

Mark Scheme (Results)

January 2012

GCE Applied ICT (6957)
Paper 1 Using Database Software

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Activity	ANSWER	POSS. MARK	MAX																																										
Activity 1	Understanding the problem																																												
1 (a)	<table border="1"> <thead> <tr> <th></th> <th>Data</th> <th>Internet</th> <th>Teacher</th> <th>Student</th> <th>System Generated</th> </tr> </thead> <tbody> <tr> <td>A1</td> <td>Student personal details e.g. name, address, passport number</td> <td></td> <td></td> <td>X</td> <td></td> </tr> <tr> <td>A2</td> <td>Places that will be visited</td> <td>X</td> <td>Or X</td> <td colspan="2">Do not award if X in both columns</td> </tr> <tr> <td>A3</td> <td>StudentID</td> <td></td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>A4</td> <td>PaymentID</td> <td></td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>A5</td> <td>Outstanding balance</td> <td></td> <td></td> <td></td> <td>X</td> </tr> <tr> <td>A6</td> <td>Total amount already paid</td> <td></td> <td></td> <td></td> <td>X</td> </tr> </tbody> </table> <p style="text-align: right;">Award 1 mark for each correct row</p>		Data	Internet	Teacher	Student	System Generated	A1	Student personal details e.g. name, address, passport number			X		A2	Places that will be visited	X	Or X	Do not award if X in both columns		A3	StudentID				X	A4	PaymentID				X	A5	Outstanding balance				X	A6	Total amount already paid				X		(6)
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1 (b) B1	Passport number	1	(1)																																										
	Total for Activity 1		7																																										

Activity 2	Structure		
2 (a)	Award for similar table names (must be sensible)		
A1	Student (table)	1	(7)
A2	Visit/Place/Trip (table)	1	
A3	Visit/Place Choices(table)	1	
A4	Payment (table)	1	
A5	1:M Student – Payment	1	
A6	1:M Visit – Visit/Place Choices	1	
A7	1:M Student– Visit/Place Choices	1	

Activity	ANSWER	POSS. MARK	MAX
2 (b)	Data Types		
B1	Evidence of correct data types Min 1 date/time, 1 yes/no and 1 currency correct Date/Time: StudentDOB, PaymentDate, TripDate Yes/No: ParentalConsent, FullyPaid Currency: PaymentAmount	1	
B2	Evidence of correct primary keys Table Student– StudentID Table Payment – PaymentID Table Visit – VisitID	1	
B3	Table Trip Choices – VisitID, StudentID as composite key	1	(3)
2 (c)	Validation In this section answers must have titles above or take in the order of the mark scheme		
C1	Any suitable format check (not on generated fields - StudentID, PaymentID)) For example: StudentPostcode - >LL0\ 0LL StudentEmergencyNumber – 0000\ 0000000 StudentPassportNumber >LL0000000	1	
C2	Any suitable range check For example: VisitDate – between #15/03/12# and #16/03/12# VisitDate >#14/03/12# and< #17/03/12# VisitDate >=#15/03/12# and <=#16/03/12#	1	
C3	Any suitable presence check (not primary keys) For example: StudentPassportNumber StudentEmergencyContact StudentEmergencyNumber	1	
C4	Any suitable List Check or Lookup For example: Eiffel Tower Group 1, Eiffel Tower Group 2, Louvre Group 1, Louvre Group 2 All foreign keys acceptable, Composite key acceptable MUST have: limit to list yes on combo box	1	

Activity	ANSWER	POSS. MARK	MAX
C5	Any suitable default value Town – Berrymill County – County Durham PaymentDate – Date()	1	
C6	Any suitable field size - can be awarded if identified elsewhere StudentPostcode 7 Longer fields up to 50 characters etc	1	
	Note the same field can be used to show more than one of the above.		
			(6)
2 (d)			
D1	Student - 19	1	
D2	Visit - 4	1	
D3	Visit choices – 29	1	
D4	Payment - 39	1	(4)
	Total for Activity 2		20

Activity 3	Sign up Form – DESIGN view AND FORM view		
3 (a) (i)	Fields include (from any view)		
A1	<ul style="list-style-type: none"> • StudentFirstName • StudentSurname • StudentAddressLine1 • StudentTown • StudentCounty • StudentPostCode • StudentDOB • StudentPassportNumber • StudentEmergencyContact • RelationshipToStudent • StudentEmergencyNumber • ParentalConsent 	1	

Activity	ANSWER	POSS. MARK	MAX
3 (a) (ii)	Mark from DESIGN view StudentID generated For example: Left([StudentSurname],3) & Max(Right([StudentID],4))+1 If Query used this must be included Do not accept Count or DCount		
A2	Uses first three letters of StudentSurname	1	
A3	Finds the highest StudentID	1	
A4	Finds the right four digits of StudentID	1	
A5	1 added	1	
A6	All correct	1	
3 (a) (iii)	Mark from FORM or DESIGN view Looking for suitable customisation		
A7	One of: <ul style="list-style-type: none"> • suitable title – e.g. Student Sign up Form / Registration Form • instructions how to use • logical grouping of fields – e.g. surname and first name grouped, address fields grouped • suitable background – readable • suitable labels – e.g. StudentSurname changed to Surname – MUST have min 2 changed • textboxes suitable for the data in them 	1	
A8	One of: <ul style="list-style-type: none"> • disabling fields that are generated – StudentID • asterisks on fields they have to enter data into – StudentPassportNumber, StudentEmergencyContact, StudentEmergencyNumber 	1	(8)
3 (b)(i) B1	Save button added – allow default button	1	
B2	Query or method to append new details If Query is in macro or code need to see the whole query	1	
B3	Macro/code would display a save message OR save message displayed	1	
3 (b)(ii) B4	Form cleared after save (screenshot of either Macro or code)	1	
B5	Button properties 'OnClick' runs save macro	1	(5)

Activity	ANSWER	POSS. MARK	MAX
	Unpaid query Design View		
3 (c) (i) C1	Criteria correct For example: FullyPaid – No (must be clear that this is in Student table) May not use FullyPaid and may do it as a calculation: 400 – TotalAmountPaid Sum(PaymentAmount) < 400 Anything that is correct	1	
	Add Payment Form – Design View and Form View		
3 (c) (ii) C2	The form must include: StudentID or equivalent PaymentAmount or equivalent	1	
C3	Total amount paid generated (may be query or other)	1	
C4	StudentID or equivalent is a drop down box	1	
C5	Evidence that StudentID drop down box uses query – row source in properties is query and NOT table	1	
3 (c) (iii) C6	Correct calculation of new PaymentID =Max([PaymentID])+1 or something that would work	1	
3 (c) (iv) C7	New balance correctly calculated and displayed e.g. 400-(TotalAmountPaid+PaymentAmount) 400-TotalAmountPaid-PaymentAmount TotalAmountPaid+PaymentAmount Could have been done in query	1	(7)
	Saving Payment details		
3 (d) (i) D1	Save button added – allow default button	1	
D2	Button properties 'OnClick' runs save macro	1	
3 (d) (ii) D3	FullyPaid would be updated to Yes if appropriate (only award if updating the Student table)	1	
D4	Query or method to append new payment details If Query is in macro or code need to see the whole query	1	(4)

Activity	ANSWER	POSS. MARK	MAX
3 (e) (i) E1	Record Visit choices (any view) The following present StudentID or equivalent VisitID or equivalent	1	
3 (e) (ii) E2	Method that determines how many students are on the trip which would work. Must see full process.	1	
E3	Error message would display if 10 are already on trip or query/code would stop visits being available to pick	1	
E4	Macro or Code - The method used would save only if there are fewer than 10 on trip.	1	(4)
	Total for Activity 3		28

Activity 4	Testing		
	Sign Up form Robert Packard 123 The Grove Berrymill County Durham BB3 4EE DOB 01/08/1997 StudentPassportNumber XY1234567 StudentEmergencyContact Juliet Packard RelationshipToStudent Mother StudentEmergencyNumber 3131 4444445 ParentalConsent Yes		
4 (a) (i) A1	Entered on form correctly	1	
4 (a) (ii) A2	Fields shown above correctly stored (must agree with data entered on form and have a StudentID)	1	
A3	Message telling user it has been saved (A2 must be awarded to give this mark)	1	(3)
4 (b) B1	Required fields missing Suitable error message about required field being missing	1	(1)

Activity	ANSWER	POSS. MARK	MAX
	Payment Form StudentID: AUS1113 Student: Jane Austin PaymentAmount: £100		
4 (c) (i) C1	Screenshot of Student table or Payment table (or equivalent) prior to save	1	(5)
4 (c) (ii) C2	AlreadyPaid £300 Balance £400 Or £0	1	
C3	PaymentAmount displayed as currency with 2 decimal places	1	
C4	Stored in Payment table (or equivalent) correctly. PaymentID must be at least 40	1	
C5	Student table updated correctly for AUS1113 (must agree with data entered on form). FullyPaid should be Yes	1	
	Payment Form StudentID: POP1128 Student: David Popal Payment amount: £150		
4 (d) D1	Error message – payment amount is not valid Or if can only enter £100 or £400 and this is clear award mark	1	(1)
	Visit Choices form VisitID: ET16 StudentID: SWA1130		
4 (e) (i) E1	Data on form correct	1	(2)
4 (e) (ii) E2	Stored in Visit Choices (or equivalent) table correctly	1	
	Visit Choices form		
4 (f) F1	Error message – trip is full	1	(1)
	Total for Activity 4		13

Activity	ANSWER	POSS. MARK	MAX
Activity 5	Producing Reminders Report		
5 (a)	Criteria correct, would find those who have not fully paid e.g. FullyPaid=No (must be in Student Table) Sum(PaymentAmount) < 400	1	(3)
A2	Would calculate total amount each student has paid eg Sum(PaymentAmount)	1	
A3	Would calculate outstanding balance e.g. 400 – total amount paid	1	
5 (b)	B1 Report in design view	1	(7)
	B2 to B7: evidence in design or report view but design view must be present to get the marks.		
B2	Student name, total amount paid to date, amount outstanding present (not truncated) - must be on each reminder	1	
B3	<i>Berrymill Secondary School – Paris Trip</i> - must be on each reminder and correct	1	
B4	<i>Payment Reminder</i> - must be on each reminder and correct	1	
B5	<i>14 March 2012 to 17 March 2012</i> - must be on each reminder and correct	1	
B6	<i>The outstanding balance must be received no later than 15 February 2012</i> - must be on each reminder and correct (must be spelt correctly)	1	
B7	<i>Today's date</i> - must be on each reminder	1	
5 (c)	Only four per page (must have two pages to be awarded the mark) C1 Must be fit for purpose	1	(1)
	Total for Activity 5		11

Activity	ANSWER	POSS. MARK	MAX
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Activity 6	Evaluation
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Note: Place student in correct mark band based on content. QWC adjustment can only reduce mark within band. This must be based on the expectation within the mark band. Marks cannot be added and the adjustment cannot put the mark in a different mark band.

Indicative content

How the prototype is fit-for-purpose and the evidence you have used to reach this conclusion

Evaluation of fitness for purpose based on Charles' requirements:

Sign Up

Charles needs to enter the student information for those wishing to go on in the trip. The sign up process should include:

- a. ensuring a passport number is present
- b. ensuring emergency contact details are present
- c. the generation of a unique student id, which combines letters from the student's name with a sequential number that is always one more than the highest currently in use
- d. storing the student details if all requirements are met
- e. providing a suitable message for Charles so that he knows what is happening.

Tracking Payments

Charles needs to track payments made. The process should include:

- a. selecting a student
- b. displaying the amount currently owed
- c. entering the amount paid
- d. displaying the new balance
- e. the generation of a unique sequential payment id, which is always one more than the highest currently in use
- f. storing the payment details and updating the balance owing
- g. providing a suitable message for Charles so that he knows what is happening.

Assigning Visit Choices

Two visits have been arranged during the trip. The students will make both visits but can decide which date they would like to go on each. Assigning visit choices should include:

- a. selecting a trip
- b. selecting the date of the trip
- c. determining whether places are available
- d. selecting a student who wishes to be added to the list
- e. storing visit choices
- f. providing a suitable message for Charles so that he knows what is happening.

Printing Reminders

Charles wants to be able to print reminders for students who have not fully paid. The reminders should show what the total amount paid already and what is outstanding.

Activity	ANSWER	POSS. MARK	MAX
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Recommendations for extra functionality

For mark band 1 and 2 additional functionality could be based on what has not been done or only partly achieved.

e.g.

- Calculations not working that should work
- Queries that did not work that should etc

For mark band 3 should include some improvements beyond the initial brief.

e.g.

- No need for StudentID, PassportNumber just as good
- Only of use for one trip would be better if could be used for all school trips
- Payment tracking not really very effective, does not check to see whether more than four instalments have been made
- Does not stop overpaying
- Visit choices not really very effective ie would be better if students in the drop down box were only those eligible for trip
- Current method allows the student to be put on all four trips should be better
- Current method only puts them on one trip at a time, matching trip should be automatically assigned too
- Visit choices would have been better as form with subform ie one trip many students going on it
- Removing old data – no facility
- Any sensible if not those above

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	The candidates will make basic comments on what they did and how this produced a solution. Some screenshots may be provided as evidence. Comments on possible improvements will be made but unsupported and at a basic level. Descriptive rather than evaluative. The candidate uses everyday language and the response lacks clarity and organisation. Spelling, punctuation and the rules of grammar are used with limited accuracy.
Level 2	4-6	Addresses both evaluation and identification of future improvements. Gives subjective, but realistic, comments about improvements but these are not always well supported. Evaluative comments about the database (not what they did) with weaknesses as well as strengths noted. The candidate uses some terms and shows some focus and organisation. Spelling, punctuation and the rules of grammar are used with some accuracy.
Level 3	7-9	Addresses both evaluation and identification of future improvements in some depth. The evaluation focuses on why and how the solution meets the needs of the user. Future improvements will extend the original specification. (Technical solutions for suggested improvements are not necessary.) The candidate uses a range of appropriate terms and shows good

Activity	ANSWER	POSS. MARK	MAX
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		focus and organisation. Spelling, punctuation and the rules of grammar used with considerable accuracy.	
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SWW1	Administration details on each page	1	
SWW2	Required printouts only assembled correctly	1	
	Total Marks for Standard Ways of Working		2
	Total for Paper		90

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