OCR
RECOGNISING ACHIEVEMENT

GCSE

ICT A

General Certificate of Secondary Education

Unit **2359/01:** Paper 3 (Foundation Tier)

Mark Scheme for January 2011

Oxford Cambridge and RSA Examinations

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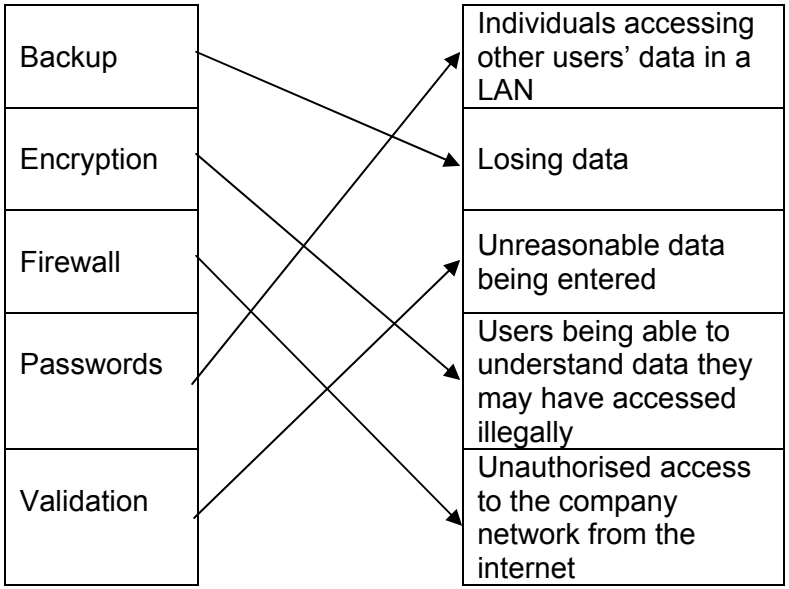
<table>
<tr><th colspan="3">Question</th><th>Expected Answer</th><th>Mark</th><th>Rationale/Additional Guidance</th></tr>
<tr><td>1</td><td></td><td></td><td>DVD drive Graphics tablet Magnetic stripe reader
Plotter Printer Speaker</td><td>[2]</td><td>Correct Answer Only
Subtract one mark for every extra circle down to a minimum of 0</td></tr>
<tr><td>2</td><td></td><td></td><td>
<table>
<tr><th></th><th>True (✓)</th><th>False (✓)</th></tr>
<tr><td>A DTP package is used to manage personal finance</td><td></td><td>✓</td></tr>
<tr><td>A spreadsheet is used to produce a newspaper</td><td></td><td>✓</td></tr>
<tr><td>A web browser is used to view pages on the internet</td><td>✓</td><td></td></tr>
<tr><td>Measuring equipment is used to monitor temperature in a science experiment</td><td>✓</td><td></td></tr>
<tr><td>Presentation software is used to search stock records in a supermarket</td><td></td><td>✓</td></tr>
</table>
</td><td>[5]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
<tr><td>3</td><td></td><td></td><td>OMR is a system that is able to input pencil marks as data into a computer.
A barcode reader is used in supermarkets to input data from a cereal packet.
MICR is used to input data from a bank cheque.
A menu is an important part of a Graphical User Interface (GUI).</td><td>[4]</td><td>Correct Answer Only</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Expected Answer</th><th>Mark</th><th>Rationale/Additional Guidance</th></tr>
<tr><td>4</td><td></td><td></td><td>
<table>
<tr><th></th><th>Implementation (✓)</th><th>Evaluation (✓)</th></tr>
<tr><td>Comparing the solution with the original design</td><td></td><td>✓</td></tr>
<tr><td>Direct changeover</td><td>✓</td><td></td></tr>
<tr><td>Identifying the good and bad points of the final system</td><td></td><td>✓</td></tr>
<tr><td>Parallel running</td><td>✓</td><td></td></tr>
</table>
</td><td>[4]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
<tr><td>5</td><td></td><td></td><td>
<table>
<tr><th></th><th>✓</th></tr>
<tr><td>A bank cheque clearing system</td><td>✓</td></tr>
<tr><td>A computerised airline booking system</td><td></td></tr>
<tr><td>Processing gas bills</td><td>✓</td></tr>
<tr><td>Purchasing an item on the internet using a bank card</td><td></td></tr>
<tr><td>Scanning a set of OMR test answer sheets.</td><td>✓</td></tr>
<tr><td>The use of robots on a car production line</td><td></td></tr>
</table>
</td><td>[3]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Expected Answer</th><th>Mark</th><th>Rationale/Additional Guidance</th></tr>
<tr><td>6</td><td>(a)</td><td></td><td>
<table>
<tr><td>Always write your password down so you will remember it</td><td></td></tr>
<tr><td>Make sure you always log off at the end of a session</td><td>✓</td></tr>
<tr><td>Tell a colleague what your password is in case you forget it</td><td></td></tr>
<tr><td>Use a combination of numbers and letters for your password</td><td>✓</td></tr>
<tr><td>Use a password which is hard for other employees to guess</td><td>✓</td></tr>
<tr><td>Use the name of the street you live in for your password</td><td></td></tr>
</table>
</td><td>[3]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
<tr><td>6</td><td>(b)</td><td></td><td>


</td><td>[5]</td><td>Correct Answer Only
Subtract one mark for every extra arrow down to a minimum of 0</td></tr>
</table>

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<tr><th colspan="3">Question</th><th>Expected Answer</th><th>Mark</th><th>Rationale/Additional Guidance</th></tr>
<tr><td>7</td><td></td><td></td><td>
<table>
<tr><th></th><th>RAM (✓)</th><th>ROM (✓)</th></tr>
<tr><td>Data can be changed</td><td>✓</td><td></td></tr>
<tr><td>Data is still there when the computer is switched off</td><td></td><td>✓</td></tr>
<tr><td>Stores the data being processed</td><td>✓</td><td></td></tr>
<tr><td>Stores the instructions a computer needs when booting up</td><td></td><td>✓</td></tr>
</table>
</td><td>[4]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
<tr><td>8</td><td>(a)</td><td></td><td>**Two** from:

Thumbprint data is already stored/thumbprint is already on database
Thumbprint is compared with pre-stored data/database is searched for a match
Identifies user to system/authentication technique
System uses data to prevent unauthorised access</td><td>[2]</td><td></td></tr>
<tr><td></td><td>(b)</td><td></td><td>(Reading) bar codes
(Reading) magnetic stripe
(reading) chip
Eye/iris/retina scan
Face recognition</td><td>[2]</td><td></td></tr>
<tr><td></td><td>(c)</td><td></td><td>Reduces impersonation/impossible to duplicate data/thumbprints are unique
No problems forgetting cards/ don’t need cards/won’t forget thumbprint/always have it with you
Cards might get damaged
Quicker than using a keyboard
More accurate than using a keyboard</td><td>[2]</td><td></td></tr>
</table>

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<tr><td>9</td><td></td><td></td><td>
<table>
<tr><th></th><th>True (✓)</th><th>False (✓)</th></tr>
<tr><td>The double entry method requires the computer to compare the different versions</td><td>✓</td><td></td></tr>
<tr><td>Verification checks that data is copied correctly</td><td>✓</td><td></td></tr>
<tr><td>Verification makes sure that data is correct</td><td></td><td>✓</td></tr>
<tr><td>Visual checking requires the data on the screen to be read</td><td>✓</td><td></td></tr>
</table>
</td><td>[4]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
<tr><td>10</td><td>(a)</td><td></td><td>Three from:

The standard of the finished product is more consistent
Robots don’t take breaks from work
Robots don’t have to be paid (a weekly wage)
Robots can work in a hazardous environment/don’t get hurt/can work in confined spaces
Robots are more accurate than humans
Can work 24/7
Easier to produce to individualised requirements
Greater productivity</td><td>[3]</td><td></td></tr>
<tr><td></td><td>(b)</td><td></td><td>Three from:

Expensive to set up/maintain/repair
Are unable to cope with unusual circumstances
Can only perform one task at one time
Cause human unemployment
Cause humans to need to retrain
When mistakes made in programming can mean several cars wrongly produced (before it is noticed)</td><td>[3]</td><td></td></tr>
</table>

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<tr><td>11</td><td></td><td></td><td>
<table>
<tr><th></th><th>Star</th><th>Ring</th></tr>
<tr><td>Each computer is directly connected to two other computers</td><td></td><td>✓</td></tr>
<tr><td>If one computer fails the whole network crashes</td><td></td><td>✓</td></tr>
<tr><td>The network uses more cabling</td><td>✓</td><td></td></tr>
<tr><td>There is less disruption to the network when adding another computer</td><td>✓</td><td></td></tr>
</table>
</td><td>[4]</td><td>Correct Answer Only
Subtract one mark for every extra tick down to a minimum of 0</td></tr>
<tr><td>12</td><td></td><td></td><td>Four from:
To save storage space
• codes are shorter
To save time when entering data/ is easier to enter data
• less typing to do
To reduce the chance of data entry errors
• less typing so less chance of making errors
To make validation easier
• routines are less complicated as only have to include codes/don’t have to type data out in full
To make verification easier
• easier to compare codes than complete set of data</td><td>[4]</td><td>Any four points/expansions</td></tr>
<tr><td>13</td><td>(a)</td><td></td><td>Two from:
Temperature/thermistor
Humidity/moisture
Light
pH/acidity
CO_2/O_2</td><td>[2]</td><td>Mark first two answers only.

Do not accept heat or water</td></tr>
</table>

Question			Expected Answer	Mark	Rationale/Additional Guidance
	(b)		**Four** from: A range of pre-set values are entered Microprocessor/ computer receives reading from sensor Microprocessor/ computer compares reading with lower level If higher microprocessor/ computer does nothing If lower microprocessor/ computer switches on light/sprinkler/heater/switches off fan/closes windows/shutters This will cause the reading to increase Microprocessor/ computer compares reading with higher level If greater microprocessor/ computer switches off light/sprinkler/heater or opens shutters/windows/switches on fan This causes the reading to reduce The whole process is repeated. Use of ADC/DAC	**[4]**	Any four points Order is not important If too hot microprocessor/ computer…. Allow once only
			Total	**[60]**	

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