

Mark Scheme (Results)

Summer 2010

GCE

GCE Ordinary Level Computing (7105/01)

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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.

Section A

Question Number	Answer	Mark
1(a)	The price is variable (up or down) / barcode cannot be easily changed	(1)

Question Number	Answer	Mark
1(b)	When goods are sold system deducts amount from stock / updates stock level (1). A reorder level/minimum stock level is in the stock file (1) When reorder level is reached new stock is automatically reordered / message (1)	(3)

Question Number	Answer	Mark
1(c)	Any three from: <ul style="list-style-type: none"> • Stock can be stolen • Human error • Computer error • Reorder level set incorrectly • Errors at checkout • Errors at suppliers • Delivery quantity was wrong / wrong quantity input • Delays between placing orders and receiving them 	(3)

Question Number	Answer	Mark
2(a)(i)	Microphone / recognisable abbreviation	(1)

Question Number	Answer	Mark
2(a)(ii)	Interprets the text / converts the text / compares to reference (1) Displays it on the screen / operates computer / produces document / any sensible action (1)	(2)

Question Number	Answer	Mark
2(b)	Documents are passed through an Optical Character Recognition OCR / OMR / other scanning device (1) Software recognises characters (1) Loads them onto the computer / produces document / fills a form etc. (1) NOT microphone / speech recognition NOT alternative keyboard / touchscreen	(2)

Question Number	Answer	Mark
3(a)	Any two from <ul style="list-style-type: none"> • Improved security (Network backups, use of passwords/access levels) • Software upgrades etc are easier • For communication / use of e-mail etc. • Easier to copy /transfer patients files • All records can be accessed / shared by all doctors • Data can be entered / accessed from any computer • Peripherals / printers can be shared 	(2)

Question Number	Answer	Mark
3(b)	Stores files and data (1) Deals with requests for data access etc (1) Manages network security (1)	(2)

Question Number	Answer	Mark
3(c)(i)	Modem /ISDN (terminal adapter) /gateways/router /NIC	(1)

Question Number	Answer	Mark
3(c)(ii)	<ul style="list-style-type: none"> • Modem - turns digital signals from the computer (1) into analogue signals for transmission (1) accept reverse argument • ISDN - Used on digital phone lines (1) acts as buffer during transmission (1) • Gateway - a computer (1) forming the link between the networks (1) • Security function for any of the above (1) • NIC to make link to WAN (1) <p style="text-align: right;">(Max 2 marks)</p>	(2)

Question Number	Answer	Mark
4	<p>Allow leading a team for any ONE of the three for 1 mark</p> <p><u>Software Engineer</u> - Designs software Creates software Installs and configures the software Test the software after installation Maintains software Produces software documentation (Max 3 marks)</p> <p><u>Systems Analyst</u> - Completes a fact finding process Runs a feasibility study Produces a (management) report on the present system Produces recommendations for the new system Designs the required system Implements the system Tests the system Documents the completed system Evaluates the final system (Max 3 marks)</p> <p><u>Programmer</u> - Write software programmes Modify existing programmes to perform different tasks Correct faults in software Test software with trial data Produce documentation (Max 3 marks)</p>	(9)

Question Number	Answer	Mark
5(a)	<ul style="list-style-type: none"> • Micro switch / contact / touch / pressure • Proximity • Light • IR • Radio / radar • (Ultra) sound • Dead reckoning method <p>(any two for 2m)</p>	(2)

Question Number	Answer	Mark
5(b)	<p>MUST involve sensor - processor - action NOT storing the maze route Sensor detects (obstacle) (1) Signal sent to microprocessor (1) Robot / microprocessor is programmed to move / make decision (1) Until a sensor detects free path / robot takes</p>	(3)

	avoidance action (1)	
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Question Number	Answer	Mark
5(c)	The robot has learned the path / stored information (1) Relating to the position of the objects/ free path (1) and is therefore able to avoid the objects / follow stored path (1)	(3)

Question Number	Answer	Mark																												
6(a)(i)	<p><i>Start</i> <i>Set counter to zero</i> <i>Enter password</i> <i>Search password database</i> <i>Password correct?</i> <i>Allow access</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td></td><td><u>E</u></td><td></td><td></td></tr> <tr><td></td><td>G</td><td></td><td></td></tr> <tr><td></td><td>H</td><td></td><td></td></tr> <tr><td>(A)</td><td>A</td><td></td><td></td></tr> <tr><td></td><td>D</td><td>C</td><td>F</td></tr> <tr><td></td><td>I</td><td></td><td>B</td></tr> <tr><td></td><td><u>Stop</u></td><td></td><td></td></tr> </table> <p style="text-align: right;"><i>Add 1 to counter</i> <i>Counter = 3</i> <i>Display error</i> <i>Message</i></p> <p>(Up to 6 marks for 6 steps in the correct order)</p>		<u>E</u>				G				H			(A)	A				D	C	F		I		B		<u>Stop</u>			(6)
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Question Number	Answer	Mark
6(a)(ii)	Not to be obvious (names etc) (1) Not to be written down (1) Mixed characters (numbers/letters/capitals/symbols) / difficult / strong (1) Minimum length to password (1) (Max 2 marks)	(2)

Question Number	Answer	Mark
6(b)	Allows the system to track changes to information (in the database)(1) By recording the user (ID) (1) and the alteration made (1) (any two for 2m)	(2)

Question Number	Answer	Mark
7(a)	Viruses Hackers Power failure Hardware faults Deliberate data alteration Deliberate hardware damage Accidental data damage or erasure Hardware theft	(2)

Question Number	Answer	Mark
7(b)	<p>Preventions MUST match threats from 7(a) Allow answers to Data deletion and Data theft if given in 7(a)</p> <p>Virus - use of antivirus software Hackers - Firewalls/ user ID and password Power failure - UPS systems / backup system Hardware faults - backup system Deliberate data alteration - backup system Deliberate hardware damage - backup system Accidental data damage or erasure - backup system Hardware theft - physical security system</p> <p>NOTE for backup systems allow data recovery software</p> <p style="text-align: right;">(Max 2 Marks)</p>	D

Section B

Question Number	Answer	Mark
8		(12)

Field name	Data type	Field length	Reason
Title	text		No title example is given but titles are usually words, so needs a text field.
		30	30 characters would be enough to identify title even if it is longer.
Music book	text		Book name needs text
		20 or over	20 characters would be enough to identify title even if it is longer/ title can be abbreviated.
Words	text Boolean yes/no tick box		Text would be yes or no
		3 or 1	Boolean is 1 character / tick box
ID	text / number		Type must be justified, with an example.
		must match reason	Size must be justified, with an example.

Question Number	Answer	Mark
9(a)	Adding - A new piece of music is purchased. (1) Deleting - A piece of music removed from the collection. (1) Amending - Any change to details, e.g. incorrect genre is corrected. (1)	(3)

Question Number	Answer	Mark
9(b)	Difficult to find instrument / genre in memo field / data is disorganised. (1) Because would need to need to search for word inside a field / part of a field's content (1) Solutions 2 and 3 allow searches for multiple instruments / genres (1) Allow reverse arguments Maximum 2 marks	(2)

Question Number	Answer	Mark
9(c)	<p>Reasons may include:</p> <ul style="list-style-type: none"> • two tables are easier to set up / link / create. (1) Therefore project more likely to get finished / work correctly. (1) • search / query easier to set up. (1) Mr Raymond needs to be able to search the database / is not an expert user. (1) • reports are easier to set up. (1) Mr Raymond needs to be able to produce lists of music for events / is not an expert user / needs to be able find the same music for several instruments. (1) <p>2 x 2 marks</p>	(4)

Question Number	Answer	Mark
10	<p>Fields</p> <p>Title, ID, Music book (1)</p> <p>Words as boolean / tick box / drop down (1)</p> <p>Genre as 7 / 8 fields / tick boxes (1)</p> <p>Instrument as 9 / 10 fields / tick boxes (1)</p> <p>User friendly features</p> <p>Title (1)</p> <p>Instructions (1)</p> <p>Other user friendly feature</p> <p>NOT standard database buttons (1)</p> <p>Is a screen</p> <p>Fields shown as boxes, NOT lines / free writing space (1)</p>	(6)

Question Number	Answer	Mark
11(a)	<p>Answers may include:</p> <ul style="list-style-type: none"> • Contents / index • How to create a report • How to print from the database • How to start the database • How to add / amend / delete something • Common errors • Other relevant item <p>NOT search database</p>	(4)

Question Number	Answer	Mark
11(b)	<p>From MUSIC (named table)</p> <p>Show fields Title (and ID)</p> <p>Where in DETAIL (named table)</p>	(5)

	field Classical = yes AND field Violin = yes AND field Viola = yes	
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Question Number	Answer	Mark
12(a)	Add a new field called Composer / other sensible name To the DETAIL / MUSIC table (named table)	(3)

Question Number	Answer	Mark
12(b)	Make a button / other control on the main form / other sensible place that activates a hyperlink / hypermedia link to the (first page of the) web site	(3)

Question Number	Answer	Mark
13(a)	Document site / documents put onto intranet / hyperlinked access levels (for document site) / group (file) permissions or attributes or user rights Mr. Raymond full control all students read only	(3)

Question Number	Answer	Mark
13(b)	Database on intranet link to open file / .exe file permissions / attributes NOT access levels Music students read only other students no access Mr. Raymond no limitations	(5)

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