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Mark Scheme (Results)

Summer 2018

GCE International Applied ICT (WIT04)
Unit 4: 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.

| IAL – Mark Scheme - June 2018– Version 1 – QPEC | | | | | |
|---|---|---|---|---|---|

| | | ANSWER | | POSS. MARK | MAX |
|---|---|---|---|---|---|
| **Activity 1** | | **Understanding the problem** | | | |

| a) | | Step | Input | Process | Output |
|---|---|---|---|---|---|
| | | Check availability | | X | |
| | | Select client | X | | |
| | | Display availability message | | | X |
| | | Get date | X | | |
| | | Get start time | X | | |
| | | Generate end time | | X | |
| | | Select treatments | X | | |
| | | Generate total duration | | X | |

| | | Only one **X** per step | | |
|---|---|---|---|---|
| | **A1** | Input column correct | 1 | |
| | **A2** | Process column correct | 1 | |
| | **A3** | Output column correct | 1 | |
| | | | | **(3)** |
| b) | **B1- B3** | Makes it easy to <u>navigate</u> through the system | 1 | |
| | | Ensures the user knows where input needs to occur | 1 | |
| | | Ensures the user knows where data will be generated | 1 | |
| | | Prevents the user making input errors where possible | 1 | |
| | | Any other sensible reasons | | |
| | | | **Max 3** | **(3)** |

| c) | C1 C2 | Any two of:<br><br>Eliminate update anomalies – or example<br>Eliminate insert anomalies – or example<br>Eliminate deletion anomalies – or example<br>Eliminate data inconsistency – or example<br>Minimise <u>data</u> duplication<br><u>Eliminate</u> <u>data</u> redundancy<br>Improves integrity of data | 1,1 | |
| --- | --- | --- | --- | --- |
| | | | | (2) |
| | | **Total for Activity 1** | | **8** |

| Activity 2 | | Structure | | |
|---|---|---|---|---|
| a) | |  | | |
| | A1 | Category (table) **(T1)** | 1 | |
| | A2 | Treatment (table) **(T2)**<br>Client (table) **(T3)**<br>Appointment (table) **(T4)** | 1 | |
| | A3 | Appointment Details (table) **(T5)** | 1 | |
| | A4 | 1:M Category - Treatment **(T1-T2)** | 1 | |
| | A5 | 1:M Client - Appointment **(T3-T4)** | 1 | |
| | A6 | 1:M Treatment – Appointment Details **(T2-T5)** | 1 | |
| | A7 | 1:M Appointment – Appointment Details **(T4-T5)** | 1 | |
| | | | | (7) |
| b) | | **Data Types** | | |
| | B1 | Evidence of at least three correct primary keys<br><br>Table Category - CategoryID<br>Table Client – ClientID<br>Table Appointment – AppointmentID<br>Table Treatment - TreatmentID | 1 | |
| | B2 | Table Appointment Details – **AppointmentID**, **TreatmentID** as composite key | 1 | |
| | B3 | Evidence of correct data types<br>Date - Date/Time<br>StartTime – Date/Time<br>EndTime – Date/Time<br>DurationMins – Number<br>Price – Currency<br>Min of 1 Date/Time, 1 Number, 1 Currency | 1 | |
| | | | | (3) |

| | | | | |
|---|---|---|---|---|
| c) (i) | C1 | Any suitable format check. For example<br>Postcode >LL0\ 0LL or LL0\ 0LL<br>MobileTelephone 00000000000 | **1** | |
| (ii) | C2 | Any suitable presence check<br>Do not accept:<br>Any primary keys<br>EndTime | **1** | |
| (iii) | C3 | Foreign or part composite key only<br><br>Treatment table – CategoryID<br>Appointment Details table – AppointmentID<br>Appointment Details table – TreatmentID<br>Appointment table – ClientID<br>MUST have: limit to list yes | **1** | |
| d) | | | | (3) |
| | D1 | Appointment **167** | **1** | |
| | D2 | Appointment Details – **376** | **1** | |
| | D3 | Category – **9** | **1** | |
| | D4 | Client – **49** | **1** | |
| | D5 | Treatment – **37** | **1** | |
| | | | | (5) |
| | | **Total marks for Activity 2** | | **18** |

| Activity 3 | | | | |
|---|---|---|---|---|
| **a)** | | **New Client form** | | |
| **(i)** | **A1** | Fields include (from any view)<br>Firstname<br>Lastname<br>Street<br>Postcode<br>MobileTelephone | **1** | |
| | | | | **(1)** |
| **(ii)** | **A2** | ClientID (design view)<br>Any formula/method that is correct<br>For example<br><br>=Max(ClientID)+1<br>= DMax("ClientID", "tblClient")+1<br>Query sorted into descending order then ClientID+1<br>Screen print of table showing AutoNumber for ClientID<br>Screen print of form in form view showing (New) for AppointmentID | **1** | |
| | | | | **(1)** |
| **(iii)** | | **Customisation (any view)** | | |
| | **A3** | **Any one from**<br><br>Suitable title<br>Suitable label<br>Field width<br>Instructions<br>Asterisk<br>Disabled field | **1** | |
| | | | | **(1)** |

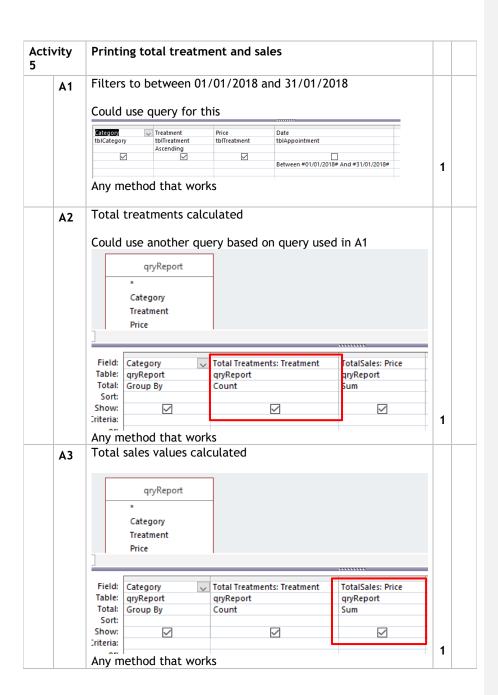| b) | | Saving client details | | |
|---|---|---|---|---|
| | B1 | Check to ensure at least two from:<br><br>Firstname<br>Lastname<br>Street<br>Postcode<br>MobileNumber<br><br>are present | 1 | |
| | B2 | Client saved<br><br>All fields must be shown in Query in full **and** Query used in Macro | 1 | |
| | | | | (2) |
| c) | | **Making Appointments (any view)** | | |
| (i) | C1 | Treatment list box present | 1 | |
| | C2 | Treatment list box is multi-select | 1 | |
| | C3 | Appointment details section present | 1 | |
| | C4 | End time and Total time disabled | 1 | |
| | C5 | Can select client | 1 | |
| | C6 | Treatment list source shown | 1 | |
| | C7 | Unavailable time section source shown | 1 | |
| | | | | (7) |
| (ii) | | **Unavailable appointments and end time** | | |
| | | Example<br>Query to find appointments on the date on the form | | |

| Field: | Date | StartTime | End: DateAdd("n",20,[EndTime]) | EndTime |
|---|---|---|---|---|
| Table: | tblAppointment | tblAppointment | | tblAppointment |
| Sort: | | Ascending | | |
| Show: | ☑ | ☑ | ☑ | ☑ |
| Criteria: | [forms]![frmMakeAppointment]![Date] | | | |
| or: | | | | |

Query to find clashes

| Field: | Date | StartTime | End |
|---|---|---|---|
| Table: | qryAppointmentByDate | qryAppointmentByDate | qryAppointmentByDate |
| Sort: | | | |
| Show: | ☑ | ☑ | ☐ |
| Criteria: | [forms]![frmMakeAppointment]![Date] | <=[forms]![frmMakeAppointment]![endtime] | >=[forms]![frmMakeAppointment]![startTime] |
| or: | | | |

| | C8 | Unavailable appointment section linked to date selected on the form | 1 | |
|---|---|---|---|---|
| | C9 | Unavailable section updates after date selected | 1 | |

| | | *Total time method* | | |
|---|---|---|---|---|
| | C10 | Treatment IDs held (for example in temp table) or equivalent | **1** | |
| | C11 | Duration summed<br>For example<br>=DSum("[Duration]","tblTempTreatment") | **1** | |
| | | *End time generated* | | |
| | C12 | =[starttime]+[totalTime] | **1** | |
| | C13 | Convert total time into minutes of the day<br>For example<br>[totalTime]/1440 | **1** | |
| | | | | **(6)** |
| **(iii)** | | **Check appointment availability** | | |
| | C14 | Date linked to date on the form | **1** | |
| | C15 | 20 minutes travel time added | **1** | |
| | C16 | Start time checked for clashes | **1** | |
| | C17 | End time checked for clashes | **1** | |
| | C18 | Count used to determine how many appointments clash<br>For example<br>DCount("*", "qryCheckAvailability") | **1** | |
| | C19 | Check made to see if appointment clashes are >= 1 and error message displayed if true<br>For example<br>If DCount("*", "qryCheckAvailability") >= 1 Then<br>       Error message displayed | **1** | |
| | C20 | Save button enabled if appointment is available | **1** | |
| | | | | **(7)** |
| **(iv)** | | **Saving appointment and treatments** | | |
| | C21 | AppointmentID automatically generated<br>For example<br>=DMax("AppointmentID","tblAppointment")+1<br>Screen print of table showing autonumber for AppointmentID<br>Screen print of form in form view showing (New) for AppointmentID | **1** | |
| | C22 | Events are triggered on the click of the save button | **1** | |
| | C23 | Appointment would be appended | **1** | |
| | C24 | Appointment treatment details would be appended | **1** | |
| | | | | **(4)** |

| | | | | |
|---|---|---|---|---|
| | | **Total marks for Activity 3** | | **29** |

| Activity 4 | | Testing | | |
|---|---|---|---|---|
| a) | | Register client form | | |
| | A1 | Details correct | | |
| | | | First name | Sian |
| | | | Last name | Kirvan |
| | | | Street | 12 The Grove |
| | | | Postcode | BB1 1BB |
| | | | Mobile telephone | 11112222222 | | 1 | |
| | A2 | Fields shown above correctly stored (must agree with data entered on form and have ClientID at least 51) | 1 | |
| | | | | (2) |
| b) | | **Invalid client** | | |
| | B1 | Suzanne Chaplin, 129 Hill View Crescent, RY1 9QT<br>Suitable error message shown | 1 | |
| | | | | (1) |
| (c) | | **Treatments, client, date and start time selected** | | |
| (i) | C1 | Details correct<br>Treatments   1 and 7<br>ClientID:      14<br>Date:           18/02/2018<br>Start Time:   17:20 | | |
| | | | | (1) |
| (ii) | | **Checking availability** | | |
| | C2 | Total Duration:      130 | 1 | |
| | C3 | End Time:              19:30 or 19:50 | 1 | |
| | C4 | Available message appears | 1 | |
| | | | | (3) |
| (iii) | | **Saving appointment** | | |
| | C5 | Appointment saved in appointment table<br>AppointmentID at least 177<br>ClientID         14<br>Date             18/02/2018<br>Start Time     17:20<br>End Time       19:30 or 19:50 | 1 | |
| | C6 | Appointment Treatment Details correctly stored in Appointment Details table<br>TreatmentIDs 1 and 7<br>AppointmentID matches C5 for both treatments | 1 | |
| | | | | (2) |

| d | | Appointment unavailable | | |
|---|---|---|---|---|
| (i) | D1 | Details correct<br>Treatment   2<br>ClientID:   3<br>Date:        16/02/2018<br>Start Time:  18:40 | 1 | |
| | | | | (1) |
| (ii) | D2 | Screen print of message that appears | 1 | |
| | | | | (1) |
| | | **Total marks for Activity 4** | | **11** |

| Activity 5 | | Printing total treatment and sales | | |
|---|---|---|---|---|
| | **A1** | Filters to between 01/01/2018 and 31/01/2018<br><br>Could use query for this<br><br><br><br>Any method that works | **1** | |
| | **A2** | Total treatments calculated<br><br>Could use another query based on query used in A1<br><br><br><br>Any method that works | **1** | |
| | **A3** | Total sales values calculated<br><br><br><br>Any method that works | **1** | |

## Total Sales between 01/01/2018 and 31/01/2018

| Category | Total Treatments | Total Sales |
|---|---|---|
| Biosculpture | 21 | $388.00 |
| Electrolysis | 4 | $48.00 |
| Eye Treatments | 25 | $324.00 |
| Facials | 25 | $835.00 |
| Make Up | 7 | $335.00 |
| Nail Extensions | 5 | $150.00 |
| Nails | 21 | $504.00 |
| Packages | 3 | $150.00 |
| Waxing | 62 | $896.00 |
| Overall Sales | | £3,630.00 |

| | | | | |
|---|---|---|---|---|
| | | A7 mark from design view only<br>The rest mark from report view<br>Overall Sales and Total Sales do not have to match those shown | | |
| | A4 | Each category only shown once on report | 1 | |
| | A5 | No individual treatments shown on report just Total Treatments | 1 | |
| | A6 | Overall sales generated<br>E.g.<br>=Sum(TotalSales) | 1 | |
| | A7 | Overall Sales in report footer | 1 | |
| | A8 | Total Sales formatted to currency | 1 | |
| | A9 | Total Sales formatted to 2 decimal places | 1 | |
| | A10 | Matches design given and<br>Category label and data left aligned<br>Total Treatments and data centre aligned<br>Total Sales and data centre aligned | 1 | |
| | | **Total marks for Activity 5** | | **10** |
| | | | | |

| 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**

**The client registration form**
*How user friendly*
Should be discussing their

- their layout
- logical placing of fields
- instructions
- automatic generation of ClientID
- validation applied and how useful.

**Make appointment form**
*Design provided*
Should be discussing

- exactly what had to appear and where
- what controls should have been used
- what fields would be automatically generated
- what the buttons should do
- that multiple selects should be allowed in the list box.

*How approach would have been different*
Anything sensible. For example:
- May have used more than one form:
  - o Could have used a form for appointment date and time
  - o Form for treatments etc.
- May have used a different database structure where appointment times for each day are automatically appended to appointment table. Form could then show available appointment times rather than unavailable times.

**Sales Report**
*How helpful*
Should be discussing

- only showing 1 month's sales
- only shows categories and relevant totals as a whole
- good summary about uptake of categories so can see popularity.

*Improvements*
Should be discussing

- filters to any date range specified
- filters to any category or treatment specified
- could choose to view the report as a chart.

| Level | Mark | Descriptor |
|---|---|---|
| 0 | 0 | No rewardable material. |
| **Level 1** | 1-4 | Description of what candidate did during tasks (possibly using screen shots) <br><br> Description of what candidate did not manage to complete or what does not work. <br><br> Evaluative comments limited. <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 may address some points. <br><br> In terms of client form may be: <br><br> Clear title makes it easy for the user to see what the form will be used for.  Clear instructions telling user how to use form makes it less likely for human errors to occur.  ClientID disabled so user cannot try to insert one. Fields logically follow one another name, address, telephone.  Asterisks present to clearly show what information has to be present.  Tab order follows the fields on screen so that if they use the tab key they go to the next logical field.  Presence checks in the code to ensure all required fields have data with a user friendly message.  Clear message to say save has taken place. Will discuss these and have **some evaluative comments** about them. <br><br> In terms of the make appointment form should be addressing the points listed above. Alternatives may not be fully sensible. There will be some evaluative comments <br><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 | Will be evaluative throughout. <br><br> In terms of client form will address the same points as in MB2 but will be fully evaluative throughout. <br><br> In terms of the make appointment form will address all listed items and will have sensible suggestions for alternatives and will be fully evaluative. <br><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** |