# Mark Scheme (Results)

# Summer 2015

Pearson Edexcel GCE in Applied ICT (6957) Unit 7 Working with Database Software

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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.
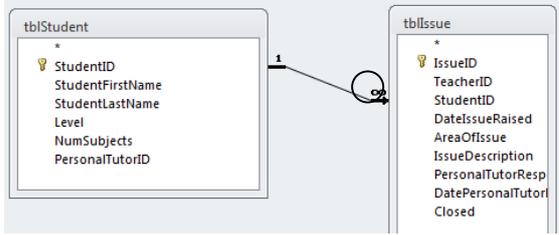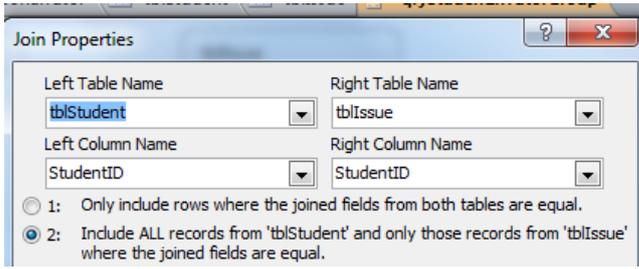
| Activity | | ANSWER | POSS. MARK | MAX |
|---|---|---|---|---|
| **Activity 1** | | **Understanding the situation** | | |
| **a)** | | Any realistic task not covered by the scenario | | |
| | | Allow a task involving more than one user if this is realistic | | |
| | | E.g. | | |
| | | **Personal Tutor** | | |
| | | Add response to the issues. | | |
| | | Close issues | | |
| | | Print a particular issue | | |
| | | Print all issues for a particular student | | |
| | | Edit response comments | | |
| | | Filter by open and closed issues | | |
| | | Edit student details | | |
| | | **Teacher** | | |
| | | Read personal tutor responses | | |
| | | Close issues | | |
| | | Print a particular issue | | |
| | | Add follow up comments | | |
| | **A1** | 1 mark for identification of a **sensible** task | **1** | |
| | **A2** | 1 mark for clear identification of user (only award if A1 awarded) | **1** | **(2)** |
| **b) (i)** | **B1** | Head of Student Services | **1** | |
| **b)(ii)** | **B2** **B3** | Any **two** sensible tasks related to the administration of the system by the Head of Student Services | | |
| | | Eg | | |
| | | Add new teachers or students | | |
| | | Delete teachers or students | | |
| | | Administer username and / or passwords | | |
| | | View / print overview of all students and issues | | |
| | | View / print issues by teacher | | |
| | | Edit usernames and / or passwords | | |
| | | Do not award B2 / B3 if role not identified in b(i) | | |
| | | Follow through if incorrect role in b(i) | **2x1** | |
| | | | | **(3)** |

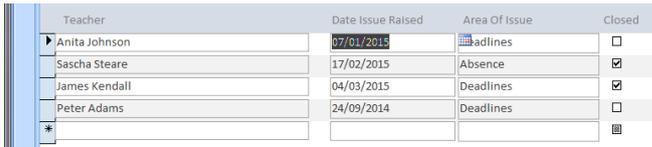| c) | C1 C2 | Any **two** reasons from: <br> • Anything implying different levels of access. <br> e.g teachers / personal tutors should only be able to see information that they need / is relevant to them / should see. <br> • Anything implying different write permissions . <br> e.g personal tutors / teachers can only add or edit comments relevant to them <br> • Personal information is being stored so must make sure they do not contravene the DPA / prevent unauthorised users from accessing the database. | | **2x1** | |
|---|---|---|---|---|---|
| | | | | | **(2)** |
| | | **Total for Activity 1** | | | **7** |

| Activity 2 | | Structure | | | |
|---|---|---|---|---|---|
| a) | A1 | Personal tutor (table) | | 1 | |
| | A2 | Student (table) | | 1 | |
| | A3 | Issue (table) | | 1 | |
| | A4 | Teacher (table) | | 1 | |
| | A5 | 1:M Personal tutor – Student | | 1 | |
| | A6 | 1:M Student – Issue | | 1 | |
| | A7 | 1:M Teacher – Issue | | 1 | |
| | | | | | (7) |
| b) | | **Data Types** | | | |
| | B1 | Evidence of correct primary keys<br>Table Personal tutor – PersonalTutorUsername<br>Table Student – StudentID<br>Table Issue – IssueID<br>Table Teacher – TeacherUsername | | 1 | |
| | B2 | 'Table Personal tutor' primary key does not appear in 'Table Issue' as foreign key | | 1 | |
| | B3 | Evidence of correct data types<br>NumSubjects  - Number<br>Accept StudentID or IssueID as Number<br>DateIssueRaised – Date / Time<br>DatePersonalTutorResponse – Date / Time<br>Closed – Yes / No<br>PersonalTutorResponse – Memo / long text<br>IssueDescription – Memo / long text<br>**To award B3** need to correctly identify one each of:<br>• Date / Time<br>• Number,<br>• Yes / No<br>• Memo / long text | | 1 | |
| | | | | | (3) |
| c) | | **Validation**<br>Take in order of paper unless labelled. | | | |
| | C1 | Suitable range check<br>Only on NumSubjects field<br><br>NumSubjects BETWEEN 1 AND 5<br>NumSubjects>=1 And NumSubjects <=5<br>NumSubjects>0 And NumSubjects <6 | | 1 | |

| | | | | | |
|---|---|---|---|---|---|
| | **C2** | Only **unsuitable** presence checks are<br>Primary keys<br>PersonalTutorResponse<br>DatePersonalTutorResponse<br>Closed | | **1** | |
| | **C3** | Any suitable List Check or Lookup<br>For example:<br>**Level** "AS", "A2"<br>**AreaOfIssue**<br>"Absence";"Attitude";"Punctuality";"Other";"Deadlines"<br>Any foreign key<br>MUST have: limit to list yes if combo box used | | **1** | |
| | | **Note the same field can be used to show more than one of the above.** | | | |
| | | | | | **(3)** |
| **d)** | | | | | |
| | **D1** | Student – 247 (245 if >=3 and <=5) | | **1** | |
| | **D2** | Personal tutor – 12 | | **1** | |
| | **D3** | Issue – 46 (44 if >=3 and <=5) | | **1** | |
| | **D4** | Teacher – 57 | | **1** | |
| | | | | | **(4)** |
| | | **Total marks for Activity 2** | | | **17** |

| Activity 3 | | | | |
|---|---|---|---|---|
| **a)** | | **Log in form** | | |
| | **A1** | Fields include (from any view)<br>• Username<br>• Password | **1** | |
| | **A2** | Method of selecting whether personal tutor or teacher<br>e.g. combo box, radio options or list box | **1** | |
| | | | | **(2)** |
| **b)** | | **Validation of login** | | |
| | **B1** | Check whether username entered exists (tblPersonalTutor, tblTeacher) that would work | **1** | |
| | **B2** | Check whether input password entered matches password in (tblPersonalTutor, tblTeacher) for username entered | **1** | |
| | **B3** | Suitable message(s) for valid or not valid user | **1** | |
| | | | | **(3)** |
| **c)** | | **Personal tutor query** | | |
| | **C1** | Filtered to the personal tutor who is logged in<br>e.g. [forms]![frmLogin]![Username] | **1** | |
| | **C2** | Include tutor name and tutor room e.g.<br>PersonalTutorFirstName<br>PersonalTutorLastName<br>TutorialRoom | **1** | |
| | **C3** | calculate the total number of students in group<br>e.g. Count(StudentID) | **1** | |
| | | | | **(3)** |
| **d)** | | **Student query** | | |
| | **D1** | Filtered to the personal tutor who is logged in<br>e.g. [forms]![frmLogin]![Username] | **1** | |
| | **D2** | Student name concatenated<br>e.g.<br>[StudentLastName]&" "&[StudentFirstName] | **1** | |
| | **D3** | sorted into ascending order of name | **1** | |
| | **D4** | generate the number of issues per student<br>e.g. Count(IssueID) | **1** | |
| | **D5** | generate the number of closed issues per student<br>e.g. Sum(IIf(Closed=True,1,0)) | **1** | |
| | **D6** | generate the number of open issues per student | **1** | |

| | | e.g. Sum(IIf(Closed=False,1,0)) | | |
|---|---|---|---|---|
| | **D7** | Join type shown correctly<br>e.g. | | |
| | |  | | |
| | | Or | | |
| | |  | | 1 |
| | | | | **(7)** |
| **e)** | | **Preventing changes to data** | | |
| | **E1** | Method shown to lock fields e.g.<br>Property for Locked=Yes **and** at least one field shown to be locked or equivalent evidence included. | 1 | |
| | **E2** | Subform used to show students | 1 | |
| | | | | **(2)** |
| **f)** | | **Login form amendments** | | |
| | **F1** | If valid personal tutor, tutor list form would open<br>Eg<br>DoCmd.OpenForm "frmPersonalTutor"<br>Open – Form – Personal Tutor form | 1 | |
| | | | | **(1)** |
| **g)** | | **Overview of Issues for particular student form** | | |
| | **G1** | Form will show all issues for one student.<br>For each issue:<br>• Name of teacher<br>• Area of Issue<br>• Date Issue raised<br>• Whether an issue is closed or not | 1 | |

| | G2 | Total number of issues raised calculated e.g. Count(*) Count(fieldname) | | 1 | |
|---|---|---|---|---|---|
| | G3 | Linked to student on tutor list form | 1 | | |
| | G4 | Overview of Issues form displays when student name (or equivalent) clicked e.g. (DoCmd.OpenForm "frmStudentIssues") on the OnClick Event of name Open –Form –frmStudentIssues in macro on the OnClick Event of name | | 1 | |
| | | | | | **(4)** |
| **h)** | | **Add Issue form** | | | |
| **(i)** | **H1** | Would allow selection of student and selection of area of issue | | 1 | |
| | **H2** | Size of IssueDescription text box suitable for long comments | | 1 | |
| **(ii)** | **H3** | IssueID generated correctly Eg =DMax("IssueID","tblIssue")+1 Bound Form or query based on Issue table Max(IssuedID)+1 Autonumber in table (if screenshot provided here) | | 1 | |
| **(iii)** | **H4** | Today's date generated e.g. = Date() | | 1 | |
| | | | | | **(4)** |
| **i)** | | **Saving a new issue** | | | |
| | **I1** | Validation to ensure: <br>• Student has been selected<br>• Area of issue has been selected<br>• Issue description has been entered | | 1 | |
| | **I2** | Automatically assign the TeacherUsername from the login details e.g. TeacherUsername=Forms!frmLogin!Username | | 1 | |
| | **I3** | Save the issue details in the tblIssues If query used must see query in full and being used in macro/code If bound form only accept save command if IssueID is not generated on the form in the IssueID field | | 1 | |
| | | | | | **(3)** |

| | | | Total marks for Activity 3 | | 29 |
|---|---|---|---|---|---|
| **Activity 4** | | **Testing** | | | |
| | | **Login Form – invalid data entry** | | | |
| | **A1** | Invalid username and/or password shown | | 1 | |
| | **A2** | Message saying error with login details (**must see data**) | | 1 | |
| | | | | | **(2)** |
| | | **Login Form – valid personal tutor** | | | |
| | **B1** | Details correct<br>Username:   CW2011<br>Password:    uugqb6374 (if can be seen) (9*) | | 1 | |
| | **B2** | Screen print of Tutor List form | | 1 | |
| | **B3** | Screen print of Tutor List form showing correct details<br><br>Personal tutor: Chang Weng<br>Tutorial Room: F70<br>Total Students :19<br><br>**At least five students showing in ascending order of either first name or surname** | | 1 | |
| | | | | | **(3)** |
| **b(ii)** | **B4** | Screen print of Student Issues form | | 1 | |
| | **B5** | Screen print showing correct student issues<br><br><br><br>May have Ian Adams, Absence if part C carried out first. | | 1 | |
| | **B6** | Total Number of Issues : 4 | | 1 | |
| | | | | | **(3)** |

| c) | C1 | **Screen print of correct data**<br><br>StudentID: 20820<br>AreaOfIssue: Absence<br>IssueDescription: Kirsten has missed my lessons all week. I am a bit concerned as she did not appear on the absences list. Can you please speak to her or let me know if there are any problems?<br>Spelling must be correct including case | | **1** | |
| | C2 | Screen print of relevant table showing new record<br>Must see:<br>IssueID: Minimum of 47<br>TeacherID: AI1057<br>StudentID: 20820<br>DateIssueRaised: Date in exam period<br>AreaOfIssue: Absence | | **1** | |
| | | | | | **(2)** |
| | | **Total for Activity 4** | | | **10** |

| Activity 5 | | Printing Issues | | |
|---|---|---|---|---|
| | | **Query in Design view** **Can look for marks on printed report if truncated** | | |
| a) | A1 | Minimum of **seven** of these appear in query:<br>• PersonalTutorFirstName<br>• PersonalTutorLastName<br>• TutorialRoom<br>• StudentID<br>• StudentFirstName<br>• Student LastName<br>• DateOfIssue<br>• AreaOfIssue<br>• IssueDescription<br>• Closed | 1 | |
| | A2 | Linked to username on login form e.g.[forms]![frmLogin]![username] | 1 | |
| | | | | **(2)** |
| | | **Must include report in design view.** **Can look for marks on printed report if truncated or calculations not shown.** | | |
| b(i) | B1 | Grouped by Personal Tutor | 1 | |
| | B2 | Grouped by Student | 1 | |
| (ii) | B3 | Personal Tutor header has these fields:<br>PersonalTutorFirstName<br>PersonalTutorLastName<br>TutorialRoom | 1 | |
| (iii) | B4 | Student header has these fields:<br>• StudentFirstName<br>• StudentLastName<br>OR<br>Student header has these labels:<br>• AreaOfIssue<br>• IssueDescription<br>• Closed | 1 | |
| (iv) | B5 | Detail section shows these fields<br><br>AreaOfIssue<br>IssueDescription<br>Closed | 1 | |

| | | | | |
|---|---|---|---|---|
| | | **If calculations in either footer are truncated check with totals on the report** | | |

| Student | Total issues | Issues open | Issues closed |
|---|---|---|---|
| O'Connor | **1** | **0** | **1** |
| Miller | **2** | **0** | **2** |
| Hudson | **2** | **0** | **2** |
| Glover | **2** | **0** | **2** |

| | | | | |
|---|---|---|---|---|
| **(v)** | | **Student footer calculations** | | |
| | **B6** | Total Issues e.g. Count(AreaOfIssue) | **1** | |
| | **B7** | Number Closed Issues e.g. =IIf([Closed]=True,Count([AreaOfIssue]),0) | **1** | |
| | **B8** | Number Open Issues e.g. =IIf([Closed]=False,Count([AreaOfIssue]),0) | **1** | |
| **(vi)** | **B9** | Personal Tutor footer calculates total issues overall e.g. Count(AreaOfIssue) or 7 on printed report | **1** | |
| | | | | **(9)** |
| **c)** | | **Mark from PRINTED report** | | |
| | **C1** | Layout customised e.g. spaces in labels and white space used appropriately | **1** | |
| | **C2** | These details correct: Personal Tutor: Alison Smith Tutorial Room : F80  4 students appearing in list | **1** | |
| | | | | **(2)** |
| | | **Total marks for Activity 5** | | **13** |

| 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** | | |
|---|---|---|---|

**Log in form and verification of user**
*How well it meets needs*
Allows selection of whether personal tutor or teacher so access to other areas of the database can be limited.
Password uses asterisks for security reasons
Validation used so cannot log in without selecting type of user and having valid user name and password.
Error message so that user knows there is something wrong
*Improvements*
Could limit amount of log in attempts and then lock out
Could have facility to email forgotten username and / or password
Could have facility for including security questions when username and / or password forgotten
Could have admin log in
Personal tutors could also be teachers so could include that option in the user choices
Could ask for certain characters from the password as opposed to all of them

**Viewing a Tutor Group**
*How well it meets needs*
Form with subform means all students can be seen. Sorted into alphabetical order makes it easy to find a particular student. Locking fields means data cannot be changed. Being able to click on name to get to overview for that student useful means don't have to include an extra search facility.

*Improvements*
**Tutor group form**: could include being able to click on different fields to apply different sorts. For example, sort by open issues so can instantly see what needs dealing with
Could include search facility to find a particular student.
Could differentiate between positive and negative issues
**Issues form:** could also include different options to sort eg open issues. Clicking on name takes you off to view the issue and be able to respond.

**Printing tutor group issue list:**
Prior to print could allow personal tutor to filter by open / closed, particular student.
Page breaks could be forced after each student

**Structure changes**
Could introduce a new table to store the many comments. Keep original table to store the one side of the relationship.

| Level | Mark | Descriptor | | |
|---|---|---|---|---|
| 0 | 0 | No rewardable material. | | |
| **Level 1** | 1-4 | Candidate describes what they did to complete tasks without little / no evaluative comments. May not focus on the areas they have been asked to focus on.<br><br>Improvements could be geared toward areas of databases they did not get to work properly or be too vague or too general.<br><br>Candidate will probably not have sensible suggestion for database structure change, if included at all.<br><br><br>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** | 5-8 | Candidate includes some valid evaluative points about how well the forms and validation meet needs.<br>Candidate gives sensible improvement for report<br>Candidate may not have sensible suggestion for structure change but will have attempted it and it will be related to issue.<br>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** | 9-12 | Candidate only discusses what has been asked for in the question.<br>Candidate includes many relevant evaluative comments about the forms and validation<br>Candidate includes valid improvements for both forms / validation and report.<br>Candidate realises there is a one to many relationship between issue and comments that need to be made and can say what this means with regards to structure. Does not need to be technical but must be able to determine a new table is required with a many to one relationship to the original.<br>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** | |
| | | **Total Marks for Standard ways of working** | **2** | |
| | | **Total marks for Paper** | | **90** |