Mark Scheme (Results)

Summer 2013

GCE Applied Information and Communication Technology (6957/01)
Unit 7: Using Database Software

PEARSON

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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.

- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:

  i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear
  ii) select and use a form and style of writing appropriate to purpose and to complex subject matter
  iii) organise information clearly and coherently, using specialist vocabulary when appropriate.

Activity 1		Understanding the problem				
(a)		**Must be two explanations of identified reasons. The expansions may be interchangeable if this makes sense.**				
A1		It determines user requirements (1) ensures the analyst/designer/developer fully understands what the user wants from the database (1)				
A2		It states agreed objectives / what database will do (1) so the prototype / database built meets the needs/expectations of the user(1)				
A3		It establishes success criteria (1) ensures the success of the database can be judged (1)				
A4		It is an aid /a help to plan the development of the prototype (1) so that the development can be planned systematically / in a logical order (1)				
A5		It defines the system boundaries (1) giving the scope and limitations of the prototype				
A6		It provides a description of the functions(1) that need to be designed and implemented(1)				**(4)**

1 mark per correct column. Each row can only have one x in it

(b)		Actions	Input (B1)	Generated (B2)	Output (B3)	
		Add name and date of birth	x			
		Add enrolment number		x		
		Store new student details			x	
		Add the month of the test		x		
		Print student records			x	
		Message to say new student details saved			x	
					3	**(3)**

		Total Marks for Activity 1			**7**	

Activity 2				
(a)		**Structure**		
A1		Student (table)	1	
A2		Exercise (table)	1	
A3		Test (table)	1	
A4		Result (table)	1	
A5		1:M Student- Result	1	
A6		1:M Exercise- Result	1	
A7		1:M Test - Result	1	**(7)**
(b)		**Data Types**		
B1		Evidence of correct primary keys Can come from relationship diagram or table screenprints Table Student – Student ID Table Exercise– Exercise ID Table Test– Test ID	1	
B2		Table Result – Test ID, Student ID, Exercise ID as composite key	1	
B3		Evidence of correct data types. Must have all three. Student DOB – Date/Time, Reps Or Time – Number Student Year - Number	1	**(3)**
(c)		**Validation** Note the same field can be used to show more than one of the below.		
C1	**c(i)**	Any suitable format check. Has to be a text field and not a generated field. For example: Postcode >LL0\ 0LL Postcode (using validation rule) Exercise ID >LL0000	1	
C2	**c(ii)**	e.g. Suitable range check Student year BETWEEN 12 AND 13 >=12 and <=13 >11 and <14 =12 or =13	1	
C3	**c(iii)**	Any suitable presence check Allow any foreign key/part of composite key **NOT** a primary key	1	
C4	**c(iv)**	Any suitable List Check or Lookup Any foreign/composite key (Exercise ID, Student ID, Test ID) Student Year (12,13) **MUST have: limit to list yes if a Combo Box** **Cannot be a validation rule**	1	
C5	**c(v)**	Field Size Any sensible text field - Can be a primary key. If Student ID **must** be 6	1	**(5)**

(d)				
D1		Student – 35	**1**	
D2		Exercise – 14	**1**	
D3		Tests – 10	**1**	
D4		Results – 4340	**1**	**(4)**
		Total Marks for Activity 2	**19**	

Activity 3				
(a)		Add New Students Form – **DESIGN and FORM view**		
(i)				
A1		Fields include (from any view) Minimum of: StudentSurname StudentForename StudentDOB	**1**	**(1)**
(ii)		StudentID (Design view) **ANY** Formula/method that is correct eg =Left([StudentSurname],1)&Left([StudentForename],1)&Max(Right([StudentID]),4)+1 There are many methods of doing this. Could be query to find the highest number (add one to it) which is then referred to on form. Must see the query to award A4.		
A2		First letter of StudentSurname	**1**	
A3		First letter of StudentForename	**1**	
A4		Highest existing four digit number+1	**1**	
A5		All correct and in correct order	**1**	**(4)**
(iii)		**Customisation**		
A6		Any one of: Suitable title Instructions	**1**	
A7		Any one of: Meaningful labels Asterisks for data entry Disabling of generated fields (greyed out)	**1**	**(2)**
(b)		**Saving students details**		
(i)				
B1		Check to ensure at least one of StudentSurname or StudentForename or StudentDOB are present	**1**	
B2		Evidence that record would save in Student table eg Unbound form uses append query – must be able to see query detail clearly Bound form saves or goes to new record/closes and opens Any other method that would save correctly	**1**	
B3		Save message or their equivalent	**1**	
B4		Form cleared for next student	**1**	**(4)**
(ii)				
B5		Macro attached to 'save' button (may not be called save) eg Property sheet Can see name of button in macro	**1**	**(1)**

(c)				
(i)		**Menu (Form View)**		
C1		Menu has a button that clearly identifies it will create a new fitness test	**1**	**(1)**
(ii)				
		Generation of TestID For example: Year(Date())&"-"&Month(Date()) or Year(Date())&"_"&Month(Date()) or DatePart("yyyy",Date())&"-"&DatePart ("m",Date()) or DatePart("yyyy",Date())&"_"&DatePart ("m",Date()) **Any formula that would work is acceptable**		
C2		Year would be generated correctly	**1**	
C3		Month would be generated correctly	**1**	
C4		**Dash(-) or underscore (_)generated correctly for 1 mark.**	**1**	
C5		Concatenated correctly	**1**	
		Generation of TestMonth For example: =Format(Date(),"mmmm") =MonthName(DatePart("m",Date())) **Any formulae that would work is acceptable**		
C6		TestMonth automatically generated in text format eg May as opposed to 5	**1**	
C7		Would append TestID and TestMonth to the Test Table		
		Generation of Test Result Records		
C8		Would append correct TestID	**1**	
C9		Would append all StudentIDs (StudentID from Student table or Result table included in query)	**1**	
C10		Would append all ExerciseIDs (ExerciseID from Exercise table or Result table included in query)	**1**	**(9)**
(d)				
(i)		**Query to find Test and Student**		
D1		Parameter used to find Test eg [Enter Test ID] does not have to be those exact words	**1**	
D2		Parameter used to find Student eg [Enter Student ID] does not have to be those exact words	**1**	**(2)**
(ii)		**Record Results form (Form View)**		
D3		Form includes (at least) TestID StudentID ExerciseID RepsOrTime Note the labels do not have to be exact – they may have renamed them	**1**	
D4		Test and Student details appear only once	**1**	
D5		More than one ExerciseID and RepsOrTime appears	**1**	**(3)**

	Total Marks for Activity 3	**27**

Activity 4		Testing		
(a)		**Menu**		
(i)				
A1		Screenprints with record count for: Student table Result table	**1**	**(1)**
(ii)		**New monthly test details added**		
A2		TestID: 2013-5 or TestID: 2013_5 or TestID: 2013-05 or TestID: 2013_05 TestMonth: May	**1**	
		Records added to Result table		
A3		Record count = 4830		
		OR If the record count does not equal this.		
		Check the screenprints from (i). Record count in results table should increase by Number of Students*14	**1**	**(2)**
(b)		**Fitness Test Results Form**		
B1		StudentID: JA1126	**1**	
B2		Correct TestID: TestID: 2013-5 or TestID: 2013_5 or TestID: 2013-05 or TestID: 2013_05	**1**	
		Results table: Must have form to award B3		
B3		**Correct Results (min 5)** **ExerciseID RepsOrTime** BD0005 47 CL0006 40 CR0011 75 LP0014 26 LS0008 69 PJ0002 39 PK0004 64 RS0007 64 SC0003 33 SJ0009 17 SK0001 75 SP0012 84 WP0010 29 WS0013 64	**1**	**(3)**
(c)		**Add New Student Form**		
C1		Details correct: Student Surname: Teneur Student Forename: Colin Student DOB: 25/05/1997 Student Year: 12 Student Address Line1: 15 The Grove Student Postcode: BB1 1BB	**1**	

C2		Save message displayed The record has to match what is on the form	**1**	
C3		Record in table matches what is on form	**1**	**(3)**
(d)				
D1		Student Surname test Suitable error message about data being required in Student Surname or message to say required data is missing	**1**	**(1)**
		Total Marks for Activity 4	**10**	

Activity 5		Printing personal best records for particular students		
(a)		**Criteria correct - must be marked from the query**		
A1		StudentID: AA1111	1	
A2		StudentID: DS1119	1	
A3		best RepsOrTime found – Max	1	
A4		worst RepsOrTIme found – Min	1	
A5		best RepsOrTime named Best	1	
A6		worst RepsOrTime named Worst	1	**(6)**
(b)		**Report in design view** **B1 to B8: evidence in design view though if cannot see field names in full check with report view**		
(i)				
B1		Grouped by student eg StudentID	1	
B2		One level of grouping only	1	
B3		**Suitable title**	1	
B4		Title in page header	1	**(4)**
(ii)				
B5		Group header shows : • Student ID • Student Surname • Student Forename	1	
B6		Labels in Group Header for: • Exercise ID • Description • Best • Worst	1	**(2)**
(iii)				
B7		Detail section shows: • Exercise ID • Description • Best • Worst	1	**(1)**
(iv)				
B8		New page for each student	1	**(1)**
(c)		**Must have Design View to award marks**		
C1		Portrait orientation	1	
C2		Fit for purpose	1	**(2)**
		Total Marks for Activity 5	**16**	

Activity 6	Evaluation

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 Mr McGarry's requirements:

1. **Adding New Students**, which involves:
   - ensuring their name and date of birth are present
   - the generation of a unique enrolment number; a mixture of letters from their name and ending with a sequential four digit number
   - storing the student details if all requirements are met
   - providing a suitable message for Mr McGarry, so that he knows what is happening.
2. **Adding a Monthly Fitness Test,** which involves the generation of:
   - a unique identification key
   - the month of the test
   - a new record for each exercise, for each student, in readiness for their fitness test results.
3. **Recording Fitness Test Results,** which involves:
   - adding a student's fitness test results for each exercise.
4. Printing **Records for Identified Students** – Mr McGarry needs to be able to select students and print records showing their best and worst result for each exercise. The printout will need to be clear and easy to read.

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. They can be anything sensible and may not necessarily be the ones given
e.g
   - Could add some security so only Mr McGarry can access it
   - Main menu needs to be improved e.g. a button to go to add late student form or open the report
   - Student email and telephone number could be stored in the student table so they can be contacted more easily
   - Report is limited it can only be used for two students at this moment in time
   - There could be a facility to merge the results into a letter to post to the students
   - Results of tests could be automatically emailed if the student email were

- on the system
- Results of tests and or progress made with each test could be published either on an Intranet or internet providing the correct security measures were in place
- There could be more reports e.g. RepsOrTime for each exercise monthly so students can see at a glance what improvements if any they have made

Level	Mark	Descriptor
0	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. 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 focus and organisation. Spelling, punctuation and the rules of grammar used with considerable accuracy.

SWW1	Administration details on each page	1		
SWW2	Required printouts only assembled correctly	1	(2)	
	Total Marks for Standard Ways of Working	2		

			Total Marks for Paper	90

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