> / Faster only if qualified / quicker than having to go <b>into</b> the bank<br>– Banks need fewer counter staff<br>– Pay bills online<br>– Check account from abroad<br>– No face to face communication needed<br><i>NOT 'no waiting' unless qualified</i><br><i>NOT 'privacy issues'</i><br><i>Any reasonable answer</i> | <b>2</b>  |
|        | <b>TOTAL</b>  | <b>60</b> |

**ICT - FOUNDATION TIER**

**PAPER 2**

**Question 1**

| <i>Device</i>  | <i>Input</i> | <i>Output</i> |
|----------------|--------------|---------------|
| Mouse          | ✓            |               |
| Monitor        |              | ✓             |
| Printer        |              | ✓             |
| Scanner        | ✓            |               |
| Speaker        |              | ✓             |
| Digital Camera | ✓            |               |

*One mark for each correct answer. No marks if both columns ticked for any device, unless one is clearly crossed out.*

**TOTAL FOR QUESTION 6**

**Question 2**

- (a) (i) Read Only Memory 1
- (a) (ii) Random Access Memory 1
- (b) (i) RAM is used to store data/software (when the computer is being used. 1
- (b) (ii) ROM is used to store data/software when the computer is switched off. 1

*Three ticks no marks*

*Two ticks no marks*

- (c) Gigabyte 1
- (d) hard disk, floppy disk, magnetic tape, usb stick/flash drive, zip drive/jazz drive (any two) 2
- (e) CD ROM, DVD 1

**TOTAL FOR QUESTION 8**

**Question 3**

- (i) Banks make great use of **MICR** 1
- (ii) One use of **OCR** 1
- (iii) The National Lottery uses **OMR** 1

**TOTAL FOR QUESTION 3**

**Question 4**

- (a) Any three from
  - Personal data should be up to date and accurate
  - Data to be adequate, relevant, not excessive 3 x 1
  - Data should not be kept longer than necessary
  - Must only be used for the purpose collected
  - Not to be transferred to countries outside EU or without adequate provision
  - Fairly and lawfully processed
  - Kept secure against loss
  - Processed within the rights of data subjects

*(Accept slightly different wording if the meaning is clear, but take care with duplication)*
- (b) To view the data / to ask for (incorrect) data to be put right. 1
 

Right to compensation if something goes wrong and the data hasn't been changed.
- (c) National Security, law and order, inland revenue, small clubs, home use, company payroll, company flyer distribution, VAT. 1

**TOTAL FOR QUESTION 5**

**Question 5**

- |     |  |   |
|-----|--|---|
| (a) | Local  | 1 |
|     | Area   | 1 |
|     | Wide   | 1 |
| (b) | Any 2 from   | 2 |
|     | Share hardware, share software, share data, better communications, can access work from any station, easier to backup, central monitoring shared internet. |   |
| (c) | ID's or password, prevent from accessing (lock), Biometric, firewall, encryption   | 1 |

**TOTAL FOR QUESTION 6**

**Question 6**

- |     |   |   |
|-----|---|---|
| (a) | <b>software</b> or <b>controls</b> the computer | 1 |
| (b) | Manages the memory                              | 1 |
|     | Informs the user                                | 1 |

*Three ticks (2 correct) then 1 mark. Three ticks (1 correct) 0 marks*

- |     |                   |                         |   |
|-----|-------------------|-------------------------|---|
| (c) | Many travel       | <b>Multi-access</b>     | 1 |
|     | Produce gas bills | <b>Batch processing</b> | 1 |
| (d) | Any 2 from        |                         | 2 |

windows, icons, menu/mouse, pointer, background, help, tutorials, customisation, common layout, accessibility function, shortcut, button, desktop, WIMP (1 mark)

**TOTAL FOR QUESTION 7**

**Question 7**

- |     |   |   |
|-----|---|---|
| (a) | 5   | 1 |
| (b) | 4   | 1 |
| (c) | (i) number, currency, real  | 1 |
|     | (ii) text, string, alphanumeric   | 1 |
|     | (iii) Any 2 from<br>new stock added<br>video deleted (out of date)<br>rental cost<br>changes/video out of stock | 2 |

**TOTAL FOR QUESTION 6**

**Question 8**

- |     |  |   |
|-----|--|---|
| (a) | Any 2 from<br>Range, type, length, input mask, check digit, list of choices, presence,<br>format hash total, batch total | 2 |
| (b) | (i) Visual check - Proof reading   | 1 |
|     | (ii) double entry  | 1 |
| (c) | 14 12 60 ✓   | 1 |
|     | 03 April 71 April <b>INCORRECT digits (numbers) required</b>   | 1 |
|     | 11 45 81 45 <b>INCORRECT 12 is max</b>   | 1 |

**TOTAL FOR QUESTION 7**

**Question 9**

- |     |   |   |
|-----|---|---|
| (a) | <b>Devices</b> which have <b>built in microprocessors</b> /devices with chip in it          | 2 |
| (b) | Any 2 reasonable answers<br>telephones, microwaves, missiles, cameras, microwave ovens etc. | 2 |
| (c) | Any 2 (distinct) from<br>work 24/7 , consistency, dangerous areas, quicker to build         | 2 |

**TOTAL FOR QUESTION 6**

**Question 10**

- (a) Any 2 from 2  
Avoids double booking , gives up to the minute information on the seat bookings, allows them to run fuller, allows them to vary prices.
- (b) **Analysis** Any 2 from 2  
Interviews, observations, questionnaires, inspect existing documentation, Background, Aims, problem definition
- Design** Any 2 from 2  
Hardware, software, data flow, alternative methods of solution, security, test strategy, processing stages, data validation, data capture form, data structure form, outline of documents, spreadsheet outline, mail merge design, report design

**TOTAL FOR QUESTION 6**

**TOTAL FOR PAPER 6**

## ICT - HIGHER TIER

### PAPER 1

| Question No                 | Answer   | Max mark        |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
|-----------------------------|--|-----------------|----------------|-------|----------------------------|------------------------|--------------------------------|---------|-----------------------|-----------|----------------|----------|---------------------|---------|---|-----------------------------|--------------------------|------------------|----------------|------------|--|---------|---|----------|
| 1 (a)                       | <p>Any two of;</p> <p>Change fonts / font style / WordArt /different fonts<br/><i>(not font by itself)</i></p> <p>Bold fonts( <i>not bold by itself</i>)</p> <p>Change font size / Font size</p> <p>Insert picture/clipart/graphic</p> <p>Add border/thicker border /border art <i>not 'border'</i></p> <p>Larger size/paper</p> <p>Centre text/ centre alignment/Centre justification (<i>Not 'centre' by itself, not 'alignment'</i>)</p>  | <b>2</b>        |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| 1 (b)                       | <p><i>Any two of;</i></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left;"><b>Document</b></th> <th style="text-align: left;"><b>Purpose</b></th> </tr> </thead> <tbody> <tr> <td>Flier</td> <td>To advertise event locally</td> </tr> <tr> <td>Newspaper adverts /web</td> <td>To advertise to wider audience</td> </tr> <tr> <td>Letters</td> <td>To inform competitors</td> </tr> <tr> <td>Programme</td> <td>Order of races</td> </tr> <tr> <td>ID Cards</td> <td>To identify runners</td> </tr> <tr> <td>Tickets</td> <td>To allow people in (<i>not to see how many people are coming</i>)</td> </tr> <tr> <td>Entry form/application form</td> <td>To enter the competition</td> </tr> <tr> <td>Sponsorship form</td> <td>To raise funds</td> </tr> <tr> <td>Newsletter</td> <td>To give a wide of information e.g. about the charity</td> </tr> <tr> <td>Leaflet</td> <td>To give parents information about the event</td> </tr> </tbody> </table> <p><i>(Allow only 1 'to advertise event' unless qualified but give credit for naming two documents)</i></p> <p><i>Can give second half e.g. if say database read as list do not give the mark for database but if second part could be a list then award mark.</i></p> <p><i>Any reasonable answer</i></p> | <b>Document</b> | <b>Purpose</b> | Flier | To advertise event locally | Newspaper adverts /web | To advertise to wider audience | Letters | To inform competitors | Programme | Order of races | ID Cards | To identify runners | Tickets | To allow people in ( <i>not to see how many people are coming</i> ) | Entry form/application form | To enter the competition | Sponsorship form | To raise funds | Newsletter | To give a wide of information e.g. about the charity | Leaflet | To give parents information about the event | <b>4</b> |
| <b>Document</b>             | <b>Purpose</b>   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Flier                       | To advertise event locally   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Newspaper adverts /web      | To advertise to wider audience   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Letters                     | To inform competitors  |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Programme                   | Order of races   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| ID Cards                    | To identify runners  |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Tickets                     | To allow people in ( <i>not to see how many people are coming</i> )  |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Entry form/application form | To enter the competition   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Sponsorship form            | To raise funds   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Newsletter                  | To give a wide of information e.g. about the charity   |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| Leaflet                     | To give parents information about the event  |                 |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |
| 2 (a)                       | <p>OMR</p> <p>School registers</p> <p>Lottery tickets</p> <p>Order forms</p> <p>Exam papers</p> <p>Exam entries</p> <p>Gas meter reading</p> <p><i>Any reasonable answer</i></p>   | <b>1</b>        |                |       |                            |                        |                                |         |                       |           |                |          |                     |         |   |                             |                          |                  |                |            |  |         |   |          |

|       |   |          |
|-------|---|----------|
| 2 (b) | OCR<br>Postcodes<br>Application forms<br>Scanning in text / conversion of handwriting to text/Exam papers <i>but not twice</i><br>Exam papers <i>not twice</i><br>Exam entries <i>not twice</i><br>Gas meter reading <i>not twice</i><br><br><i>Any reasonable answer</i>   | <b>1</b> |
| 3(a)  | A = SUM(C2:E2)<br>OR<br>C = C2+D2+E2  | <b>1</b> |
| 3 (b) | B2*5 (condone if they use Sum around expression)  | <b>1</b> |
| 3 (c) | Line / trend /linear /line chart ( <i>not frequency</i> )   | <b>1</b> |
| 3 (d) | <b>1 mark for example or use</b><br><br>e.g. - Financial forecasting<br>- Safety test<br>- Car or engine diagnosis<br>- Learning to drive<br><br>NOT CAD e.g. 3D simulation of design features of the car<br><br><b>1 mark for description of <u>predictive element</u> <i>not monitoring</i></b><br><br>e.g.<br>- could predict what would happen if reduce prices by 10 %<br>- what would happen to car in 30 mile an hour crash<br>- running through simulations of common faults<br>- Change test condition met | <b>2</b> |
| 3 (e) | Not 100 % accurate /Not accurate in all possible cases/not all scenarios can be tested ( <i>need some idea of the degree of accuracy</i> )<br><i>Not 'Not accurate' or 'it may be wrong'</i><br>Difficult to use without training<br>Requires complex programming/need complex user skills<br>GIGO<br>Cost only if qualified  | <b>1</b> |

|            |   |          |
|------------|---|----------|
| 4 (a) (i)  | <p>Any two of;</p> <ul style="list-style-type: none"> <li>– 24/7 / 365 days</li> <li>– Available many locations</li> <li>– No need to take foreign currency or travellers cheques abroad</li> <li>– Faster only if qualified e.g. Quicker than going <u>into</u> the bank</li> <li>– Reduces queues <u>inside</u> the banks</li> <li>– Can choose the language they require e.g. abroad</li> </ul> <p>NOT 'no waiting' unless qualified<br/>NOT 'no queuing'</p> <p><i>Any reasonable answer</i></p>              | <b>2</b> |
| 4 (a) (ii) | <p>Any two but <b><u>must be an activity;</u></b></p> <p>Transfer money/ send money to another account not 'place'<br/>Change PIN<br/>Order theatre tickets<br/>Get top ups / top up mobile phones<br/>Get / see balance/ print balance<br/>Print receipt<br/>Order cheque book<br/>Order statement<br/>Choose language <i>but don't give if given in part 4(a)i</i><br/>Give to charity<br/>Deposit cash and cheques</p> <p><i>NOT get cash, not print a mini statement</i><br/><i>Any reasonable answer</i></p> | <b>2</b> |

|             |  |          |
|-------------|--|----------|
| 4 (a) (iii) | Obtain loan<br>Take out a mortgage<br>Open a new account<br>Pay in /deposit cash or cheques<br>Large cash withdrawals<br>Get foreign currency<br>Speak to advisor if qualified 'financial'<br><br><i>Any reasonable answer</i>   | <b>1</b> |
| 4(b)        | Any two of;<br>No need to travel to bank/ save time/disabled people no need to travel / don't have to leave home/ can be done at home<br>-save transport cost<br>-Transfer funds <b>quickly</b> /<br>-Pay bills online<br>-check account from abroad<br><u>Only if not used in 4a)i</u><br>Available 24 / 7 /365 / done anytime<br>Faster only if qualified /quicker than having to go <b>into</b> the bank<br><br>NOT 'no waiting' unless qualified<br>Not 'privacy issues'<br><br><i>Any reasonable answer</i>                         | <b>2</b> |
| 5 (a)       | <i>Customer Number Item code</i>   | <b>2</b> |
| 5 (b)       | Delivery or Size   | <b>1</b> |
| 5 (c)       | Any two of;<br>Date of order,<br>Special Delivery Instructions /delivered\ next day delivery/delivery time<br>Delivery date / delivery day<br>Description of goods / colour/ weight<br>Item name<br>Payment method<br>Bank details<br>Account No /Store card no<br>Discount/ Pensioner discount<br>Delivery costs<br>No of items purchased<br>Paid or not<br>Order ref no<br>Warranty<br><i>Not contact details , address /email address or name</i><br><i>Any reasonable answer</i><br><i>NOT stock records such as re-order levels</i> | <b>2</b> |

| 5 (d)                        | <table border="1"> <thead> <tr> <th>Method</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Input mask</td> <td>Only allows 5 letters</td> </tr> <tr> <td>List /lookup table/combo box</td> <td>Only choose large or small</td> </tr> <tr> <td>OR /Boolean</td> <td>Can only be large or small</td> </tr> </tbody> </table> <p>Others if qualified in explanation</p> <p>Give 1 mark for implied list e.g. Large or medium or small or idea of can only select from limited range.</p> <p><i>Must identify a technique but do not allow unsuitable techniques e.g. range check on words unless well argued</i></p> | Method                 | Description             | Input mask             | Only allows 5 letters | List /lookup table/combo box | Only choose large or small | OR /Boolean | Can only be large or small | 2 |                 |          |                      |   |
|------------------------------|--|------------------------|-------------------------|------------------------|-----------------------|------------------------------|----------------------------|-------------|----------------------------|---|-----------------|----------|----------------------|---|
| Method                       | Description  |                        |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| Input mask                   | Only allows 5 letters  |                        |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| List /lookup table/combo box | Only choose large or small   |                        |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| OR /Boolean                  | Can only be large or small   |                        |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| 5 (e)                        | 2  | 1                      |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| 5 (f)                        | <p><b>1 mark</b> for field<br/> <b>1 mark</b> for logical operator<br/> <b>1 mark</b> for search criteria<br/> <b>On either of the searches</b></p> <table border="1"> <thead> <tr> <th><i>Fieldname</i></th> <th><i>Logical operator</i></th> <th><i>Search criteria</i></th> </tr> </thead> <tbody> <tr> <td><b>Size</b></td> <td><b>=</b></td> <td><b>Large</b></td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>or</b></td> </tr> <tr> <td><b>Delivery</b></td> <td><b>=</b></td> <td><b>Y<br/>Or True</b></td> </tr> </tbody> </table>   | <i>Fieldname</i>       | <i>Logical operator</i> | <i>Search criteria</i> | <b>Size</b>           | <b>=</b>                     | <b>Large</b>               | <b>or</b>   |                            |   | <b>Delivery</b> | <b>=</b> | <b>Y<br/>Or True</b> | 3 |
| <i>Fieldname</i>             | <i>Logical operator</i>  | <i>Search criteria</i> |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| <b>Size</b>                  | <b>=</b>   | <b>Large</b>           |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| <b>or</b>                    |  |                        |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| <b>Delivery</b>              | <b>=</b>   | <b>Y<br/>Or True</b>   |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| 5 (g)                        | <p>Information is processed data<br/> <i>If more than one box ticked no marks</i></p>  | 1                      |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |
| 6 (a)                        | <p><b>1 mark for suitable sensor</b><br/> Soil moisture<br/> PH<br/> Air moisture<br/> Humidity<br/> Light/sunlight</p> <p><i>Any reasonable answer.</i><br/> <b>1 mark</b> Testing a condition<br/> <b>1 mark</b> computer control of the environment (not set off alarm)</p>   | 3                      |                         |                        |                       |                              |                            |             |                            |   |                 |          |                      |   |

| 6 (b)   | <p><i>Any two of;</i><br/> 24 hour monitoring<br/> Humans don't need to be there<br/> Immediate response to changing growing condition<br/> Less likely plants will die<br/> Maximum growth conditions maintained<br/> Accurate reading<br/> Accurate recording<br/> Plants can be made to flower when required<br/> Reprogrammable<br/> <i>Any reasonable answer</i><br/> <i>Not no human error</i></p>   | <b>2</b> |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
|---|--|----------|------------------------|---------------------------|--|----------------------------------|---|--------------------------|--|------------------------------------|---|---|---|-------------------|--|----------|
| 6 (c)   | <p>Power cuts (could stop monitoring /flowers die)/system crash/faulty computer/faulty hardware<br/> Software might be complicated/ software errors/software limitations<br/> Sensors might not be calibrated properly /errors in equipment cause problems /false alarms<br/> <i>Any reasonable answer</i></p>   | <b>1</b> |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| 7 (a)   | 7856 / Eggs  | <b>1</b> |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| 7 (b)   | Stock Code<br>No Sold  | <b>2</b> |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| 7 (c)   | <p><i>Any two of;</i><br/> Country of origin / Country code/ 'origin code'/Country of manufacture<br/> Manufacturers code<br/> Product code (Not item code)<br/> Check digit<br/><br/> NB Code or number but not name</p>  | <b>2</b> |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| 7 (d)   | <table border="1"> <thead> <tr> <th></th> <th><b>Tick only three</b></th> </tr> </thead> <tbody> <tr> <td>Goods are always in stock</td> <td></td> </tr> <tr> <td>Faster service when buying goods</td> <td>✓</td> </tr> <tr> <td>Goods are always cheaper</td> <td></td> </tr> <tr> <td>Few mistakes in charging customers</td> <td>✓</td> </tr> <tr> <td>Itemised bill can be provided for the customer.</td> <td>✓</td> </tr> <tr> <td>Goods are fresher</td> <td></td> </tr> </tbody> </table> <p><i>If tick more than 3 no marks</i></p> |          | <b>Tick only three</b> | Goods are always in stock |  | Faster service when buying goods | ✓ | Goods are always cheaper |  | Few mistakes in charging customers | ✓ | Itemised bill can be provided for the customer. | ✓ | Goods are fresher |  | <b>3</b> |
|   | <b>Tick only three</b>   |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| Goods are always in stock                       |  |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| Faster service when buying goods                | ✓  |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| Goods are always cheaper                        |  |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| Few mistakes in charging customers              | ✓  |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| Itemised bill can be provided for the customer. | ✓  |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |
| Goods are fresher                               |  |          |                        |                           |  |                                  |   |                          |  |                                    |   |   |   |                   |  |          |

|           |  |   |
|-----------|--|---|
| 7 (e)     | <p><b><u>4 marks for a list of features</u></b></p> <p>Internet shopping/ online ordering/ online booking<br/> Web page to reach a wider audience<br/> Store cards / credit facilities<br/> Loyalty points or voucher<br/> Special offers / buy one get one free<br/> Home deliveries (<i>from store</i>)<br/> Variety of ways to pay<br/> Self swipe systems<br/> Automatic stock control <i>needs to be justified as benefit to customer</i> e.g always in stock / constant supply of fresh stock</p> <p><b><u>Or Alternatively</u></b></p> <p>Name any two of the above and describe each in depth</p> <p><i>Not general adv of POS e.g. itemised bills , shorter queues, fewer mistakes etc</i><br/> <i>No brand names</i><br/> <i>Any reasonable answer</i></p> | 4 |
| 8         | <p><i>Any two of;</i></p> <p>Name<br/> Address<br/> Name of school<br/> Name of friends<br/> Personal details<br/> Telephone no<br/> Photographs<br/> Email<br/> Date of Birth<br/> Bank / card details / credit card details<br/> Password if qualified<br/> <i>Any reasonable answer</i></p>   | 2 |
| 9 (a)     | <p>Messages sent between computers/ across networks /via Internet<br/> Electronic messaging systems<br/> <i>Not 'messages sent by a computer'</i></p>  | 1 |
| 9 (b) (i) | <p><i>Email attachment</i></p> <p><b>1 mark for definition</b><br/> File /document/picture/sound/video send with an email/included in an email</p> <p><b>1 mark for suitable example related to context</b><br/> Plan of design<br/> Spreadsheet of costings<br/> Report on design</p> <p><b>Or</b><br/> <b>Detailed explanation of the example gives the definition for 2 marks</b><br/> <i>Any reasonable answer</i></p>   | 2 |

|            |  |          |
|------------|--|----------|
| 9 (b) (ii) | <p><i>Carbon copy emails</i></p> <p><b>1 mark for definition</b></p> <p>Same email sent to more than one person <b><u>at same time.</u></b></p> <p><b>1 mark for suitable examples related to context</b></p> <p>Send designs to all <u>other designers</u> for comments</p> <p>Send design to <u>company and client</u></p> <p>Send designs to <u>everyone in group</u></p> <p><i>Any reasonable answer</i></p> | <b>2</b> |
| 10 (a) i   | <p>Internal network which only the company employees can access</p> <p>(Condone LAN )</p> <p>Closed private network</p> <p>VPN</p>   | <b>1</b> |
| 10 (a) ii  | <p>See daily company bulletins</p> <p>Look up latest prices of books / special offers</p> <p>Look up customer records</p> <p>Internal vacancies</p> <p>Post information in shared area</p> <p><i>Idea of accessing a company's internal data</i></p> <p><i>Any reasonable answer</i></p>   | <b>1</b> |
| 10 (b)     | <p>Any two of;</p> <p>Web Page to advertise books</p> <p>Online shopping to sell /buy /order books</p> <p>Look at competitors sites</p> <p>Look for further details about authors etc</p> <p>Internet banking</p> <p>Downloading new software</p> <p><i>Do not accept vague answers such as 'advertising', 'advertising the company', 'sell goods'</i></p> <p><i>Any reasonable answer</i></p>                   | <b>2</b> |
| 10 (c)     | <p><b>Any three of;</b></p> <p>Don't let anyone see you typing it in</p> <p>Don't tell anyone your password</p> <p>Don't write it down</p> <p>Change it regularly</p> <p>Don't use obvious passwords</p> <p>Use a mixture of characters and numbers</p> <p>Use at least 6 characters / don't use short words</p>   | <b>3</b> |

|  |  |                 |
|--|--|-----------------|
|  | <p><b>1 mark crime and 1 mark prevention x 2</b></p> <p><b>Crime Prevention</b>                      <b>Hacking /data theft</b><br/>         Passwords<br/>         Encryption<br/>         Smart Cards<br/>         Firewalls</p> <p><b>Crime Prevention</b>                      <b>Computer fraud/data theft/identity theft</b><br/>         Use only secure sites<br/>         Passwords</p> <p><b>Crime Prevention</b>                      <b>Deliberate Destruction</b><br/>         Read only files<br/>         Put write protect notch on USB stick / disc<br/>         Smart cards to restrict access to rooms</p> <p><b>Crime Prevention</b>                      <b>Spreading a virus (not 'virus' by itself)</b><br/>         Virus detection and eradication programs/virus protection programs<br/>         Don't open unknown emails<br/>         Don't download onto hard disc.<br/>         Firewall if not used above</p> <p><b>Crime Prevention</b>                      <b>Cyber bullying /harassment/ abusive emails/grooming</b><br/>         Monitor emails<br/>         Monitor blogging sites<br/>         Monitor mobile phone calls</p> <p><b>Crime Prevention</b>                      <b>Distribute pornographic material</b><br/>         Monitor emails<br/>         Monitor blogging sites /web pages<br/>         Monitor mobile phone calls</p> <p><i>Prevention mark ok if crime not named correctly</i><br/> <i>Not the same prevention to be used twice</i></p> <p><i>Any reasonable answer</i></p> | <p><b>4</b></p> |
|--|--|-----------------|

|       |   |           |
|-------|---|-----------|
| 11(a) | <p><b>Online Thesaurus</b><br/><b>1 mark</b></p> <p>List of similar words offered choice of alternative for a word.</p> <p><b>1 mark example</b><br/>– Find an alternative word for 'Good'</p> <p><b>A detailed example could give two marks</b></p> <p><i>Any reasonable answer in each section</i></p>  | <b>2</b>  |
| 11(b) | <p><b>1 mark for each HW or SW feature and 1 mark for specific description / concrete example x 4</b></p> <p><b>CD ROMs</b> encyclopaedia to lookup information <u>on Romans</u></p> <p><b>Email</b> tutors for <u>homework if ill at home</u></p> <p><b>Chat lines</b> to tutors to <u>help with maths problems</u></p> <p><b>Sensors</b> in science <u>to measure Ph of a liquid</u></p> <p><b>Scanners</b> to scan <u>pictures for Art</u></p> <p><b>Presentation software</b> to make a slide show on <u>safety on the Internet</u></p> <p><b>Internet/Search engines</b> / Web searches for <u>info. on volcanoes</u></p> <p><b>Digital cameras</b> to take photos for <u>media studies newspaper</u></p> <p><b>Word processing</b> to write <u>history report on Tudors</u></p> <p><b>Databases</b> to search for <u>features of wood in DT</u></p> <p><b>Spreadsheets</b> to draw <u>graphs of geography traffic survey</u></p> <p><b>Spellchecker</b> to look for <u>spelli</u></p> <p><u>0.....ng mistakes in an English / Welsh essay</u></p> <p><b>Online revision sites</b> e.g. <u>GCSE Bytesize</u></p> <p><b>Spreadsheets</b> to draw <u>graphs of temperature readings in science</u></p> <p><b>Videoconferencing</b> to talk to pupils in a different country <u>in Modern Languages</u></p> <p><b>Interactive</b> whiteboard to present <u>a report in History</u></p> <p><b>Printer</b> to print out <u>geography coursework</u></p> <p><u>Must have a concrete example</u></p> <p><i>Allow Max Of 4 marks if identify HW/SW and give general answer</i></p> <p><i>Cannot be general answers not giving HW/SW e.g. draw graphs</i></p> <p><i>Any reasonable answer</i></p> | <b>8</b>  |
|       | <b>Total marks</b>  | <b>80</b> |

## ICT - HIGHER TIER

### PAPER 2

#### Question 1

- |     |      |  |   |
|-----|------|--|---|
| (a) | (i)  | To store a program ( <b>permanently</b> ) that is required to boot/start the computer. | 1 |
|     | (ii) | To store programs/software and data when the computer is switched on.(temporary)       | 1 |
| (b) | (i)  | binary digit / 0 or 1  | 1 |
|     | (ii) | a group of bits usually 8 (working unit of data)                                       | 1 |
| (c) |      | kilobyte 1024 (1000) bytes   | 1 |
|     |      | megabyte 1024 (1000) kilobytes (million bytes)   | 1 |

**TOTAL FOR QUESTION 6**

#### Question 2

|             |   |   |
|-------------|---|---|
| <b>OMR</b>  | LOTTERY<br>SCHOOL<br>EXAM   | SIX NUMBERS (1-49)<br>REGISTRATION MARKS<br>MULTIPLE CHOICE PAPERS  |
| <b>MICR</b> | BANKS   | SORT CODE, CHEQUE NUMBER<br>ACCOUNT NUMBER, AMOUNT  |
| <b>OCR</b>  | PUBLIC UTILITY<br>POST OFFICE<br>SCHOOL<br><br>POLICE/DVLA<br>SEVERN BRIDGE<br>MOTORWAY | METER READINGS<br>POST CODE<br>SCANNING ESSAY, WRITING ON<br>WHITEBOARD<br>NUMBER PLATES<br>TAG<br>TOLL CHARGE/NUMBER PLATE |

*One mark for naming business and one mark for data*

**TOTAL FOR QUESTION 6**

**Question 3**

- (a) (i) CD Rom
- (ii) Hard Disk
- (iii) Tape Streamer
- (iv) USB Memory Stick 4 x 1
- (b) (i) fast temporary storage 1
- (ii) temporary web pages or holding part of a program (data) which is used often, Copying music/DVD 1

**TOTAL FOR QUESTION 6**

**Question 4**

- (a) Any four from 4 x 1  
Personal data should be up to date and accurate  
Data to be adequate, relevant, not excessive  
Data should not be kept longer than necessary  
Must only be used for the purpose collected.  
Not to be transferred to countries outside EU or without adequate provision  
Fairly and lawfully processed  
Kept secure against loss  
Processed within the rights of data subjects  
  
*(Accept slightly different wording if the meaning is clear, but take care with duplication)*
- (b) Any 2 from 2  
To view the data, to ask for incorrect data to be put right,  
Right to compensation if something goes wrong and the data hasn't been changed.
- (c) Any 2 from 2  
National Security/Government, law and order, inland revenue,  
small clubs, home use, company payroll, company flyer distribution  
(mailing lists), personal data, medical, school work, statistical data,  
family history.

**TOTAL FOR QUESTION 8**

### Question 5

- (a) Any 4 from windows, icons, menu/mouse, pointer, colour, help, tutorials, customisation, common layout, accessibility function (WIMP= 1 mark) 4
- (b) heavy on memory / need a faster computer/ more powerful computer, can be distracting, colour combination can be a problem, longer to load 1
- (c) (i) **command** driven (CLI) (DOS) 1  
**Advantage** once commands are learnt, system is quicker to operate
- (ii) menu driven 1  
**Advantage** no need to learn commands, but tends to be slow and cumbersome, cannot use anything else 1  
*Also accept voice, touch, virtual reality, free text, Concept keyboard, Braille keyboard, Forms*

**TOTAL FOR QUESTION 9**

### Question 6

- (a) **software (program)** that **controls** the computer 2
- (b) Any 3 from 3  
Enables software to run/supervises running of programs, manages system resources, controls hardware , controls software, handles inputs and outputs and the storage of data, handles interrupts, organises system security, allows multiprogramming etc, allocates memory/controls memory. (not controls computer if given in (a))
- (c) DOS, WINDOWS,UNIX, LINUX, MACOS, SUN 1

**TOTAL FOR QUESTION 6**

### Question 7

- (a) **Application** Chemical Production 1
- Explanation** processing of input data must be done in a split second, immediate to avoid a dangerous situation. (time critical) 1
- i.e. Nuclear power stations, oil refining, autopilot, missiles, air traffic control, games
- (b) **Application** theatre/ cinema/airline seat bookings 1
- Explanation** processing of input data must be done quickly to avoid double booking. 1
- i.e. online shopping, ATM, lottery ticket, internet banking, bill paying
- (c) (i) multi-tasking: The processor divides its time between programs. A time slice is allocated to each process. The processor switches between processes so quickly that the user is often not aware of any delay. 1
- The system being able to run more than one job/task **at the same time.**
- (ii) multi-access: Many users can make use of a **computer resource simultaneously.** 1

**TOTAL FOR QUESTION 6**

### Question 8

- (a) **Programs** that attempt to **replicate a human expert** on some specialised subject 2  
**or knowledge based system** that allows you to make **decisions (inferences)**.
  
- (b) Any 2 from 2  
Knowledge base, inference engine, user interface
  
- (c) patients may prefer privacy/ less embarrassed, save waiting time, 1  
Outside surgery hours, second opinion, (not more accurate)
  
- (d) has up to date medical knowledge, frees up doctors time, less human 1  
error, second opinion (not twice)
  
- (e) power failure, data corruption, expensive to buy, needs constant 1  
updating, GIGO, lack of human touch, overdependence.  
(not contrary to an advantage)

**TOTAL FOR QUESTION 7**

### Question 9

- (a) (i) **field** a collection of related characters (data). Or group of information under one heading 1
- (ii) **record** a collection of related fields / All the information about person one 1
- (iii) **file** a collection of related records. 1
- Related (or implied) has to be used once to get all 3 marks
- (b) Any 3 items related to the pupil 3
- Doctors, parents, transport, lunch, medical, mobile number, emergency contact, email,
- Attendance, picture, sibling, assessment data etc
- (c) (i) easier to program, faster to search, calculate size of file, less processing when a change is made
- (ii) saves disk space, no data truncation. 2
- (d) (i) auto number, numeric, integer
- (ii) text, string , alphanumeric, memo, list (multiple choice) 2

**TOTAL FOR QUESTION 10**

### Question 10

- (a) Devices which have **built in microprocessors** / device with a chip for a specific purpose / devices with chip in it (pre-programmed worth 1)
- (b) Any 2 reasonable answers 2  
telephones, microwaves, missiles, cameras, microwave ovens etc.
- (c) Any 2 reasonable answers 2  
work 24/7, no tea breaks, consistency, dangerous areas, long term cost

**TOTAL FOR QUESTION 6**

### Question 11

- (a) (i) Local Area Network 1
- (ii) Wide Area Network 1
- Any 2 from 2  
Share software, share data, better communications, can access work from any station, easier to backup, central monitoring
- (c) topology, fileserver, workstation , printer 4

**TOTAL FOR QUESTION 8**

### Question 12

- (a) scanner, light pen, bar code reader 1
- (b) Any 2 from 2  
number in stock, size, weight, re-order level, manufacturer etc
- (c) scan bar code – keyboard- weighing scales -product code -check digit – search database – extract description, cost print details on bill – take money, debit card, cash, credit card, decrement amount in stock – check amount left in stock against minimum stock level – reorder and produce order.
- (max marks 2 for each section ) 8
- (i) data captured at the POS terminal,
- (ii) production of the itemised bill,
- (iii) payment of the goods,
- (iv) automatic stock control

**TOTAL FOR QUESTION 11**

### Question1 3

- (a) broadband, networks, wireless technology, satellite, e-mail, internet, bluetooth  
introduction of viruses, phishing, pharming, identity theft  
hacking unauthorised entry to computer system, quicker to find info,  
computer fraud operators use computers to own advantage  
computer blackmail, junk mail, memory sticks  
firewalls, antivirus software  
encryption, id 's , passwords  
retina, fingerprints, security, CCTV

*If a point is very well developed can be worth 2 marks.*

*Max 7 if only 1 section covered, max 9 if only 2 sections covered*

**TOTAL FOR QUESTION 11**

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