

**Applied ICT**

Advanced Subsidiary GCE

Unit **G041**: How Organisations Use ICT

**Mark Scheme for June 2012**

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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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## Annotations

Annotation	Meaning
^	Something vital to the mark point has been omitted.
BOD	Benefit of the doubt given.
NBOD	Benefit of the doubt <b>not</b> given.
CON	Candidate contradicts him/herself.
NAQ	Candidate has not answered the question as set.
MTP	Candidate has missed the point of the question.
W	Candidate is working towards a mark but has not given enough to receive credit at this point.
NE	Not enough for the candidate to receive credit.
TV	Answer is too vague to receive credit.
FTC	Follow-through credit. When an earlier wrong answer has been penalised, this may be used to show that credit can now be given to a part of the script which depends on that earlier wrong answer. This avoids penalising a candidate twice for the same error, but <b>should only be used where specified by the PE.</b>
MAX	Shows that the maximum number of marks for a part-question or question has been awarded (even though the answer may contain further correct points).
R	The point repeats one already awarded credit.
JE	Candidate has <i>just</i> given enough to be awarded a mark.

## Subject-specific Marking Instructions

There are 100 marks available for this test. They are allocated as follows:

- Tasks 2 and 3                    30
- Section A of the test paper   50
- Section B of the test paper   20

Task 2	Answer	Marks	Guidance
	<p>1 mark each for boxes labelled</p> <ul style="list-style-type: none"> <li>• Customer</li> <li>• Receptionist</li> <li>• Yard supervisor</li> <li>• Yard worker</li> <li>• Admin assistant</li> </ul> <p>plus labelled arrows to show the following information flows (1 mark each) and methods (1 mark each) Max 15 marks.</p> <p>Note:</p> <ul style="list-style-type: none"> <li>• Arrows should only be awarded points if they are drawn to and from the correct boxes.</li> <li>• Marks may be awarded for unconventional diagrams provided they isolate the senders and receivers of information.</li> <li>• Do not award marks for flow diagrams or series of text boxes linked by arrows.</li> <li>• Marks cannot be awarded for 'How' if the information is not identified/is incorrect but can be awarded if information is essentially correct but vague or incomplete.</li> <li>• Labels should not be awarded marks if they are contained within the description of a process.</li> <li>• If lines cross, mark labels as long as it is clear where each arrow goes</li> <li>• Marks should only be awarded for labels that can be unambiguously linked to a single arrow.</li> </ul>	15	<p>Accept 'face-to-face' or 'in person' for 'by hand' but not vice versa.</p> <p>Label must be information for a mark.</p>

Task 2	Answer	Marks	Guidance
	<pre> graph TD     RS[Receptionist] -- "customer is ready to pick up car - telephone" --&gt; YS[Yard supervisor]     YS -- "(both copies of) hire agreement - hand" --&gt; C[Customer]     YS -- "return of car - email" --&gt; AA[Admin assistant]     AA -- "invoice - post" --&gt; C     YS -- "bottom copy of hire agreement - hand" --&gt; YW[Yard worker]     YW -- "bottom copy of hire agreement - hand" --&gt; YS     C -- "(two copies of) hire agreement - hand" --&gt; YS     C -- "location of car - face-to-face" --&gt; YS     C -- "middle copy of hire agreement - hand" --&gt; AA     C -- "Middle/customer/their copy of hire agreement - hand" --&gt; YW     </pre> <p>The diagram illustrates the flow of information and documents in a car hire process. It features five main entities: Yard supervisor, Receptionist, Admin assistant, Customer, and Yard worker. The Receptionist initiates the process by telephoning the Yard supervisor when the customer is ready to pick up the car. The Yard supervisor then provides two copies of the hire agreement to the Customer. Simultaneously, the Yard supervisor sends an email to the Admin assistant regarding the return of the car. The Admin assistant sends an invoice to the Customer via post. The Yard supervisor also provides the bottom copy of the hire agreement to the Yard worker, who then provides the bottom copy back to the Yard supervisor. The Customer provides two copies of the hire agreement back to the Yard supervisor and provides the location of the car face-to-face. Additionally, the Customer provides a middle copy of the hire agreement to the Admin assistant and a middle/customer/their copy to the Yard worker.</p>		

Task 3		Answer	Marks	Guidance									
				Content	Levels of response								
		<p>AO4 is assessed through this task.</p> <table border="1"> <thead> <tr> <th>AO4 Marks</th> <th>Guidance</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>A strength and a weakness in the method(s) used identified or suggestions for improving own performance.</td> </tr> <tr> <td>2</td> <td>A strength <u>or</u> a weakness in the method(s) used identified.</td> </tr> <tr> <td>1</td> <td>Some comment made on the method(s) used.</td> </tr> </tbody> </table> <p>The quality of written communication is assessed through this task.</p> <p>Answers may include: <b>improvements</b></p> <ul style="list-style-type: none"> <li>connect all car hire outlets with head office and workshop in a wide area network (WAN) using leased lines</li> <li>set up a virtual private network (VPN)/intranet for car hire outlets to access head office network via the internet</li> <li>combine all outlet booking systems and chauffeur-driven booking database into a single system on head office server</li> <li>incorporate service history into database of cars that is part of booking system</li> <li>provide access to booking system via network (WAN or VPN) from all outlets</li> </ul> <p>Accept answers relating to cloud technology.</p>	AO4 Marks	Guidance	3	A strength and a weakness in the method(s) used identified or suggestions for improving own performance.	2	A strength <u>or</u> a weakness in the method(s) used identified.	1	Some comment made on the method(s) used.	12		<p>Tiered response based on:</p> <p><b>H 9-12</b> Candidates will show a clear understanding of the task and include <b>detailed</b> explanations of how improvements could be made and both positive and negative impacts of these improvements.</p> <p>Examples are clearly applied to Pounds Car Hire and its staff.</p> <p>The information will be presented in a structured and coherent form. There will be few if any errors in spelling, grammar and punctuation. Any technical terms will be used appropriately and correctly.</p> <p><b>M 5-8</b> Candidates will show some understanding of the task and may include <b>some</b> explanations of how improvements could be made and the positive and negative impacts of these improvements. Their evaluation may be one-sided.</p> <p>Some examples are applied to Pounds Car Hire and its staff.</p> <p>The information will be presented in a structured format. There may be occasional errors in spelling, grammar and punctuation. Any technical terms will be mainly correct.</p>
AO4 Marks	Guidance												
3	A strength and a weakness in the method(s) used identified or suggestions for improving own performance.												
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Task 3		Answer	Marks	Guidance	
				Content	Levels of response
		<p><b>positive impacts on Pounds Car Hire</b></p> <ul style="list-style-type: none"> <li>centralised systems make it easier to monitor the business</li> <li>reduced duplication of data entry and data entry errors</li> <li><u>improved customer service</u>, eg           <ul style="list-style-type: none"> <li>for chauffer-driven bookings as outlet manager can check availability directly</li> <li>easier to pick up from one outlet and drop off at another</li> <li>don't have to provide personal details again if hiring from a different outlet</li> </ul> </li> <li>all booking clerks could be moved to head office</li> <li>possibly fewer booking clerks required, reducing wage bill</li> </ul> <p><b>negative impacts on Pounds Car Hire</b></p> <ul style="list-style-type: none"> <li>greater risk of unauthorised access/viruses</li> <li>cost of leased lines</li> <li>increased network management may be required</li> <li>may require upgrading of head office server, which will cost money</li> </ul> <p><b>positive impact on staff</b></p> <ul style="list-style-type: none"> <li>greater flexibility / some, such as booking clerks, could work from home</li> <li>easier access to all information required</li> </ul> <p><b>negative impact on staff</b></p> <ul style="list-style-type: none"> <li>some staff may lose their job, eg booking clerks, as fewer staff needed</li> <li>some staff, eg booking clerks, may need training to use the system</li> </ul>			<p><b>L 0-4</b> Candidates will demonstrate a limited understanding of the task.</p> <p>Information may be a list of points, with little or no explanations or application to Pounds Car Hire.</p> <p>Information will be poorly expressed and there will be limited, if any, use of technical terms.</p> <p>Errors of grammar, punctuation and spelling may be intrusive.</p> <p><b>Annotation:</b></p> <ul style="list-style-type: none"> <li>CS – response has been applied to case study</li> <li>I – identifies improvement</li> <li>S – identifies impact on staff</li> <li>C – identifies impact on PCH</li> <li>E – identifies expansions/explanations</li> <li>+ – identifies positive impact</li> <li>- – identifies negative impact</li> </ul>

## Section A

Question	Answer	Marks	Guidance
1	<p>Any <b>one</b> of</p> <ul style="list-style-type: none"> <li>• HR (1) plus <b>four</b> of <ul style="list-style-type: none"> <li>– maintain a register of self-employed drivers</li> <li>– identify available drivers</li> <li>– contact drivers with offer of work</li> <li>– draw up contract</li> <li>– pass drivers' invoices to finance department</li> <li>– carry out standard activities relating to staff recruitment, welfare and training (accept any suitable example for 1 mark, eg place advertisements, keep personnel records, arrange for staff to attend training courses)</li> </ul> </li> <li>• finance (1) plus <b>four</b> of <ul style="list-style-type: none"> <li>– keep records of income and expenditure OR <b>one</b> of <ul style="list-style-type: none"> <li>○ keep records of income from self-drive/chauffeur-driven car hire</li> <li>○ keep records of income from sale of 2 year old cars</li> <li>○ keep records of payments for parts and materials / replacement cars / driver invoices</li> <li>○ keep records of staff wages</li> </ul> </li> <li>– make payments using online banking facility</li> <li>– produce monthly and annual accounts</li> <li>– generate VAT returns</li> <li>– arrange for VAT to be paid</li> <li>– send customer an invoice for outstanding cost of hire</li> </ul> </li> </ul> <p>1 mark for job function plus 1 mark per point to max 4 for matching tasks</p>	5	<p>Do not accept 'contact drivers' if it not clear that these are additional drivers.</p> <p>If no job function is given, tasks cannot be marked.</p> <p>If a job role within the correct function is given, mark as 'too vague' but mark correct tasks.</p>

Question	Answer	Marks	Guidance
2	Any <b>five</b> of <ul style="list-style-type: none"> <li>• responsible for maintenance and warehousing, IT services and chauffeuring</li> <li>• oversees work of workshop manager, driver co-ordinator and IT technicians</li> <li>• attends motor shows</li> <li>• negotiates with sales representatives of car manufacturers</li> <li>• signs a contract with chosen car manufacturer</li> <li>• places order for replacement cars</li> <li>• negotiates percentage with owner of car auction company</li> <li>• reports to Managing Director</li> </ul> 1 mark per point to max of 5	5	
3	Any <b>three</b> of <ul style="list-style-type: none"> <li>• yard workers report to yard supervisor</li> <li>• receptionists/booking clerks/admin assistant report to office supervisor</li> <li>• yard/office supervisor report to outlet manager</li> <li>• outlet managers report to Sales and Marketing Director</li> </ul> 1 mark per point to max 3	3	
4	(i) organisations (accept film company or sports club/team)	1	
	(ii) provide chauffeur-driven cars (1) for transporting personnel (1) between locations (1) Max 2	2	No marks if 4(i) incorrect
	(iii) contract hire manager	1	No marks if 4(i) incorrect
	(iv) Up to <b>two</b> from <ul style="list-style-type: none"> <li>• contract hire manager negotiates contract with organisation</li> <li>• contract hire manager agrees price with organisation's representative</li> </ul> <b>Plus</b> up to <b>two</b> from <ul style="list-style-type: none"> <li>• number and type of cars required</li> <li>• when cars are needed and for how long</li> </ul> 1 mark per point to max 3	3	No marks if 4(i) incorrect Accept organisation negotiates contract with head office.

Question		Answer	Marks	Guidance						
5	(a)	<table border="1"> <thead> <tr> <th>Method</th> <th>Item of information</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>drop-down list</li> </ul> </td> <td>           Any <b>one</b> from           <ul style="list-style-type: none"> <li>name (of existing customer)</li> <li>start date</li> <li>start time</li> <li>end date</li> <li>end time</li> <li>car type</li> </ul> </td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>radio button</li> </ul> </td> <td>           Any <b>one</b> from           <ul style="list-style-type: none"> <li>satnav</li> <li>baby seat</li> <li>booster seat</li> <li>additional insurance</li> <li>additional drivers</li> </ul> </td> </tr> </tbody> </table>	Method	Item of information	<ul style="list-style-type: none"> <li>drop-down list</li> </ul>	Any <b>one</b> from <ul style="list-style-type: none"> <li>name (of existing customer)</li> <li>start date</li> <li>start time</li> <li>end date</li> <li>end time</li> <li>car type</li> </ul>	<ul style="list-style-type: none"> <li>radio button</li> </ul>	Any <b>one</b> from <ul style="list-style-type: none"> <li>satnav</li> <li>baby seat</li> <li>booster seat</li> <li>additional insurance</li> <li>additional drivers</li> </ul>	4	one mark for each method and one mark for a matching item of information
		Method	Item of information							
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	(b) (i)	<p><b>Calculation</b></p> <ul style="list-style-type: none"> <li><u>subtracts</u> pick up time and date from return time and date (1<sup>st</sup>) to calculate number of days hire (1)</li> <li><u>multiply</u> daily rate by number of days (1<sup>st</sup>) to give hire cost (1)</li> <li><u>multiply</u> charge for each extra by quantity (1)</li> <li><u>add</u> all charges to hire cost (1<sup>st</sup>) to give a sub-total (1)</li> <li>calculate VAT <u>and</u> add to sub-total (1)</li> </ul> <p><b>processing</b></p> <ul style="list-style-type: none"> <li><u>look up</u> daily rate (of vehicle type) (1)</li> <li><u>look up</u> charge for each extra (1)</li> </ul> <p>Must have at least one point from each section for full marks. Max 5</p>	5							
	(ii)	<p>Any <b>one</b> of:</p> <ul style="list-style-type: none"> <li><u>estimated</u> total cost of hiring car</li> <li>booking number</li> </ul> <p>1 mark</p>	1							

Question	Answer	Marks	Guidance
6	(i) Any <b>one</b> of <ul style="list-style-type: none"> <li>• second server (1<sup>st</sup>) linked to head office server (1)</li> <li>• workstations (1<sup>st</sup>) in warehouse and on workshop manager's desk (1) with <u>wired</u> connection to server (1)</li> <li>• laptops (1<sup>st</sup>) used by mechanics (1) connect to server <u>wirelessly</u> (1)</li> <li>• <u>networked/laser</u> printer (1<sup>st</sup>) used by workshop manager (1) to print out report (1)</li> </ul> Up to 2 marks per point to max 2	2	
	(ii) Any <b>one</b> of <ul style="list-style-type: none"> <li>• spreadsheet (1<sup>st</sup>) of all vehicles owned and their service history (1) held on workshop server(1)</li> <li>• stock control software (1<sup>st</sup>) for the warehouse (1) held on workshop server(1)</li> <li>• diagnostic software (1<sup>st</sup>) used by mechanics when servicing cars (1) held on mechanics' laptops (1)</li> </ul> Up to 2 marks per point to max 2	2	
	(iii) Any <b>one</b> of <ul style="list-style-type: none"> <li>• details of <u>new</u> cars / <u>delivery</u> mileage / date car received / registration number / the outlet they will be assigned to (1<sup>st</sup>) entered by workshop manager (1) when new cars delivered (1)</li> <li>• <u>updated</u> mileage (1<sup>st</sup>) from emails from yard supervisors (1)</li> </ul> Up to 2 marks per point to max 2	2	
	(iv) Any <b>one</b> of <ul style="list-style-type: none"> <li>• select cars (1<sup>st</sup>) where mileage &gt; 10,000 or time period &gt; 10 months (1) since car delivered or last serviced (1)</li> <li>• sort cars (1<sup>st</sup>) so cars closest to service deadline at top of list (1)</li> <li>• allocate dates for service (1<sup>st</sup>) so no more than 6 each day (1)</li> </ul> Up to 2 marks per point to max 2	2	
	(v) Any <b>one</b> of <ul style="list-style-type: none"> <li>• report showing selected cars (1<sup>st</sup>) plus their location and date to be serviced (1) relevant details emailed to yard supervisors (1)</li> <li>• list of self-drive hire cars that will be two years old by the next replacement date (1<sup>st</sup>) emailed to operations director (1)</li> </ul> Up to 2 marks per point to max 2	2	

Question		Answer	Marks	Guidance
7	(a)	<p>Any <b>two</b> actions identified and described</p> <ul style="list-style-type: none"> <li>analyse workstations to assess and reduce risk (1st) includes equipment, furniture and working environment / job being done / any special needs of member of staff (1)</li> <li>ensure workstations meet minimum requirements (1st) includes provision of adjustable chairs / suitable lighting / tilt and swivel monitors / sufficient workspace (1)</li> <li>plan employees' work so there are breaks and changes in activity (1st) frequency and duration of breaks not specified / short frequent breaks better than less frequent longer ones (1)</li> <li>arrange eye tests on request and provide spectacles (if special ones are needed) (1st) only for those employees covered by regulation / repeated at interval recommended by optician / employer only has to pay for spectacles if special ones are needed (1)</li> <li>provide health and safety training and information (1st) to ensure employees can use workstation safely / provide training in best use of equipment to avoid health problems / information on health and safety using VDUs / information on steps employees must take to comply with legislation (1)</li> </ul> <p>Up to 2 marks each to max 4</p>	4	Answers must clearly relate to Display Screen Equipment Regulations and not general health and safety at work.
	(b)	<p>Any <b>one</b> impact explained</p> <ul style="list-style-type: none"> <li>reduction in ICT related injuries (1) because suitable workstation equipment provided (1) training provided to use equipment safely (1)</li> <li>tasks may take longer / be more complex (1) because H &amp; S rules must be followed (1)</li> <li>may be able to claim compensation for injury if PCH breach H &amp; S rules (1) because complying with rules is a legal requirement (1)</li> <li>some staff, such as yard supervisor, may not be eligible for free eye tests (1) because they do not use VDUs enough to qualify (1)</li> </ul> <p>Up to 2 marks each to max 2</p>	2	Answers must clearly relate to Display Screen Equipment Regulations and not general health and safety at work.

Question		Answer	Marks	Guidance
	(c)	<p>Any <b>two</b> impacts explained</p> <ul style="list-style-type: none"> <li>• less staff absence due to ICT related injury (1) because staff trained to use equipment correctly (1)</li> <li>• cost of replacing equipment (1) because it no longer meets minimum standard (1)</li> <li>• cost of providing special equipment (1) because an employee has a special need (1)</li> <li>• staff working time lost (1) because of need to attend training to use equipment correctly (1)</li> <li>• specialist staff may be needed (1) because <u>workstation analysis</u> must be carried out (1)</li> <li>• cost of paying for eye tests / spectacles (1) because staff covered by regulation have requested them (1)</li> <li>• may have to pay compensation/fines if do not comply (1) because compliance is a legal requirement</li> </ul> <p>Up to 2 marks each to max 2</p>	4	<p>Do not award marks for compensation payment if converse has been awarded in 7(b)</p> <p>Answers must clearly relate to Display Screen Equipment Regulations and not general health and safety at work.</p>

## Section B

Question		Answer	Marks	Guidance
8		<p>Any <b>two</b> suitable tasks described</p> <p>eg</p> <ul style="list-style-type: none"> <li>• installing hardware/software (1) including upgrading hardware/software (1)</li> <li>• managing networks (1) LAN and WAN (1)</li> <li>• supporting ICT users (1) by providing a help desk (1)</li> <li>• offering training to users (1) by supporting them with software/hardware queries (1)</li> <li>• maintaining company website (1) by updating/uploading new information (1)</li> </ul> <p>Up to 2 marks each to max 4</p>	4	

Question		Answer	Marks	Guidance
9	(a)	Any <b>two</b> of <ul style="list-style-type: none"> <li>• to inform the customer of the total cost of their order</li> <li>• indicate the VAT charged</li> <li>• request payment</li> <li>• give instructions on how payment is to be collected</li> <li>• indicate when payment is to be collected</li> </ul> 1 mark each to max 2	2	
	(b)	Any <b>three</b> of <ul style="list-style-type: none"> <li>• multiply item price by quantity</li> <li>• add item totals</li> <li>• calculate VAT</li> <li>• add VAT to subtotal</li> <li>• add delivery charge</li> <li>• subtract any discount</li> </ul> 1 mark each to max 3	3	
	(c)	Any <b>one</b> of <ul style="list-style-type: none"> <li>• delivery note</li> <li>• returns document</li> <li>• promotional material</li> </ul>	1	

Question		Answer	Marks	Guidance
10	(a)	Any suitable process eg <ul style="list-style-type: none"> <li>• paper making</li> <li>• glass making</li> <li>• recycling</li> <li>• food packing</li> <li>• chocolate making</li> <li>• paint spraying</li> </ul> 1 mark	1	Must be process control
	(b) (i)	<ul style="list-style-type: none"> <li>• Sensors test the product (1) compared with stored ideal values (1) if do not match (1) sends signal back to machinery (1) to make adjustment/alert (1)</li> <li>• Quality control engineers take random samples (1) checks them against pre-set criteria (1) adjusts settings if necessary (1)</li> </ul> Max 3	3	
	(b) (ii)	Any <b>three</b> of <ul style="list-style-type: none"> <li>• goods produced faster than manual production methods (1) because machines can work faster than human beings(1)</li> <li>• less waste (1) because less rejected products (1) reducing cost (1)</li> <li>• <u>fewer</u> employees (1) so lower wage bill (1)</li> <li>• 24 hour production possible (1) as does not need breaks/get tired (1)</li> <li>• safer working environment (1) because dangerous materials don't have to be handled (1)</li> </ul> 2 marks each to max 6	6	

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