

Mark Scheme Summer 2009

IGCSE

IGCSE Information and Communication Technology (4385)

Edexcel is one of the leading examining and awarding bodies in the UK and throughout the world. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers.

Through a network of UK and overseas offices, Edexcel's centres receive the support they need to help them deliver their education and training programmes to learners.

For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our website at www.edexcel.com.

If you have any subject specific questions about the content of this Mark Scheme that require the help of a subject specialist, you may find our **Ask The Expert** email service helpful.

Ask The Expert can be accessed online at the following link:

<http://www.edexcel.com/Aboutus/contact-us/>

Summer 2009

All the material in this publication is copyright
© Edexcel Ltd 2009

Contents

1. General Marking Guidance page 5
2. 4385/1F page 6
3. 4385/2H page 16

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)	OCR OMR Bar Code Reader	

Question Number	Answer	Mark
1(b)	Facial recognition/biometrics /scan images/MICR/anything suitable for inputting text or images	

Question Number	Answer	Mark
2(a)	Any two from - Sent at any time almost instantaneously/multiple mails/notified of fail to deliver/less chance of getting lost/less chance of theft/ Faster than.../Cheaper because...../easier because..... (must be quantified)	

Question Number	Answer	Mark
2(b)	Any two valid reasons - no need to travel large distance/time/meetings at short notice cost is saved -answers must be quantified	

Question Number	Answer	Mark
2(c)	Headset/Microphone/speakers/headphones/large screen monitor/internet connection hardware/	

Question Number	Answer	Mark
3(a)	Takes time to locate data as each piece follows one after another	

Question Number	Answer	Mark
3(b)	Large organisations with large volumes of data to be backed up. (Accept any reference to the capacity of a CD is too small)	

Question Number	Answer	Mark
3(c)	<p>€ A G</p> <p>C A D</p> <p>B</p> <p>(1 mark for each correctly identified symbol)</p>	

Question Number	Answer	Mark
4(a)(i)	<p>Stud_num Named check or good description</p> <p>Presence check ensures data has been entered Format Check ensures 3 letters followed by 4 numbers Length Check checks correct number of characters have been entered</p>	

Question Number	Answer	Mark
4(a)(ii)	<p>Date due</p> <p>Presence Check as above</p> <p>Range Check checks sensible date range</p> <p>Length check as above</p> <p>Format Check checks for correct date sequence, layout etc</p> <p> Must be different to 4(a)(i)</p>	

Question Number	Answer	Mark
4(b)	<p>ISBN/stud_num entered could be a correct code (1 mark) but wrong for book/student (1 mark) verification should pick this up (1 mark)</p> <p>(2 marks max)</p>	

Question Number	Answer	Mark
5(a)	<p>Any three from -</p> <p>access to www/free storage/use of bulletin boards/discussion groups/forums/free web space/news, weather etc/search engine/personal data backup/technical support</p>	

Question Number	Answer	Mark
5(b)	<p>Could be copyrighted (1 mark) and need permission to use (1 mark)</p> <p>Could be false information (1 mark) and therefore not suitable (1 mark)- not virus related</p>	

Question Number	Answer	Mark
5(c)(i)	<p>Video clips</p>	

Question Number	Answer	Mark
5(c)(ii)	This is because it contains video data (1mark). Use a suitable size broadband connection that can cope with this capacity (1 mark) or download video content separately Try a different site for the video Try and find the same clip in a different/smaller format	

Question Number	Answer	Mark
6(a)	Access data from any area in the hotel/monitor work from other sections/communicate with areas/share hardware, software etc	

Question Number	Answer	Mark
6(b)	Passwords on files/access rights to guest data (1m) will block any access to this data(1m)	

Question Number	Answer	Mark
6(c)	Ensure files containing price details are read only (1m) which means existing data cannot be overwritten (1m), only the manager has admin rights(1m), field locking	

Question Number	Answer	Mark
6(d)	Answers like: Spreadsheet (1m) for financial data/forecasts etc/calculations implied (1m) Database (1m) Guest, staff records, hotel bookings etc(1m) Any suitable package and a good reason	

Question Number	Answer	Mark
7(a)	a) A5	

Question Number	Answer	Mark
7(b)	=B4*17.5% or = B4*17.5/100 or = B4*.175 Formula incorrect but B4 present allow (1m) Tax must be calculated from total sales, not by assuming amount due is correct	

Question Number	Answer	Mark
7(c)	=B4 + C4 , =SUM(B4:C4)	

Question Number	Answer	Mark
7(d)	Click (highlight) cell D4 go to edit and use fill down or Click (highlight) cell D4 (1m) Move to corner drag down or Click (highlight) cell D4 (1m) use copy and paste (allow 1m Click and highlight D4 and 1m for action that follows)	

Question Number	Answer	Mark
7(e)	=Max (1m) (B4:B10) or MAX(D4:D10)(1m) / Sort on B look at top entry / Inspect B for highest figure Or Using Max(1m) placing on spreadsheet(1m)	

Question Number	Answer	Mark
8(a)	Tape streamers/ Jaz drives/RAID/Optical RW/DVD/ <u>External</u> HD/Flash Memory /Floppy Disk/any other suitable device	

Question Number	Answer	Mark												
8(b)	<table border="1"> <thead> <tr> <th>Factor</th> <th>Reason</th> </tr> </thead> <tbody> <tr> <td>Correct media capacity (1m)</td> <td>There may not be any one around to change media (1m)</td> </tr> <tr> <td>Backup Process needs to be managed (1m)</td> <td>Must be clear who does what to ensure backup takes place /label backups etc(1m)</td> </tr> <tr> <td>Frequency of Backups (1m)</td> <td>Backup files can be come quickly out of date/ensures only a minimum of data is lost Accept a given schedule (1m)</td> </tr> <tr> <td>Time of backup</td> <td>When the system is not in use (1)</td> </tr> <tr> <td>Backup must be kept safe (1m)</td> <td>In case of fire/flood/theft / Storage method given (1m)</td> </tr> </tbody> </table>	Factor	Reason	Correct media capacity (1m)	There may not be any one around to change media (1m)	Backup Process needs to be managed (1m)	Must be clear who does what to ensure backup takes place /label backups etc(1m)	Frequency of Backups (1m)	Backup files can be come quickly out of date/ensures only a minimum of data is lost Accept a given schedule (1m)	Time of backup	When the system is not in use (1)	Backup must be kept safe (1m)	In case of fire/flood/theft / Storage method given (1m)	
	Factor	Reason												
	Correct media capacity (1m)	There may not be any one around to change media (1m)												
	Backup Process needs to be managed (1m)	Must be clear who does what to ensure backup takes place /label backups etc(1m)												
	Frequency of Backups (1m)	Backup files can be come quickly out of date/ensures only a minimum of data is lost Accept a given schedule (1m)												
	Time of backup	When the system is not in use (1)												
	Backup must be kept safe (1m)	In case of fire/flood/theft / Storage method given (1m)												
(max 6 marks)														

Question Number	Answer	Mark
9	<p>Data:</p> <ul style="list-style-type: none"> • Title on form (1m) • Logo (1m) • All Given Data (1m) • Start date (1m) • Duration /End date (1m) <p style="text-align: center;">(Max 4 marks) (Max 3 if signature)</p> <p>Features:</p> <ul style="list-style-type: none"> • Edit /Accept /Close/method of leaving page (1m) • Method of payment (1m) • One other holiday related field (1m) <p style="text-align: center;">(3 marks)</p>	

Question Number	Answer	Mark
10(a)(i)	Working from home/using Internet /e-mail/Video conferencing	

Question Number	Answer	Mark
10(a)(ii)	Smaller premises required (1m) less cost for the employer (1m) Lower running costs (1m) heating/lighting (1m) Specialist can be employed from any location (1m) programme writers from any part of the world (1m) Extend the working day (1m) some staff prefer/can only work in the evening (1m) Accept any valid reason (1m) + suitable expansion (1m)	

Question Number	Answer	Mark
10(b)(i)	Mundane/dangerous jobs replaced with computer systems (1m) (Must show change in job role)	

Question Number	Answer	Mark
10(b)(ii)	Working form home (1m) leads to lower travel costs (1m) Better use of time (1m) no time lost travelling (1m) Flexible working (1m) work any suitable time (1m) More opportunities for disabled (1m) no need to travel/easier to work from home (1m) Can be less stressful (1m) trying to get to work on time etc (1) Accept any valid reason (1m) + suitable expansion (1m)	

Question Number	Answer	Mark
11(a)	A computer simulation is a program designed to imitate a real life situation (1m). Sensors are used to detect movement within the simulation (1m). sensor information interacts with the program to produce a response from the simulator (1m) MAX 2 marks Or Make a model(1m)and test under different conditions (1m) (Give credit for examples given if the link is made between sensor and program)	(2)

Question Number	Answer	Mark
11(b)	room design/garden plans/surgery/Gaming/Vehicle training software	

Question Number	Answer	Mark
11(c)	Simulations using VR need a person to use the equipment (sensors etc) (1m) to transmit sights, sounds, sensations etc to the user in the VR world (1m)	

Question Number	Answer	Mark
12(a)	(i) Student Id alphanumeric (8-10) Characters (ii) DOB Date format DD/MM/YY/Short date/text (6-8) (iii) Fee Num/Currency 5 or 6	

Question Number	Answer	Mark
12(b)	Test with Typical data 1-149 (1m) extreme data 0,150 (1m) invalid data <0,>150 (1m)	

Question Number	Answer	Mark
13	Not multitasking Any three from - <ul style="list-style-type: none"> • Uncluttered screen - less confusing • Good use of colour and contrast - easy on the eye etc • Similar icon design - easier to understand • Easily customised - better for the user using own preferences • User friendly + good reason • Commands built in to icons etc./ no need to remember • Accept helps people with disability if explained • WIMP / WIMP component, with explanation (one component only) • Any thing sensible (1m) with explanation (1m) <p style="text-align: center;">(Max 6 marks)</p>	

Question Number	Answer	Mark
14	<p>Tables - Give a more detailed presentation of the figures (1). This allows a closer analysis of trends and variation in the data (1) e.g sorting lists to show (2m)</p> <p>Charts - Different types of charts can be used depending on the point to be made (1). Information can be seen at a glance without the need to look over information (1) Easy to compare / understand... (1) (2m)</p> <p>Multi-media - presentation can be made more interesting (use of audio visual effects) (1). Important points can be highlighted with a pointer etc. easier for the speaker to explain etc (1) (2m)</p> <p>(1 mark for advantage 1 mark for expansion in each case)</p>	

Question Number	Answer	Mark
15(a)	Use the forward function (1m) select sales manager from the directory / enter address (1m)	

Question Number	Answer	Mark
15(b)	Put meeting in e-mail (1m) Select managers (from list)/use group function (1m)	

Question Number	Answer	Mark
15(c)	navigate to where the photograph is stored / acquire the picture by scan etc (1m) Use the attachment feature /insert/copy and paste picture from...(1m).	

TOTAL FOR PAPER: 100 MARKS

4385/2H Mark Scheme

Question Number	Answer	Mark
1(a)	Tape streamers/ Jazz drives/RAID/Optical RW/DVD/ <u>External</u> HD/Flash Memory /Floppy Disk/any other suitable device	

Question Number	Answer	Mark												
1(b)	<table border="1"> <thead> <tr> <th>Factor</th> <th>Reason</th> </tr> </thead> <tbody> <tr> <td>Correct media capacity (1m)</td> <td>There may not be any one around to change media (1m)</td> </tr> <tr> <td>Backup Process needs to be managed (1m)</td> <td>Must be clear who does what to ensure backup takes place /label backups etc(1m)</td> </tr> <tr> <td>Frequency of Backups (1m)</td> <td>Backup files can be come quickly out of date/ensures only a minimum of data is lost Accept a given schedule (1m)</td> </tr> <tr> <td>Time of backup</td> <td>When the system is not in use (1)</td> </tr> <tr> <td>Backup must be kept safe (1m)</td> <td>In case of fire/flood/theft / Storage method given (1m)</td> </tr> </tbody> </table> <p style="text-align: center;">(Max 6 marks)</p>	Factor	Reason	Correct media capacity (1m)	There may not be any one around to change media (1m)	Backup Process needs to be managed (1m)	Must be clear who does what to ensure backup takes place /label backups etc(1m)	Frequency of Backups (1m)	Backup files can be come quickly out of date/ensures only a minimum of data is lost Accept a given schedule (1m)	Time of backup	When the system is not in use (1)	Backup must be kept safe (1m)	In case of fire/flood/theft / Storage method given (1m)	
Factor	Reason													
Correct media capacity (1m)	There may not be any one around to change media (1m)													
Backup Process needs to be managed (1m)	Must be clear who does what to ensure backup takes place /label backups etc(1m)													
Frequency of Backups (1m)	Backup files can be come quickly out of date/ensures only a minimum of data is lost Accept a given schedule (1m)													
Time of backup	When the system is not in use (1)													
Backup must be kept safe (1m)	In case of fire/flood/theft / Storage method given (1m)													

Question Number	Answer	Mark
2	<p>Data:</p> <ul style="list-style-type: none"> • Title on form (1m) • Logo (1m) • All Given Data (1m) • Start date (1m) • Duration /End date (1m) <p style="text-align: center;">(Max 4 marks) (Max 3 if signature)</p> <p>Features:</p> <ul style="list-style-type: none"> • Edit /Accept /Close/method of leaving page (1m) • Method of payment (1m) • One other holiday related field (1m) <p style="text-align: center;">(3 marks)</p>	

Question Number	Answer	Mark
3(a)(i)	Working from home/using Internet /e-mail/Video conferencing	

Question Number	Answer	Mark
3(a)(ii)	Smaller premises required (1m) less cost for the employer (1m) Lower running costs (1m) heating/lighting (1m) Specialist can be employed from any location (1m) programme writers from any part of the world (1m) Extend the working day (1m) some staff prefer/can only work in the evening (1m) Accept any valid reason (1m) + suitable expansion (1m)	

Question Number	Answer	Mark
3(b)(i)	Mundane/dangerous jobs replaced with computer systems (1m) (Must show change in job role)	

Question Number	Answer	Mark
3(b)(ii)	Working form home (1m) leads to lower travel costs (1m) Better use of time (1m) no time lost travelling (1m) Flexible working (1m) work any suitable time (1m) More opportunities for disabled (1m) no need to travel/easier to work from home (1m) Can be less stressful (1m) trying to get to work on time etc (1) Accept any valid reason (1m) + suitable expansion (1m)	

Question Number	Answer	Mark
4(a)	A computer simulation is a program designed to imitate a real life situation (1m). Sensors are used to detect movement within the simulation (1m). sensor information interacts with the program to produce a response from the simulator (1m) MAX 2 marks Or Make a model(1m)and test under different conditions (1m) (Give credit for examples given if the link is made between sensor and program)	

Question Number	Answer	Mark
5(a)(ii)	DOB Date format DD/MM/YY/Short date/text (6-8)	

Question Number	Answer	Mark
4(b)	room design/garden plans/surgery/Gaming/Vehicle training software	

Question Number	Answer	Mark
4(c)	Simulations using VR need a person to use the equipment (sensors etc.) (1m) to transmit sights, sounds, sensations etc to the user in the VR world (1m),feeling of reality(1m)	

Question Number	Answer	Mark
5(a)(i)	Student Id alphanumeric (8-10) Characters	

Question Number	Answer	Mark
5(a)(iii)	Fee Num/Currency 5 or 6	

Question Number	Answer	Mark
5(b)	Test with <ul style="list-style-type: none"> • Typical data 1-149 (1m) • Extreme data 0,150 (1m) • Invalid data <0,>150 (1m) 	

Question Number	Answer	Mark
6	Not multitasking Any three from - <ul style="list-style-type: none"> • Uncluttered screen - less confusing • Good use of colour and contrast - easy on the eye etc • Similar icon design - easier to understand • Easily customised - better for the user using own preferences • User friendly + good reason • Commands built in to icons etc./ no need to remember • Accept helps people with disability if explained • WIMP / WIMP component, with explanation (one component only) • Any thing sensible (1m) with explanation (1m) <p style="text-align: center;">(Max 6 marks)</p>	

Question Number	Answer	Mark
7	<p>Tables - Give a more detailed presentation of the figures (1). This allows a closer analysis of trends and variation in the data (1) e.g sorting lists to show (2m)</p> <p>Charts - Different types of charts can be used depending on the point to be made (1). Information can be seen at a glance without the need to look over information (1) Easy to compare / understand... (1) (2m)</p> <p>Multi-media - presentation can be made more interesting (use of audio visual effects) (1). Important points can be highlighted with a pointer etc. easier for the speaker to explain etc (1) (2m)</p> <p>(1 mark for advantage 1 mark for expansion in each case)</p>	

Question Number	Answer	Mark
8(a)	<p>Use the forward function (1m) select sales manager from the directory / enter address (1m)</p>	

Question Number	Answer	Mark
8(b)	<p>Put meeting in e-mail (1m) Select managers (from list) /use group function (1m)</p>	

Question Number	Answer	Mark
8(c)	<p>navigate to where the photograph is stored / acquire the picture by scan etc. (1m) Use the attachment feature /insert/copy and paste picture from...(1m).</p>	

Question Number	Answer	Mark
9	<p>Methods:</p> <p>OCR (1m). Documents /text imported to WP for editing etc. (1m)</p> <p>OMR (1m)- mark sensing approach. School attendance systems / National lottery/ Menu selection for patients etc. (1m)</p> <p>Bar Code (1m). Frequently used in retail outlets for stock control etc. (1)</p> <p>MICR (1m) Used to read cheque data (1) (any two methods (1m each) described for 2nd mark)</p>	

Question Number	Answer	Mark
10(a)	<p>Parcels and bulky items can be sent More secure for confidential documents/tracking is possible/proof of delivery Protocol - invitations/weddings/not dependant on Internet/More personal</p> <p>Email affected by malware Recipient may not have technology (1m method + 1m expansion)</p>	

Question Number	Answer	Mark
10(b)(i)	<p>Microphone. (1m) Drivers for system as well VC software connected to a network/comms software/SKYPE (1m)</p>	

Question Number	Answer	Mark
10(b)(ii)	<p>Broadband connection required (1m) to enable the transmission of video images etc. Bandwidth / amount of data argument, NOT speed (1m)</p>	

Question Number	Answer	Mark
10(b)(iii)	<p>Visual contact (1m) -body language etc/ artefacts, documents etc can be seen/practical demonstrations given/ (1m)</p>	

Question Number	Answer	Mark
11(a)(i)	<p>Method used for large quantities of (similar) data (1m). Student forms are collected over a period of time(batched) (1m) and when ready processed all together. (1m)</p>	

Question Number	Answer	Mark
11(a)(ii)	Details could be out of date if held too long/ error correction could take some time/	

Question Number	Answer	Mark
11(b)(i)	Large quantities of data (1m) Run on spare processing time (1m)	

Question Number	Answer	Mark
11(b)(ii)	Small amount of data(1m) Can be done at immediately (1m)	

Question Number	Answer	Mark
12(a)	Computer ignores last digit/check digit and performs calculations on remaining digits (1m) answer obtained must match the check digit for it to be accepted (1m) Attempt to describe modulo 11 or other calculation (1m)	

Question Number	Answer	Mark
12(b)(i)	Double entry	

Question Number	Answer	Mark
12(b)(ii)	Stud_num (1m)- this is a unique field for student reference (1m) Computer looks up record (1m) makes a comparison (1m) Allow check digit(1m) and explanation (1m)	

Question Number	Answer	Mark
13(a)	Used advanced search techniques (1m) include + in criteria e.g. ICT + processors/search for specific processors e.g. "Intel processors" etc. (1m)	

Question Number	Answer	Mark
13(b)	Could be copyrighted (1 mark) and need permission to use (1 mark) Could be false information (1 mark) and therefore not suitable (1 mark)- not virus related	

Question Number	Answer	Mark
13(c)	Left e-mail address/agreed to updating/newsletters (1m) e-mail address used to send SPAM/Taken as permission to send (1m)	

Question Number	Answer	Mark
14(a)	Use networking ability of Operating system. /Comms software (1m) Drivers for Wireless components needed. (1m) Transmitter and receiver to create networks /Wireless NIC (1m)	

Question Number	Answer	Mark
14(b)	Set user accounts (1m) Set up access rights (1m) To control access (1m) Passwords on files /data (1m) only manager knows pw (1) To control access (1m)	

Question Number	Answer	Mark
14(c)	Check customer details electronically (1m) against system information (1m)	

Question Number	Answer	Mark
15(a)	<p>=IF(B5>4000,B5*1.5%,0) or anything that works (3m)</p> <p>If the candidate's formula is incorrect award up to two marks as follows:</p> <ul style="list-style-type: none"> • B5> 4000 (1m) • B5*.015 / 1.5% calculation (1m) • (Else) 0 (1m) 	

Question Number	Answer	Mark
15(b)	<p>=IF(B5> 8000, B5*0.02, IF(B5>4000,B5*0.015,0)) (4m)</p> <p>If the candidate's formula is incorrect award up to three marks as follows:</p> <ul style="list-style-type: none"> • Attempt to put a new formula first followed by candidate's formula (1m) • B5> 8000 seen (1m) • B5*0.02 / 2% calculation (1m) 	

Question Number	Answer	Mark
15(c)	Discount for Sales over £8000 = 2% shown somewhere on sheet	

TOTAL FOR PAPER: 100 MARKS

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467
Fax 01623 450481

Email publications@linneydirect.com

Summer 2009

For more information on Edexcel qualifications, please visit www.edexcel.com/quals

Edexcel Limited. Registered in England and Wales no.4496750
Registered Office: One90 High Holborn, London, WC1V 7BH