A PEARSON COMPANY

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/

Alternatively, you can speak directly to a subject specialist at Edexcel on our dedicated ICT telephone line: 0844 372 2186

(If you are calling from outside the UK please dial + 44 1204 770 696 and state that you would like to speak to the ICT subject specialist).

November 2010

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	~~Grammar check - Verification~~ Range Check - Validation Presence Check- Verify Proof Reading - Verify Format Check - Validation Double entry - Verification Spell check - Verification	(6)

Question Number	Answer	Mark
2(a)	A software program (1) that allows keywords to be entered so that a search can be carried out (1) **or** a website (1) that redirects you to another website(1) Max 2 marks	(2)

Question Number	Answer	Mark

2(b)	Any two from- Wider customer base/World wide trading
	    Open 24/7
	    Cheaper than renting shops/offices
	    Fewer staff needed
	    Warehouses can be located anywhere
		(2)

Question Number	Answer	Mark

2(c)	Any four from-
	        Hotspots,
	        Hover buttons,
	        Hyperlinks,
	        Hypermedia links,
	        Menus,
	        Drop lists,
	        Checkboxes,
	        Radio buttons
	Max 4 marks
		(4)

Question Number	Answer	Mark
2(d)	Any two from Test –internal/external links, obtain feedback, interactivity checks(forms applets etc) accuracy(spell checks), accessibility etc	(2)

Question Number	Answer	Mark
3		(8)

Problem (1)	Prevention (1)
RSI	Keyboard design/wrist rests/regular breaks/varied workload
Eye Strain/headaches	Good lighting/low flicker screens/screen filters/reduced glare from sunlight/ good eye line to monitors
Bad posture	Adjustable chairs/ foot rests/tilting screens/document holders
Stress	correct software/considerate workload/training/ appropriate HCI

Question Number	Answer	Mark
4(a)	Student ID	(1)

Question Number	Answer	Mark
4(b)	Student ID	(1)

Question Number	Answer	Mark
4(c)(i)	Lesson Table	(1)

Question Number	Answer	Mark
4(c)(ii)	Student ID Time	(2)

Question Number	Answer	Mark
4(c)(iii)	(Student) Name	(1)

Question Number	Answer	Mark
5	The following are suggested answers; there may be other sensible suggestions. Use professional judgement here. Any four from: Accidental deletion of files by inexperienced staff Ensure all system users are trained for the packages they work with Theft of equipment by staff Keep computer rooms locked/CCTV/Tag all equipment etc Damage to equipment by staff As above Alteration of data by staff for fraud Security checks/ system traces Deliberate introduction of viruses Keep antivirus software up to date and operational 1 mark for Misuse + 1 mark for prevention Max 8 marks	(8)

Question Number	Answer	Mark

6(a)	Any three from –
	      accurate
	      timely
	      does not take breaks
	      not effected by conditions
	      direct entry of data
	      Cheaper (if quantified) etc
	
	Max 3 marks
		(3)

Question Number	Answer	Mark
6(b)	Box 1 Light sensor/ temperature sensor (1) Box 2 Light sensor/ temperature sensor (1) Box 3 Microprocessor/Computer (1) Box 4 VDU /off-line storage (1)	(4)

Question Number	Answer	Mark
6(c)	Convert the analogue signal from sensor into a digital signal (1) so that it can be used by the computer (1)	(2)

Question Number	Answer	Mark
6(d)	At the set time data from the computer is transferred to a modem linked to a satellite dish (1). Data is then transmitted to a satellite in orbit (1). The same data is transmitted to a receiver dish linked to the base station computer system (1)	(3)

Question Number	Answer	Mark
7(a)	Hardware failure/Data corruption/Data loss/Hardware theft Max 2 marks	(2)

Question Number	Answer	Mark
7(b)	Any three from: • Size of files/amount of data to be backed (1) as this will determine the amount of storage required (1) • Choice of backup media (1) optical devices is faster and can hold more data than tape (1) (Accept any reasonable argument for using other types of media) • Storage of backup media (1) for security should be stored in a fireproof safe/off site etc (1) • Data recovery/system recovery (1) a planned recovery system with all roles defined will enable a company to quickly restore any lost data with minimum disruption (1) • Frequency of backups (1) this will be related to how often the data is changing and will decide if backups should be daily, weekly etc. (1) • Time of backups (1) the backup process can slow the system operation so should be timed to cause minimum disruption (1) • Management of backup (1) this should be the responsibility of a designated person to ensure the process of backup and restore runs smoothly Max 6 marks	(6)

Question Number	Answer	Mark
8(a)(i)	Co ordinates the input/output devices /Executes instructions	(1)

Question Number	Answer	Mark
8(a)(ii)	Makes all calculations and logical decisions (1)	(1)

Question Number	Answer	Mark
8(a)(iii)	Provides immediate memory for holding data and programs	(1)

Question Number	Answer	Mark
8(b)(i)	Any three from: Start the computer / Provide user interface / Manage programs / Manage memory / Schedule jobs / configure devices / access the web / monitor pc performance / provide housekeeping services / control networks / manage security / error logging/transfers data to- from peripherals.	(3)

Question Number	Answer	Mark
8(b)(ii)	Command driven /Menu driven	(1)

Question Number	Answer	Mark
8(b)(iii)	No keywords/commands to remember WIMP controls are user friendly Compliance with the majority of commercial software packages Assistance for visually impaired etc is available	(2)

Question Number	Answer	Mark
9(a)	Less threats of viruses (1) work is safer (1) Less threat of ideas being hacked (1) work is safer (1) Faster to work (1) no network traffic (1) Protect other computers in use (1) errors in new programmes could interfere with pc operations (1) Max 2 marks	(2)

Question Number	Answer	Mark
9(b)	Centralised backup system (1) data restoration is more efficient (1) Software will be cheaper(1) licence allows multiple users (1) Staff can be monitored (1) more efficient work progress Audit trails can be used (1) to track misuse of company facilities (1) Files can be shared (1) allows easier access to data (1) Hardware can be shared (e.g. printers) (1) therefore saves money (1) Max 4 marks	(4)

Question Number	Answer	Mark
9(c)(i)	Wireless interface card/implied network ready pc, wireless devices, wireless access points, wireless bridge. (all items must be wireless –any two 1mark each)	(2)

Question Number	Answer	Mark
9(c)(ii)	Network operating system/NIC drivers	(1)

Question Number	Answer	Mark
9(c)(iii)	Network operating system - to set up the correct protocols/rules/enable communication (1) with different pcs on the network (1) NIC Driver – enables the pc to communicate (1) with the wireless card (1) Max 2 marks	(2)

Question Number	Answer	Mark
10(a)(i)	Network correct (1) server indicated (1) at least two additional pcs shown(1) terminators shown (1) Max 3 marks	(3)

Question Number	Answer	Mark
10(a)(ii)	Only one path to each terminal(1) so if cable breaks whole network will stop working (1)	(2)

Question Number	Answer	Mark
10(b)(i)	Ring/Star (1)	(1)

Question Number	Answer	Mark
10(b)(ii)	**Ring** - Terminals are connected in a circle (1) if there is a line break all computers stop working (1) **Star** - Each computer is connected to a central point (1) if a cable breaks only the computer connected to it will stop working (1) Max 2 marks	(2)

Question Number	Answer	Mark
11(a)	Typing web addresses (1) and go directly to the required site (1) Using hyperlinks/surfing (1) until item required is found (1) Use a search engine (1) enter key words (1) Max 4 marks	(4)

Question Number	Answer	Mark
11(b)(i)	**Some possible answers are shown accept any valid example** Information could be out of date (1) Information could be false (1) Site could be bogus (1)	(1)

Question Number	Answer	Mark
11(b)(ii)	Always check the date of publication (1) is the organisation/individual concerned known (1)/does the site look professional (1) have you been redirected etc (1)	(2)

Question Number	Answer	Mark
12(a)	Valve Open ⬅ No Valve open and close (1) Level sensor = Full Level sensor full (1) Yes Correct loop (1) Valve Close	(3)

Question Number	Answer	Mark
12(b)	Temp of water is measured by sensor (1) Comparison made with stored value(1) if too high heater turned off (1) if too low heater turned on (1) Process continues to maintain preset value (1) Max 4 marks	(4)