## Mark Scheme (Results) Summer 2010

IGCSE

IGCSE Information and Communication Technology
(4385) Paper 2 H

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 1(a) | NOTE. Maximum of 6 marks if the form has space for written entries, e.g. signature <br> 1 mark for each of: <br> - name <br> - email address <br> - password and confirm password <br> - any two payment method fields e.g. type of payment, credit / debit <br> card type / use paypal, google checkout or similar <br> card number / account name <br> expiry date / valid from date <br> To a maximum of 4 marks <br> - form title <br> - company name / logo <br> - submit details method <br> - cancel method <br> - method of leaving the page eg back button <br> - on screen instructions for the user <br> To a maximum of 4 marks | (8) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| $\mathbf{1 ( b ) ( i ) ~}$ | Look for the ideas: <br> Security measure to prevent others using the account / fraud / identity <br> theft <br> To speed up entry to the site next time <br> 1 mark | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| $\mathbf{1 ( b ) ( i i ) ~}$ | Look for the ideas: <br> Password may be **** so need to check it is what the person thought it <br> was <br> In case of typo on first password 1 mark | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| 2 (a)(i) | fibre-optic | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| 2 (a)(ii) | fibre-optic | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| 2 (a)(iii) | WiFi | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| 2 (b) | Answers may include: <br> Web hosting <br> sale of domain names / web site names <br> news groups <br> news / weather <br> chat rooms <br> messaging service / sms <br> customer support <br> any reasonable Internet based service <br> 1 mark each to a maximum of 3 | (3) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| $\mathbf{2 ~ ( c ) ~}$ | Look for the ideas: <br> router may have built in firewall / filter other reasonable add on, <br> describes what firewall / filter does. <br> router knows which computer incoming messages / data should go to, <br> keeps data for each computer separate <br> router holds names / numbers / ID of each computer in the network, <br> can allocate IDs / DHCP, can keep data for each computer separate | (3) |
| $\mathbf{2 \times 1 ~ m a r k ~}$ |  |  |


| Question | Answer | Mark |
| :--- | :--- | :---: |
| Number | (a) |  |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{3}$ (b) | Factors are: <br> frequency of backup <br> e.g. every day / hourly, so only lose small amount of changes <br> choice of media <br> e.g. DVD / network drive, big enough for 100 Mb <br> storage of backup media <br> e.g. on-line / fireproof safe, for quick recovery / secure <br> timings <br> e.g. overnight / after close of business, no disruption to work <br> 1 mark for each factor <br> 1 mark for each explanation <br> To a maximum of 6 marks. |  |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{3 ~ ( b ) ( i ) ~}$ | Answers may include: <br> Logon / user names. <br> Only authorised can logon to (database) system |  |
| Access levels. <br> Only authorised groups (access level) can see records <br> Only authorised know the password <br> 1 mark for method <br> 1 mark for explanation | (4) |  |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| $\mathbf{3}$ (b)(ii) | Answers may include: |  |
|  | Firewall, prevents outsiders seeing / entering the network <br> Anti virus, prevents trojans allowing unauthorised entry / sending data <br> out <br> 1 mark for method <br> 1 mark for explanation | (2) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| 4 (a) | Answers may include: <br> quotation marks, to keep 1960s and music together <br> +sign, so search includes 1960s and music <br> extra words, add British and / or pop to get type of music needed <br> search only native language, to get rid of foreign sites <br> search only own country / british, to get rid of foreign sites <br> search for individual years, for more specific sites <br> search for individual people / bands, for more specific sites <br> any other reasonable method with an explanation. <br> $1+1$ for any 3 methods. Maximum 6 marks | (6) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| 4 (b)(i) | Answers may include: <br> on-line encyclopedia <br> (pop music) forums <br> on-line music magazines <br> fan club web sites (for 1960s pop groups) <br> any sensible on-line source |  |
| 1 mark per source to a maximum of 2. | (2) |  |


| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 4 (b)(ii) | Look for the idea: <br> Wiki entries may be written by anyone so: <br> - possibility of deliberate false entries <br> - entries may be altered / vandalised <br> - possibility of mistaken entries <br> 1 mark <br> any sensible explanation 1 mark | (2) |


| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 5 (a) | In any order. 1 mark for a weight and reason. <br> Weight 1 less than 1 Kg , typical data for belt A <br> Weight $2 \quad 1 \mathrm{Kg} / 0.999 \mathrm{Kg}$, extreme data for A - B <br> Weight $3 \quad$ over 1 Kg and less than 2 Kg , typical data for belt B <br> Weight $4 \quad 2 \mathrm{Kg} / 1.999 \mathrm{Kg}$, extreme data for $\mathrm{B}-\mathrm{C}$ <br> Weight 5 over 2 Kg , typical data for belt C <br> 5 marks. | (5) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{5 ~ ( b ) ~}$ | Look for the ideas: <br> Lower limit is 0Kg, i.e no melon / cannot have negative melons. <br> No upper limit to scales / all melons over 2Kg are C / melons don't grow <br> too big for the machine to handle. <br> 1 mark for lower limit <br> 1 mark for upper limit | (2) |


| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 5 (c) | ```positioned between weigh and send to belt C Max 3 marks positioned anywhere else Max 2 marks Look for: weight \(>10 \mathrm{Kg} \quad 1\) mark Yes = Stop 1 mark No = Continue 1 mark``` | (3) |
|  | Weigh melon |  |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{6}$ | Possible checks are: <br> range, format, length, presence, type, check digit, <br> The marks are for a description and an example which match the check <br> given by the candidate. | For each of three checks. <br> 1 mark for a name plus description. <br> 1 mark for a sensible example to do with customer details or an <br> application for membership.$\quad$ Total 6 marks |$\quad$ (6) $\quad$|  |
| :--- |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{7}$ | 1 mark for a description of an appropriate and business relevant task <br> for a piece of software. <br> e.g. <br> database <br> keeping customer / supplier records <br> spreadsheet <br> generating invoices / doing company accounts <br> desk top publisher <br> making advertising brochure / leaflet <br> web site writer <br> (making a web site) to advertise the business / e-commerce <br> art package <br> producing art work for a brochure / web site <br> multi-media presentation package <br> (making a presentation) to put in the shop to show <br> offered | services |$\quad$ (6) $\quad$ Total 6 marks $\quad$|  |
| :--- |


| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 8 (a) | Key field $\quad$ Product code 1mark <br> Explanation.  <br> Content is different for each record / unique <br> product name and price fields also unique 1 mark <br> Plus any 2 of:  <br> price field may change  <br> name field has multi-part / repeating parts  <br> code is short / fixed length so easy to validate  <br> any sensible reason why other fields not suitable  <br> 2 marks  | (4) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{8 ( b )}$ | any 2 of: |  |
|  | reduce storage space <br> reduce display space <br> easier validation <br> 2 marks | (2) |


| Question <br> Number | Answer |  | Mark |
| :--- | :--- | :--- | :--- | :---: |
| $\mathbf{8}$ (c) | Code <br> 2 marks | AMW 408 $1+1$ | (2) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| 8 (d) | Look for the ideas: <br> Recommended use field has multiple entries. <br> Searching that field may not find 2nd / 3rd / all entries <br> Split Recommended use into 3 new fields (laser, copier, inkjet) <br> So that search now looks for single value <br> So that search for 1 / more paper types looks in dedicated fields <br> Max 4 marks | (4) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| 9 (a)(i) | SUM(B3...B8) or SUM(B3...B9) 1 mark | (1) |


| Question <br> Number | Answer | Mark |
| :--- | :---: | :---: |
| 9 (a)(ii) | B10 *B11 | 1 mark |


| Question <br> Number | Answer | Mark |  |
| :--- | :--- | :--- | :--- | :--- |
| 9 (b)(i) | MAX , (B10...G10) | 2 marks | (2) |


| Question Number | Answer | Mark |
| :---: | :---: | :---: |
| 9 (b)(ii) | Look for:  <br> conditional formatting 1 mark <br> use of an IF statement 1 mark <br> in cells B10 to G10 1 mark <br> check if cell holds the MAX / H9 figure 1 mark <br>   <br> e.g. She should put an IF statement in the Total per menu' cells / B10  <br> to G10, that looks to see if the cell is the biggest number / MAX / H9,  <br> and uses conditional formatting if it is.  <br> Or  <br> conditional format in B10...G10, If Cell = H9, set style to xxx  | (4) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{9 ( c )}$ | Link the graph to the spreadsheet by a macro / as an (OLE) object <br> 1 mark |  |
|  | So macro runs / OLE object links automatically when document opens <br> 1 mark | (2) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{1 0}$ (a) | $255 / 256$ | Look for the ideas: <br> 1 byte holds 256 / $0-255$ numbers 1 number per programme <br> or <br> zero not used so 1 byte holds 255 numbers 1 number per programme <br> 1 mark |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{1 0}$ (b)(i) | 1000 seconds / $16 \mathrm{~min} 40 \mathrm{sec} / 16.667$ min, <br> assuming $1000 \mathrm{Mb}=1 \mathrm{~Gb}$ <br> or |  |
| 1024 seconds / $17 \mathrm{~min} 4 \mathrm{sec} /$17.0667 min , <br> assuming $1024 \mathrm{Mb}=1 \mathrm{~Gb}$ <br> 2 marks | (2) |  |


| Question Number | Answer |  | Mark |
| :---: | :---: | :---: | :---: |
| 10 (b)(ii) | Video / TV files must be compressed (NOT ZIPPED) plus any of: <br> compression ratio of about 1-80 <br> using a codec <br> using MPEG / other compressed video file type Total 6 marks | 1 mark <br> 1 mark | (6) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :---: |
| $\mathbf{1 1}$ (a) | Diagram is a star <br> 5 PCs shown and at least one labelled <br> Server shown and labelled <br> hub / switch shown and labelled <br> cables shown and labelled <br> 1 mark each to a maximum of 4 marks | (4) |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{1 1}$ (b)(i) | Answers may include: <br> Use for telephone / VoIP / voice messaging / video conferences <br> so saves cost of phone calls <br> Use for video conferences <br> so saves cost of travel <br> Use for remote admin / software installation <br> so saves cost of travel <br> Use for centralised data storage <br> Saves costs on bulk storage media |  |
| Any other sensible method with a reason for money saving. |  |  |
| $2 \times 2$ |  |  |
| Maximum 4 marks | (4) |  |


| Question <br> Number | Answer | Mark |
| :--- | :--- | :--- |
| $\mathbf{1 1}$ (b)(ii) | Look for the ideas: <br> All eggs in one basket / all data in one place so may lose everything <br> keep duplicates of data / use generation system <br> Time taken to transfer all the data / many offices need to send data to <br> single location <br> Time schedule for each office / data compression or zipping <br> Any reasonable problem with a solution. <br> 1 mark for a problem 1 mark for a relevant solution | (2) |

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