

Mark Scheme (Results)

November 2009

IGCSE

IGCSE Information and Communication Technology (4385/1F)

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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)	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">S</td> <td style="text-align: center;">N</td> <td style="text-align: center;">B</td> </tr> <tr> <td></td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">✓</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">✓</td> </tr> </table>	S	N	B		✓		✓	✓				✓			✓	<ul style="list-style-type: none"> • • • • • • • • (4)
S	N	B															
	✓																
✓	✓																
		✓															
		✓															

Question Number	Answer	Mark
2(a)		(4)

Minimum requirement	Game feature
DVD-ROM drive: 4X speed	The game can be played over the Internet
Video Card: 256MB RAM and a 1 GHz processor on the card	Videos load and play at several points in the game
400MB hard drive space	Playing the game involves using a large number of on-screen controls
Keyboard and mouse	The game installs itself the first time the DVD is run
Ethernet port	The game has a smoothly scrolling 3D display

Question Number	Answer	Mark
2(b)	Answers may include: <ul style="list-style-type: none">• Trackball• Joystick• Touch screen• Game console controller.	(2)

Question Number	Answer	Mark
2(c)	Answers may include: <ul style="list-style-type: none">• LCD. Lighter, less bulky / thinner, less power / cheaper to run.• CRT. Cheaper to buy, wider viewing angle, no dead pixels.	(2)

Question Number	Answer	Mark
3(a)	<p>cell A6 text</p> <p>cell B10 currency</p> <p>cell C2 number</p> <p>cell E8 number</p>	(4)

Question Number	Answer	Mark
3(b)	E8 / F8 / F11	(1)

Question Number	Answer	Mark
3(c)	<p>E 10</p> <p>F11</p>	(2)

Question Number	Answer	Mark
3(d)	<p>=E10</p> <p>+ F10</p>	(2)

Question Number	Answer	Mark
3(e)	A	(1)

Question Number	Answer	Mark
4(a)	Model is the maths / formulae / equations / algorithm Simulation is the result of running the model	(2)

Question Number	Answer	Mark
4(b)	Answers may include: <ul style="list-style-type: none"> • Cheaper, than hiring a crowd • Safer, no possibility of injuries during testing • Faster, simulations can be run speeded up • Can experiment, with blocked doors /different numbers of people/ anything sensible 	(3)

Question Number	Answer	Mark
4(c)	More realistic / possibility of unforeseen events / programme cannot exactly simulate people	(1)

Question Number	Answer	Mark
5(a)	<p>Answers may include:</p> <ul style="list-style-type: none"> • Less staff wages / no mail room staff • No cost for printing • No cost for posting catalogues <p>Max 2</p>	(2)

Question Number	Answer	Mark
5(b)	<p>b) Answers may include:</p> <ul style="list-style-type: none"> • available 24 / 7 • saves time (no need to travel) • saves cost of travel (no need to travel) • can see if book is available <p>Max 2</p>	(2)

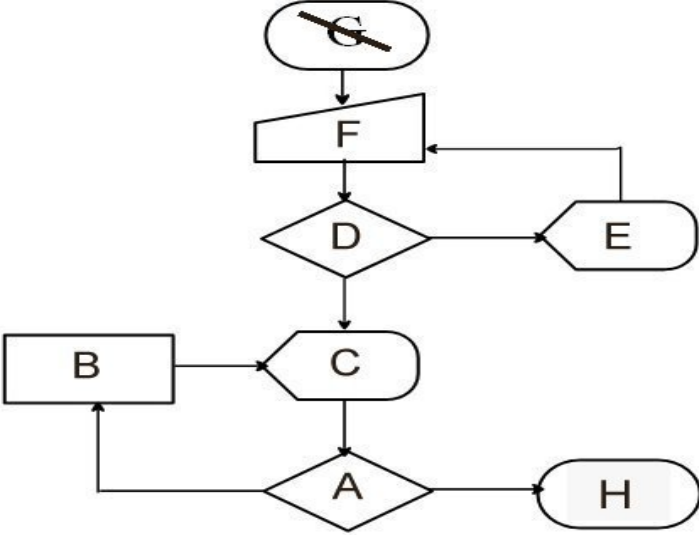
Question Number	Answer	Mark
5(c)	<p>Answers may include:</p> <ul style="list-style-type: none"> • Advertising on other web sites (paid advertising) • Advertising by other (non-Internet) method / poster / leaflet / newspaper advert • Direct e-mail to previous customers • Tell shop customers about it • Joining a web ring • Posting on bulletin boards / forums (free advertising) • Giving discounts / special offers on the website <p>Max 3</p>	(3)

Question Number	Answer	Mark
6(a)(i)	comparison with preset value(s) 1 mark 1 mark	(2)

Question Number	Answer	Mark
6(a)(ii)	control signal sent (to motor) 1 mark	(1)

Question Number	Answer	Mark
6(b)(i)	Answers may include: light source / IR / radioactive source suitable detector electrical contacts separated by paper wheel / ball rotated by moving paper 2 marks for any workable system	(2)

Question Number	Answer	Mark
6(b)(ii)	(ink level) sensor detects lack of ink (ink level) sensor sends (out of ink) signal to the microprocessor microprocessor makes a decision sends message / stops printer / roller / paper Max 3	(3)

• Question • Number	• Answer	• Mark
• 7	• 1 mark for each correct.  <pre>graph TD; G((G)) --> F[/F/]; F --> D{D}; E((E)) --> F; D --> C((C)); B[B] --> C; C --> A{A}; A --> B; A --> H(((H)));</pre>	• • • • • • • • • • • (7)

• Question Number	• Answer	• Mark		
• 8(a)	•	• (9)		
•				
Field name	Example data	Type	Length	Reason
Item	Javelin	text	15	Example data shows letters and an item name is unlikely to be longer than 15 characters.
Quantity	8	number integer	2	Quantities are numbers and there are unlikely to be more than 99 of anything
Purchased	22/09/2005	date	8 10	date format shown is 8 / 10 characters (10 if / is counted)
Cost	£105.99	currency	5 6 7	currency format is 5/6/7 characters (6 if £ or . counted)(7 if £ and . counted) Single item is unlikely to be more than £1000
•				
• 9 marks. Allow other sizes if reasons support the answer				
•				

Question Number	Answer	Mark
8(b)	<p>Item length 1 mark description 1 mark</p> <p>Quantity range / length 1 mark description 1 mark</p> <p>Purchased range / format 1 mark description 1 mark</p> <p>Cost range / format 1 mark description 1 mark</p> <p>The two validation checks must be different</p> <p>2 x 2 marks</p>	(4)

Question Number	Answer	Mark
9(a)	answers may include:	(4)
	<p>flash card is smaller (than dvd / hard drive). Therefore camera is smaller / lighter</p> <p>flash card uses less power (than dvd / hard drive) Therefore longer battery life smaller / lighter battery</p> <p>flash has no moving parts. Therefore less power needed less noise / vibration no write errors if jolted</p> <p style="text-align: center;">NOT flash memory is non-volatile.</p> <p style="text-align: center;">Maximum 4</p>	

Question Number	Answer	Mark
9(b)	<p>answers may include:</p> <ul style="list-style-type: none"> • flash card slower read write than HD • flash cards more expensive (per Gbyte) than either HD or DVD <p>Maximum 1</p>	(1)

Question Number	Answer	Mark
10(a)	<p>answers may include:</p> <p>frequent / regular breaks. (away from computer) Eyestrain / eye problems, stiffness / muscle ache</p> <p>frequent / regular look (away from screen) Eyestrain / eye problems,</p> <p>use correct posture (sitting) Stiffness / muscle ache, back pain</p> <p>use correct posture (typing) RSI, pains in hands / arms</p> <p>correct adjustment / use (of furniture / computer) RSI, stiffness / muscle ache, back pain, pains in hands / arms</p> <p>3 x (1+1)</p>	(6)

Question Number	Answer	Mark
10(b)	<p>answers may include:</p> <p>high humidity. fatigue, dehumidifier / air conditioning</p> <p>poor lighting eye problems anti-glare / indirect light</p> <p>low air quality respiratory problems air filters</p> <p>high noise levels hearing problems sound insulation method</p> <p>3 x 1</p>	(3)

Question Number	Answer	Mark
11(a)	<p>Answers may include:</p> <ul style="list-style-type: none"> • WAN requires telecoms link / named telecoms method, LAN does not • LAN is within limited area / single building, WAN can be over any distance <p>Max 3</p>	(3)

Question Number	Answer	Mark						
11(b)(i)	<table border="0"> <tr> <td>Large screen / projector.</td> <td>For classes to see the teacher</td> </tr> <tr> <td>Video camera,</td> <td>To capture images of teacher / classes</td> </tr> <tr> <td>Microphone,</td> <td>To capture sound of teacher / classes</td> </tr> </table>	Large screen / projector.	For classes to see the teacher	Video camera,	To capture images of teacher / classes	Microphone,	To capture sound of teacher / classes	(6)
Large screen / projector.	For classes to see the teacher							
Video camera,	To capture images of teacher / classes							
Microphone,	To capture sound of teacher / classes							

Question Number	Answer	Mark
11(b)(ii)	<p>Answers may include:</p> <ul style="list-style-type: none"> • Drivers for video camera • Drivers for projector • Video capture software • Video conference / Software to allow interaction between student and teacher <p>Max 2</p>	(3)

Question Number	Answer	Mark
12	<p>Answers may include:</p> <p>Malware (other than viruses) e.g. spyware, adware reads personal data / loads adverts any effect / example matching malware</p> <p>information out of date site may be abandoned / not maintained therefore information is not current / may conflict with other sources, suitable example</p> <p>too much information too many sources may cause information overload / be difficult to handle / may give differing information / opinion, suitable example</p> <p>Incorrect / misleading information some sites are deliberately or accidentally incorrect, suitable example</p> <p>3 x 2</p>	(6)

Question Number	Answer	Mark
13(a)(i)	<p>Answers may include:</p> <p>consists of (mixture of) letters, numbers, symbols, upper and lower case</p> <p>not made up of (dictionary) words</p> <p>1 mark for a description 1 mark for a matching example</p>	<p>#</p> <p>(2)</p>

Question Number	Answer	Mark
13(a)(ii)	<p>Answers may include:</p> <ul style="list-style-type: none"> • to (help) prevent unauthorised access • so that passwords cannot be (easily) guessed • so that passwords cannot be (easily) found using hacking methods / by hackers • so that people seeing password entered won't be able to memorise it <p>Max 2 marks</p>	<p>(2)</p>

Question Number	Answer	Mark
13(b)	<p>Answers may include:</p> <ul style="list-style-type: none"> • People forget their passwords easily • People may mistype passwords and get locked out / be unable to log in • People write passwords down / store on computer <p>Max 2</p>	<p>(2)</p>

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