

# **Mark Scheme for June 2010**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by Examiners. It does not indicate the details of the discussions which took place at an Examiners' meeting before marking commenced.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

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Q	Mark Scheme		Marks	Additional guidance																		
1	<table border="1"> <thead> <tr> <th>Activity</th> <th>Utility (✓)</th> <th>Application (✓)</th> </tr> </thead> <tbody> <tr> <td>Creating a database</td> <td></td> <td>✓</td> </tr> <tr> <td>Exploring options within a model</td> <td></td> <td>✓</td> </tr> <tr> <td>Making a back up disk</td> <td>✓</td> <td></td> </tr> <tr> <td>Moving a file from one disk directory to another</td> <td>✓</td> <td></td> </tr> <tr> <td>Producing a word-processed document</td> <td></td> <td>✓</td> </tr> </tbody> </table>		Activity	Utility (✓)	Application (✓)	Creating a database		✓	Exploring options within a model		✓	Making a back up disk	✓		Moving a file from one disk directory to another	✓		Producing a word-processed document		✓	[5]	Correct answer only
Activity	Utility (✓)	Application (✓)																				
Creating a database		✓																				
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Making a back up disk	✓																					
Moving a file from one disk directory to another	✓																					
Producing a word-processed document		✓																				
2	<p>OMR is optical mark reading/reads (pencil) marks using a scanner  OMR is used for reading school registers/reading exam question responses from exam papers/lottery tickets  MICR is the reading of magnetic ink characters/magnetic ink character recognition  MICR is used in reading data from bank cheques</p>		[4]	<p>Allow Optical Mark Recognition/Reader</p> <p>Allow Magnetic Ink Character Recognition/Reader</p> <p>Allow any reasonable use.</p>																		
3	(a)	(i) Bar code reader/electronic weighing scales/touch screen	[1]	Allow bar code scanner but don't allow scanner on its own																		
		(ii) It is more accurate when entering in data/less chance of errors Data is entered more quickly (than keyboard entry)	[2]	<p>Must mention data when giving an answer related to speed but not when writing about accuracy</p> <p>Don't allow 'no' errors</p> <p>Allow quicker than typing data/details/products</p>																		
	(b)	(i) Magnetic stripe reader/chip and pin reader	[1]	<p>Don't allow magnetic card reader</p> <p>Don't allow reader on its own</p> <p>Allow chip and pin/magnetic strip</p>																		

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3	b	(ii) <b>Two</b> from: Account number/card number Expiry date Start date Issue number PIN number Sort code Credit limit	[2]	
	(c)	<b>Three</b> from: Eg Wider range of choice of goods Don't have to pay travelling costs Don't have to spend time travelling to shops/goods are delivered/don't have to leave the house Easier to search for specific goods Can shop when shops are closed	[3]	Shopping lists are remembered by supermarket Don't allow can compare prices. Don't allow special offers
	(d)	<b>Four</b> from: Increased unemployment for/changed roles for checkout operators/managers Increased employment for technical staff Some workers will have the opportunity to go part time There will be the opportunity to job share There will be the opportunity for flexible working hours Technical staff can work from home More van drivers will be employed More employees will work antisocial hours	[4]	Eg checkout operators will become pickers For technical staff accept web designers/web site maintenance staff

Q	Mark Scheme	Marks	Additional guidance
4	<p>WAN – <b>two</b> from:</p> <p>Wide area network/network over a wide geographical area Needs a router Connects two or more LANs together Internet is a WAN Needs a phone line/satellite/telecommunication link</p> <p>LAN – <b>two</b> from:</p> <p>Local area network/network over a small geographical area/network in a single building Only needs a hub/switch Use as basis for an intranet Physical cables/WiFi (short distance)</p>	[4]	
5	<p><b>Three from:</b></p> <p>If one computer/cable breaks down <u>network</u> will crash Last computer in sequence will wait a long time for data Difficult to add extra computers The greater the number of computers the slower the access to peripherals/internet Cabling costs are less of an issue when building a network</p>	[3]	

Q	Mark Scheme	Marks	Additional guidance
6	<p><i>Inputs:</i>            Temperature (sensor)            Input keypad            Required temperature</p> <p>ADC converts readings for processing</p> <p><i>Processing/outputs:</i>            Microprocessor (continually) monitors temperature/sensors            Process is continuous            Microprocessor compares input with preset value            Microprocessor sends signal to actuator/output device            Actuator used to...            ....If temperature is less than required temperature windows are closed/heater switched on            ....If temperature is more than required temperature heater switched off/ fan switched on/windows are opened</p> <p>Allow <b>maximum of two</b> marks for outputs (where specifically identified from list above)</p>	<b>[6]</b>	<u>Not</u> heat sensor but accept thermistor

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7	<p><b>Four</b> from:</p> <p>Consistency of layout  User always finds similar features in the same place/area of screen  Harmonious/pleasing colour scheme  Easy to follow/clear navigation pathways/hyperlinks  Simple/uncluttered/uncomplicated/well-organised screen layout/limited content of each screen  Logical order  Allows ease of use/easy understanding of screen/easy to read/fields clearly labelled  Adequate spacing of entry fields  Fixed length text boxes/fixed length prompts/individual character boxes/tick boxes/radio buttons/drop down lists  Font/font size/font colour should be easy to read  Buttons should be included/icons  Instructions should be clearly set out/help facility/examples of how to complete form  Designs could include menus/drop down lists</p>	[4]	

Q	Mark Scheme	Marks	Additional guidance
8	<p>If <b>all</b> benefits or <b>all</b> drawbacks given, maximum <b>five</b> marks</p> <p><b>Benefits</b>            No/fewer hotel/accommodation/ costs            No venue needs to be hired            Time is saved travelling (to conference)            No/less travel costs            Don't have to carry documents to meeting            Conferences can be called at short notice            Disabled people don't have to travel            Less travel leads to lower environmental impact            Less risk of employees being affected by incidents/flight delays</p> <p><b>Drawbacks</b>            Less social contact (with other workers)            Need to organise work around conference time            Conference time may be inconvenient            Time differences may need to be considered            Cost of equipment            Problems caused by equipment failure            Technical problems with power supply/satellite signal/would need fast uplink/weak connection            Time lag/picture break up (may cause problems)            Can only take place if all parties have <u>correct</u> equipment</p> <p><b>One mark available for a reasoned conclusion.</b></p>	[6]	Do not accept 'can work from home'
9	<p><b>Three</b> from:</p> <p>More up to date/greater number of symptoms stored in knowledge base than known by one doctor            More up to date/greater number of diseases stored in knowledge base than known by one doctor            Speed of analysing data is/results are produced quicker than a doctor            Used as a second opinion            Doctor still retains control of final diagnosis</p>	[3]	



Q	Mark Scheme	Marks	Additional guidance
10	<p><b>Six from:</b></p> <p><b>Interview</b>            Can change questions in light of replies            Interviewee less likely to exaggerate responses            Interviewers are able to monitor non verbal reactions            Interviewer can motivate the interviewee to respond            Interviewees can ask for clarification of question</p> <p><b>Questionnaires</b>            Workers not intimidated by/feel more comfortable with process            Does not take a great deal of time            Can be answered anonymously            Responses tend to be accurate            Responses can be analysed quickly            Can be done in worker's own time</p> <p><b>Collecting documents</b>            Inputs clearer to identify            Outputs clearer to identify            Personalities do not affect process            A larger variety of data can be collected</p> <p><b>Observation</b>            Get an accurate overview of <u>whole process</u>            Data flow is clear            Data gathered is accurate            Doesn't take workers off task</p> <p>2 marks are available for naming methods.</p>	[6]	

Q	Mark Scheme	Marks	Additional guidance
11	<p><b>Six from:</b></p> <p>Advantage of User id/passwords is that only authorised users have access to the data  Disadvantage of User id/passwords is that users can forget their passwords  Advantage of encryption is that unauthorised people will not understand/read the data/data is scrambled/data difficult to decrypt  Disadvantage of encryption is that it is just possible to crack encryption codes/can possibly be cracked if hacker has sufficient time  Advantage of firewall is that it prevents unauthorised computers/users from accessing the system  Disadvantage of firewall is that it slows down the performance of computers  Advantage of TANs (transaction numbers) is it prevents unauthorised access/virtually impossible to use without card and PIN  Disadvantage prevents authorised access if machine is faulty or if number not used within time limit  General disadvantage of any of these is that it restricts individual access by authorised users</p>	[6]	

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