

Mark Schemes on the Unit

January 2010

1494/MS/R/10J

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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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Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

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Applied GCSE ICT (1494)

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4872 ICT Knowledge and Understanding

Question			Expected Answer					Max Mark
1			I/O, Storage and Software					[9]
			One mark each correct row					
			Item	Input device	Output device	Storage device	Software	
			Hard Disk drive			✓		
			Keyboard	✓				
			Magnetic card reader	✓				
			Monitor		✓			
			Mouse	✓				
			Operating System				✓	
			RAM			✓		
2	(a)	(i)	Records					[1]
5.								
2	(a)	(ii)	Name of Field					[1]
One from: <ul style="list-style-type: none"> • Member Number • Last Name • First Name • Date of Birth • Address 1 • Post Code. 								
2	(b)		Why need contact details					[2]
One mark for each valid point referring to a need to keep name, address and/or DoB, eg: <ul style="list-style-type: none"> • to contact / write / send to them (1) for any specified reason / other information eg renewal or reminder(1) • to check DoB (1) any reasonable expansion eg. to ensure eligibility for different activities / price (1) • to check eligibility (1) security/enable entry (1) <p><i>NOT</i> just 'to know who they are'. Must be a valid reason for storing the data.</p> <p><i>NOT</i> anything about contacting relatives in an emergency or any other valid reasons for holding other data such as telephone number.</p>								

Question		Expected Answer	Max Mark
2	(c)	<p>Advantages on computer</p> <p>One mark each valid reason:</p> <ul style="list-style-type: none"> • backups can be made • instant/quick access to required data • saves storage space • easier / neater to update / no crossings out/change • easy to do queries / searches / find • can sort data easily / quickly • can print out lists – <i>must at least imply multiple lists, not just 'can print out'</i> • can view data in different ways, eg tables, forms, reports... • can search data easily / quickly • paper can get easily misplaced / put in the wrong place NOT lost. <i>Do not award this the other way round – it is not enough to say 'computer data can be easily found'</i> • paper can get easily torn / defaced • can export data to other packages (eg mail merge) • can protect data from unauthorised access <i>need more than 'more secure' – unprotected data is much less secure than locked cabinets eg passworded, encrypted</i> • can easily transfer to / access from other computers / can email database • can access data remotely / from variety of places • automatic calculation of age • can share data. 	[3]
2	(d)	<p>Enters member's number</p> <p>Two from:</p> <ul style="list-style-type: none"> • to make sure they have the right person/tell people apart • because two people might have the same name • because the member number is unique • because it is the key/primary field. 	[2]

Question		Expected Answer	Max Mark
2	(e)	<p>Backup and Archive</p> <p>Up to two from:</p> <ul style="list-style-type: none">• backup is a copy of a file• stored in case the original is lost / deleted / corrupted / stolen• stored in a different location from the original / backed up / saved to an external storage. <p>Up to two from:</p> <ul style="list-style-type: none">• archive is a copy / store of an old file / version• no longer in use• for historical reasons• stored away from the computer. <p>Up to two from:</p> <ul style="list-style-type: none">• backup protects / allows you to get back the latest / current version of a file• archive allows you to retrieve previously stored versions• you can delete the original of an old file once it has been archived• archive saves storage space by storing files you are unlikely to use in a less convenient location.	[5]

Question			Expected Answer	Max Mark	
3	(a)	(i)	DPA – Personal data		[1]
			Statement		
			DP legislation applies only to personal data	✓	
			DP legislation applies to all data held		
3	(a)	(ii)	DPA – Applies to what		[1]
			Statement		
			applies only to data stored on computer		
			applies to both paper and electronic records	✓	
3	(a)	(iii)	DPA – Permission		[1]
			Statement		[1]
			cannot store data ... unless that member has given their permission		
			can store data ... in order to run the members' scheme	✓	
3	(b)	(i)	<p>DPA – Why up to date</p> <p>One mark for a valid reason, which is likely to be a consequence of inaccurate data eg:</p> <ul style="list-style-type: none"> information might be sent to the wrong person people might be charged the wrong amounts / not admitted to events they should be can cause offence. 	[1]	
3	(b)	(ii)	<p>DPA – Ensure compliance</p> <p>Up to 2 marks for methods:</p> <ul style="list-style-type: none"> use validation when entering data / specific validation methods name a validation method verify / check / proof read data name a verification method ask members to check their data has been entered correctly ask / send letters members to check / update their own records ask members to notify if they change their details. 	[2]	

Question			Expected Answer	Max Mark
3	(c)	(i)	<p>DPA – Avoid loss or damage</p> <p>One mark for a valid reason, which is likely to be a consequence of loss or corruption/change of data eg:</p> <ul style="list-style-type: none">• if data is lost they might not know who is a member• if data is lost they might not know who has paid• if data is changed / damaged it will no longer be accurate• identify / victim of fraud.	[1]
3	(c)	(ii)	<p>DPA – Ensure data not lost/destroyed</p> <p>Up to 2 marks for methods:</p> <ul style="list-style-type: none">• keep regular backup copies• use a firewall• use passwords• use virus protection software• use other specified virus protection methods• physical security.	[2]

Question		Expected Answer	Max Mark
4	(a)	<p>Compare Tables, Charts etc</p> <p>Five comparisons from:</p> <p>Tables</p> <ul style="list-style-type: none"> • tables show the exact figures / hold all the information. <p>Charts</p> <ul style="list-style-type: none"> • charts give a better overview of trends • easy to compare figures • charts more attractive / interesting • easier to interpret / understand. <p>Bar Charts</p> <ul style="list-style-type: none"> • bar charts best / good for comparing amounts / values / discrete data • bar chart best for the calorie comparison / table 1 • bar charts better for comparing two sets of data. <p>Pie Charts</p> <ul style="list-style-type: none"> • pie charts best / good for showing how something is split up/percentages / proportions • pie chart best for the average day data / table 2. <p>Line Graphs</p> <ul style="list-style-type: none"> • line graphs good for showing trends / progressed over time / rise and drop / changes • line graph best for the obesity data / table 3 • line graphs better for comparing two sets / multiple sets of data. 	[5]

Question		Expected Answer	Max Mark
4	(b)	<p>Producing a leaflet</p> <p>One mark for:</p> <ul style="list-style-type: none">• spreadsheet. <p>Five for method from:</p> <ul style="list-style-type: none">• open WP / DTP software• select template / layout / style sheets• enter / add / write text / information• copy / paste / import graphs / charts / tables• resize charts• arrange / move / position charts/tables• create columns• wrap text around charts / choose wrapping options• format / resize text / choose fonts• emphasise titles• label charts / tables• add borders• add other graphics / illustrations• spell / grammar check / proof read• print preview / check layout / check going to printed in colour• save leaflet.	[6]

Question			Expected Answer	Max Mark
5	(a)		<p>Website</p> <p>Up to 2 marks for each benefit / problem, eg: Benefit:</p> <ul style="list-style-type: none"> • makes the site more attractive / dynamic (1) eg. encourages people to visit the centre (1) • photographs / videos can show real activities / accurate depiction / insight into what it looks like / see all the sports (1) eg. so people can see what the sports centre is really like (1) • people expect a website to show what the centre is like / photos (1) eg. would not be impressed if there were no photographs (1). <p>Problem:</p> <ul style="list-style-type: none"> • photographs/videos have large file sizes (1) • can make pages slow to load / can exceed space on server/be more expensive as need to buy more server space (1) • members / users might not want their photos on the website (1) • need to ask for permission (1) • customers may not have software to view the video (1). 	[6]
5	(b)	(i)	<p>Specialist company</p> <p>Three from:</p> <ul style="list-style-type: none"> • better quality / more professional website (1) so attracting more customers (1) • don't have to use staff time/would take a lot of time to create / maintain (1) • staff working on the website might affect other work in the centre (1) • don't need / might not have expertise to create site / company will have the right expertise (1). 	[3]
5	(b)	(ii)	<p>Cost of website</p> <p>One from:</p> <ul style="list-style-type: none"> • for hosting / server space • for domain name / url. 	[1]

Question		Expected Answer	Max Mark
6	(a)	<p>Measure/Monitor Performance</p> <p>Up to two marks for each point:</p> <ul style="list-style-type: none"> • data recorded automatically / checks every second (1) and displayed (1) so don't need someone else to record data (1) • data can be stored (1) and processed eg machines do the calculations – average / max / min displayed • summative data can be displayed (1) athletes can get details about their performance (1) to help them improve (1) • details about heart rate can be measured during exercise (1) monitoring can help prevent injury / harm (1) • (data) recorded / stored / processed accurately (1) help athletes to work towards targets (1) • can export the data to a spreadsheet (1). 	[4]
6	(b)	<p>Sensors</p> <p>Sensor(s).</p>	[1]
6	(c)	<p>Feedback</p> <ul style="list-style-type: none"> • monitoring only records data / just use sensors • control systems have a response to the data / switch on / off output devices as well. 	[2]

Question			Expected Answer	Max Mark
7	(a)		<p>Email</p> <p>Four from:</p> <ul style="list-style-type: none"> • emails arrive / reply more quickly / quick method of communication than standard mail (1) • so problems / issues can be dealt with more quickly (1) • cheaper to send emails than telephone / standard mail / email is free if already paying for software and internet / broadband (1) • more environmentally friendly / saves on resources (1) • emails can be easily / quickly saved (1) • emails provide permanent record unlike telephone (1) • can send / receive files as attachments (1) • attachments can be used / edited / suitable example (1) • emails can be accessed anywhere (1) • easier / quicker to forward an email to someone else (1) • the same message can be sent to multiple people at the same time (1) • embed (hyper)links. 	[4]
7	(b)	(i)	<p>One from:</p> <ul style="list-style-type: none"> • unwanted / unsolicited emails • junk email • advertising emails. 	[1]
7	(b)	(ii)	<p>Problems of Spam</p> <p>Two from:</p> <ul style="list-style-type: none"> • often offensive • can get hundreds each day • wastes time searching through inbox / deleting spam • can lose / delete genuine mail in error • can fill up in-box / memory / server so genuine mail can't get through • some look genuine / give away personal details / phishing • takes up bandwidth so increases costs to ISPs / customers • large amounts have overloaded / shut down servers. 	[2]

Question			Expected Answer	Max Mark
7	(b)	(iii)	<p>Spam Filter</p> <p>Benefit – one from:</p> <ul style="list-style-type: none"> • clears mailbox more quickly / easily • allows you to find genuine mail more easily • allow you to 'train' spam filter to improve efficiency • deals with most of your spam. <p>Problem – one from:</p> <ul style="list-style-type: none"> • automatic spam filters can filter out / delete genuine mail. • does not filter out all spam • takes time to do a scan. 	[2]
7	(c)		<p>Five from:</p> <ul style="list-style-type: none"> • use file names that help identify/describe contents / a name that she would remember (1) • Group files with similar information together / use folders (1) • use a system of sub-folders (1) • use find/search option / tool to search (1) • view files in date / type / size order (1) • view files as a list / small icons / details (1) • delete / archive old documents (1). 	[5]

Question			Expected Answer	Max Mark
8	(a)		<p>Flyer</p> <p>One mark each correctly labelled item:</p> <p>B. any or all of the emboldened dates but must not include any text that is not bold</p> <p>C. at least two of the listed activities, with or without the bullets</p> <p>D. Any or all of the name and address at the top</p> <p>E. any or all of the italic text at the bottom.</p>	[4]
8	(b)	(i)	<p>Improvements to flyer</p> <p>Up to 3 marks for valid improvements, eg:</p> <ul style="list-style-type: none"> • centre all or something • change text size • emphasise / embolden / enlarge / use WordArt / underline / italics • use more attractive / interesting font • add a graphic / photograph / logo • use coloured text • make use of header / footer eg put enquiries information into a footer • add a border • use different bullets • increase line spacing / spread text out • insert lines between the different parts • change theme / style sheet. 	[3]
8	(b)	(ii)	<p>Why flyer is improved</p> <p>Up to 3 marks for reasons that are appropriate to the suggestions in (1), eg:</p> <ul style="list-style-type: none"> • will make the leaflet more attractive / eye-catching / will not look bland / will make this stand out / make the event look more exciting / child friendly / read more easily • centring title etc will make it stand out (1) • x will balance the page (1) • making the text larger will fill the page (1) • x appeal to younger people (1) • a photograph could encourage people to join in / show how good the activities will be (1) • logo would add corporate identity / immediately show who is putting on the event (1) • putting enquiries information into the footer will help spread the writing out on the page (1) • increasing line spacing will make the writing easier to read (1) • x reduces white space (1). 	[3]

Question			Expected Answer	Max Mark
9	(a)	(i)	<p>Cell reference</p> <p>One mark for the correct cell:</p> <ul style="list-style-type: none"> • C5. 	[1]
9	(a)	(ii)	<p>Cell changes</p> <p>One mark each correct cell:</p> <ul style="list-style-type: none"> • D4 • D7. 	[2]
9	(b)		<p>Court cost</p> <p>Two marks for a correct formula, that would work when typed in, from:</p> <ul style="list-style-type: none"> • (=) B3*C3*C5 • (=) PRODUCT(B3,C3,C5) <p>One mark if one cell missing or wrong, eg (=) B3*C3</p> <p>One mark for the correct algorithm not given as a formula that would work when typed in, eg:</p> <ul style="list-style-type: none"> • D3= B3*C3*C5 • B3*C3*C5=D3 • (=) B3 x C3 x C5 <p>One mark for a formula that would work but makes incorrect use of a function, eg:</p> <ul style="list-style-type: none"> • (=) SUM(B3*C3*C5) • SUM(B3*B5) – 2 errors 0 marks 	[2]
9	(c)		<p>Discount</p> <p>Up to three marks for valid steps towards a working solution, eg:</p> <ul style="list-style-type: none"> • insert extra row between rows 4 and 5 • make row 4 'number of full price racquets' and row 5 'number of saver price racquets' • enter 0.5 (50p) in (new) B5 • add formula in new D5: (=) B5*C5/copy/replicate formula from D4 to D5 • change formula in D8 (what was D7) to (=)SUM(D3:D5) <p>Four marks for a completely working solution, which may not be the same as the one given here.</p> <p>Two marks for a solution that will work to give discount to the whole group, but not allow for mixed groups.</p>	[4]

Question		Expected Answer	Max Mark
10	(a)	<p>Advantages of on-line banking</p> <p>Three from:</p> <ul style="list-style-type: none"> • can access bank details / carry out transactions at any time of day (1) • can access bank details / carry out transactions without leaving home / from any computer (1) • don't have to wait in queues (1) • can see statement / how much money you have / carry out transactions whenever you like / need to (1) • transactions are carried out more quickly / conveniently than posting forms (1) • safer to bank from home (1) • get on-line discounts / better rates (1). 	[3]
10	(b)	<p>Illegal access to bank accounts</p> <p>Four from:</p> <ul style="list-style-type: none"> • choose passwords that are not easily guessed / never tell other people your password (1) • choose strong passwords / examples, eg mixture of numbers / letters / special characters, long passwords (1) • change password(s) regularly (1) • make sure no-one is looking when you enter your password / bank details (1) • don't write your password down / do not save it on your computer (1) • close down the web browser / sign out after use (1) • do not respond to phishing emails / description (1) • banks never send emails to ask for security details (1) • shred / dispose of safely any printouts containing bank details (1) • make sure the banking website you are logging onto is secure by looking for https / padlock symbol (1) • avoid wireless keyboards / wireless networks (1) to avoid other people viewing what you are doing / picking up your keystrokes / finding out your passwords. (1) • refrain from using public computers to access your bank account (1) • never save information on a public computer (1) • do not use same password for everything (1) since if it is found out in one application it can be used to access bank details (1). 	[4]

Grade Thresholds

General Certificate of Secondary Education
Applied ICT (Specification Code 1494)
January 2010 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	A*	A	B	C	D	E	F	G	U
4872	Raw	100	76	68	60	52	45	38	32	26	0
	UMS	100	90	80	70	60	50	40	30	20	0
4873	Raw	50	48	43	38	34	29	24	19	14	0
	UMS	100	90	80	70	60	50	40	30	20	0
4874	Raw	50	48	43	38	34	29	24	19	14	0
	UMS	100	90	80	70	60	50	40	30	20	0

Specification Aggregation Results

The cumulative percentage of candidates awarded each grade was as follows:

	A* A*	AA	BB	CC	DD	EE	FF	GG	UU	Total No. of Cands
UMS	270	240	210	180	150	120	90	60	0	
Cum %	0.0	0.0	7.1	25.0	57.1	60.7	71.4	96.4	100.0	29

29 candidates were entered for aggregation this series

For a description of how UMS marks are calculated see:
<http://www.ocr.org.uk/learners/ums/index.html>

Statistics are correct at the time of publication.

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

14 – 19 Qualifications (General)

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

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OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

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