# OCR
Oxford Cambridge and RSA

## AS GCE INFORMATION AND COMMUNICATION TECHNOLOGY

**G062/01** Structured ICT Tasks

**MARK SCHEME**

**Instructions for Examination Officer:**
Please inform the Head of ICT, and any GCE assessors for this unit, that this document has arrived in your Centre.

**MAY 2015**

## INSTRUCTIONS TO TEACHERS

- This mark scheme must be kept secure.
- Its contents may not be divulged to candidates until after the publication of results by OCR.

| Centre Name | Centre Number |
|---|---|
| Candidate Name | Candidate Number |

- This mark scheme must be kept secure by the Examinations Officer and not given to the teacher until the teacher is ready to mark the work. The Examinations Officer can release to teachers the mark schemes for individual tasks if required for marking before other tasks are completed.
- This mark scheme is intended as a working document for Centres as well as an aid to moderation. Please use one copy **per candidate** and attach securely to each candidate's work.
- If a candidate meets the requirements for a mark then tick the box next to that mark.
  You may use the numbers on the left hand side of the tick boxes to cross-reference evidence on the candidate's work.
- Indicate whole marks for each task in the box marked 'Centre' after each part. Some centres find it useful to identify the page numbers where evidence can be found next to the marking points in the mark scheme. Only whole marks can be awarded for each mark point; half marks cannot be used. Use blue or black ink only on this mark scheme, do not use red or green ink.
- Candidates must not make improvements to work once it has been marked.
- Marks must be received by OCR and the moderator **no later than 15 May 2015.**
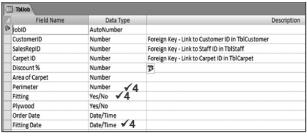- This document consists of **12** pages. Any blank pages are indicated.

| Task Marks | | Max |
|---|---|---|
| Task 1 | | 40 |
| Task 2 | | 26 |
| Task 3 | | 14 |
| Final Mark | | **80** |

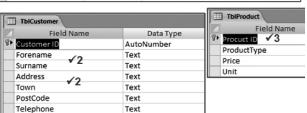OCR is an exempt Charity

**Turn over**

**Instructions for Teachers**

This mark scheme is a confidential document. The contents must not be disclosed to candidates until after results have been issued in August 2015. You **must not** discuss the contents of the mark scheme with anyone outside of your centre.

- Once you have seen the mark scheme for a task you **must not** give any further assistance
- Show how and where the marks have been awarded
- Use blue, black or pencil to mark (try to avoid using red or green)
- Complete one mark scheme for each candidate
- Annotate the tasks and/or mark scheme to show where/why the marks have been awarded
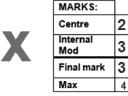- Only award a mark if **all** the bullet points have been met.



- If using internal moderation, indicate the final mark.
- Transfer the marks to the front of the mark scheme.
- Check both the addition and the transcription.



Transfer the total marks out of 80 into OCR Interchange by **15 May 2015**.

OCR will request a sample of work
- Send work to moderator with CCS/160 (Centre Authentication Form) within three working days
- Each script must have an individual mark scheme
- Make sure the work is packaged in accordance with regulations:
  - No binders, no plastic wallets
  - One mark scheme for each candidate
  - A cover sheet for each separate task
  - Clearly identify different parts of the tasks
  - Name of candidate, candidate number, name of centre and centre number on each task
  - Work securely fastened together

If a centre believes that a candidate has created a correct and valid solution to a task that results in a different answer to that which is published within this mark scheme, then you are advised to contact OCR, general.qualifications@ocr.org.uk to seek further advice.

**Please note:**
If version 1 of the tblOrder.csv file was used for Task 1 (including Order ID's 1, 2, 4, 5, 6) when marking points 10, 19 and 20 accept valid answers related to the data used.

## Task 1 – Relational Database [Total 40 Marks]

**1    a(i)**    Printed evidence shows:
1 ❏    ☐ Customer ID is numeric (Integer)
        ☐ Telephone **and** Mobile number are Text
        ☐ Email-Alerts? is Boolean (or equivalent)

**a(ii)**    Printed evidence shows:
2 ❏    ☐ headings in Arial, 18pt, black, bold
        ☐ sub-headings in Arial, 14pt, black, bold
        ☐ all other text in Arial, 12pt, black
        ☐ form background colour RGB (253, 234, 218) (Hex code #FDEADA)

3 ❏    ☐ the main heading is 'Customer Details'
        ☐ sub-headings are used to group related fields together eg contact details
        ☐ default navigation buttons and record selectors removed
        ☐ customised buttons added for record navigation, addition and deletion

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | 3 |

**b(i)**    Printed evidence shows:
4 ❏    ☐ all details for the product are displayed including an image of the product
        ☐ details for a related supplier are shown on the form

**b(ii)**    Annotated evidence explains how:
5 ❏    ☐ stored pictures of the products were displayed on the form

**b(iii)**    Annotated evidence explains how related supplier details were:
6 ❏    ☐ displayed
        ☐ made read only

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | 3 |

**c(i)**    Printed evidence shows *(Note: allow some variation in table names)*:
7 ❏    ☐ Customer to Order is 1:M
        ☐ Order to OrderLine is 1:M
        ☐ Product to OrderLine is 1:M
        ☐ Supplier to Product is 1:M

**c(ii)**    Printed evidence shows the following are present:
8 ❏    ☐ Customer ID
        ☐ Date of Order and Payment Due Date
        ☐ check boxes for Invoice Dispatched? and Paid?
        ☐ Order ID and related products ordered including the Product ID, Quantity and Price Paid
        ☐ customised buttons for record navigation

        Annotated evidence explains how:
9 ❏    ☐ the button to 'View Customer' opens the customer form for the customer who has placed the current order

10 ❏    ☐ the total value of the order was calculated (£90.95)

11 ❏    ☐ the Paid? check box can be ticked only if the Invoice Dispatched? Check box is ticked

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | 5 |

**d(i)** Printed evidence shows:

12 ❏ ☐ the report is grouped by supplier and the supplier's details are displayed
☐ description, price and reorder quantity are displayed
☐ a total cost for the order is displayed (£849.60)

**d(ii)** Annotated evidence shows:

13 ❏ ☐ how a query matches the products where the current stock level is less than the minimum stock level

14 ❏ ☐ how the total cost of the order was calculated for each supplier

| MARKS: | |
| --- | --- |
| Centre | |
| Internal Mod | |
| Final Mark | |
| Max | 3 |

**e(i)** Printed evidence shows:

15 ❏ ☐ the report is grouped by customer
☐ Miss Jean Poole owes a total of £180.92
☐ Mr Hugo First owes a total of £2339.52
☐ each overdue order displays the products ordered

**e(ii)** Annotated evidence shows how:

16 ❏ ☐ only orders more than 28 days past the payment due date AND Paid? is False are selected

17 ❏ ☐ the value for each overdue order is calculated

18 ❏ ☐ the final total for all the overdue orders that a customer has is calculated

| MARKS: | |
| --- | --- |
| Centre | |
| Internal Mod | |
| Final Mark | |
| Max | 4 |

**f(i)** Printed evidence shows:

☐ each invoice on one side of A4
☐ EnviroCo's name and address
☐ the customer contact and address details
☐ payment methods and terms and conditions
☐ the date the order was placed and the payment due date
☐ the order number and the details for the order, including the product details and quantity
☐ the total cost of the order is correct
  ○ Alpha Energy (Miss Jean Poole), order 1000, £90.95
  ○ Alpha Energy (Miss Jean Poole), order 1002, £29.99

| 19–20 ❏ | Tick | Marks | Requirement for marks |
| --- | --- | --- | --- |
| | | 2 | All 7 requirements |
| | | 1 | Any 6 requirements |

**f(ii)** Annotated evidence explains how:

21 ❏ ☐ the process is automated from a single click and will complete a sequence of steps, eg Macro to run a sequence of actions

22 ❏ ☐ only orders where the Invoice Dispatched? value is currently False are generated, eg A query and its parameters are explained

23 ❏ ☐ the Invoice Dispatched? status is updated from False to True

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **5** |

**g** Annotated evidence explains how:

24 ❏ ☐ the drop down list for the customer provides sufficient information to identify the company name and the company contact

25 ❏ ☐ a unique Order Number is generated

26 ❏ ☐ when the 'Add New Customer' button is clicked a form to enter a new customer's details is displayed

27 ❏ ☐ the Date of Order is set to today's date and the Payment Due date is set to today's date plus one calendar month

28 ❏ ☐ if there is insufficient stock when a product is ordered an appropriate error message is generated

Annotated evidence explains how when the 'Process Order' button is clicked:

29 ❏ ☐ the order details are stored into the order and order line tables

30 ❏ ☐ the Retail Price is recorded as the Price Paid for the product

31 ❏ ☐ the Current Stock Level for each product ordered is updated

32 ❏ ☐ the Invoice Dispatched? and Paid? values are both set to False

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **9** |

**h(i)** Printed evidence shows:

33 ❏ ☐ the main menu conforms to the house style
    ☐ clearly labelled buttons/links to the different parts of the system
    ☐ appropriate headings and instructions

**h(ii)** Annotated evidence explains how:

34 ❏ ☐ the menu appears automatically when the system is loaded

**h(iii)** Annotated evidence explains how:

35 ❏ ☐ navigation to one of the components of the system was implemented

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **3** |

**i** A printed user guide contains evidence of:
**Presentation** requirements:
- ☐ the user guide is a standalone document
- ☐ title page/front cover
- ☐ contents page with page numbers
- ☐ correct page numbers on user guide pages
- ☐ consistent style throughout for sub-headings and text
- ☐ appropriate screenshots that are visible and suitably cropped
- ☐ two from
  - ○ troubleshooting guide (at least two problems discussed)
  - ○ glossary of terms (at least six terms)
  - ○ index
- ☐ no spelling errors

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **5** |

| 36–38 ❏ | **Tick** | **Marks** | **Requirement for marks** |
|---|---|---|---|
| | | 3 | All 8 presentation requirements |
| | | 2 | Any 7 presentation requirements |
| | | 1 | Any 6 presentation requirements |

**Content** requirements:
- ☐ how to load the system
- ☐ how to navigate between the system components
- ☐ how to view existing orders
- ☐ how to place new orders
- ☐ how to generate invoices

| 39–40 ❏ | **Tick** | **Marks** | **Requirement for marks** |
|---|---|---|---|
| | | 2 | All 5 content requirements |
| | | 1 | Any 4 content requirements |

| Task 1 TOTAL MARKS | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **40** |

## Task 2 – Spreadsheet [Total 26 marks]

**2**    **a(i)**    Printed evidence shows:

1 ❏    ☐    the worksheet is named *FIT_Tariff*
           ☐    row and column headings have been removed
           ☐    grid lines have been removed
           ☐    instructions are present

     **a(ii)**   Annotated evidence explains how:

2 ❏    ☐    a drop down list has been set up to select the EPC band

3 ❏    ☐    a scroll bar or spinner is used to select the system capacity
           ☐    the control allows values between 0 and 9.99 to be input in increments of 0.01

4 ❏    ☐    option buttons are used to allow either Solar PV or Wind as the renewable type
           ☐    option buttons are used to select the type of house as new build or retrofit

5 ❏    ☐    a check box is used to enter the Micro renewable certification status.

6 ❏    ☐    a validation rule was set up to only allow a Date of installation on or after 01/04/2010
           ☐    a customised error message is generated if a date before 01/04/2010 is entered

     **a(iii)**   Annotated evidence explains how:

7 ❏    ☐    the print button was implemented and linked, eg macro

     **a(iv)**   Printed evidence shows:
          *Note – Row and Column headings must be present and formulae must not be truncated*

8 ❏    ☐    the *FIT_Tariff* worksheet showing the formulae

          Annotated evidence of the formulae explains how:

9 ❏    ☐    the EPC band is used to determine if the lower rate should be paid for Solar PV installations on or after 03/03/2012

10 ❏    ☐    the size of system is used to determine which solar/wind payments from the FIT table should be used

11 ❏    ☐    the renewable type of solar/wind is used to determine which payments from the FIT table should be used
           ☐    the house type of new build/retrofit is used to determine which payments from the FIT table should be used

12 ❏    ☐    the date of installation is used to determine which payments from the FIT table should be used

13 ❏    ☐    the message 'Your system DOES qualify' is generated when the Installation Date>= 01/04/2010 and Certification Granted? is True, otherwise the message 'Your system DOES NOT qualify' is generated

14 ❏    ☐    the background colour of the FIT value is set green when it is paid and red when the system is ineligible and the FIT is not paid

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **14** |

**b(i)**  Printed evidence shows:

15 ❏   ☐  the printout on one side of A4
      ☐  row and column headings are displayed
      ☐  the System Year runs from year 1 to year 20
      ☐  the parameter values have been entered correctly
        ○  Export Rate = £0.0450
        ○  Units Generated = 2300
        ○  Installation Cost = £10 000

**b(ii)**  Annotated evidence of the formulae explains how:
*Note – Row and Column headings must be present to allow for cross referencing of the formulae with the printed worksheet.*
*Allow follow through if the functions/formulae are correct (the values given are for a correct solution)*
*There may be slight variations if candidate has rounded figures up/down*

16 ❏   ☐  the first year of the system is calculated **(2012)**
17 ❏   ☐  the FIT rate for the first year of the system is calculated **(£0.210)**
      ☐  FIT rate values are updated by the relevant inflation rate from the Inflation rates worksheet
      ☐  Export Rate values are updated by the relevant inflation rate from the Inflation rates worksheet
18 ❏   ☐  the income for the year is calculated as the (Units per year * FIT rate) + ((Units per year / 2) * Export Rate) **(£534.75)**
      ☐  the cumulative income is calculated **(£14 214.32)**
19 ❏   ☐  the break-even year is calculated or a message saying that the system will not break-even is generated **(System Year 16 or Year 2027)**

**b(iii)**  Evidence explains how:
20 ❏   ☐  both relative and absolute addressing have been used in one formula and how that helped in creating the solution

| MARKS: | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | 6 |

**c** A printed help sheet contains evidence of:
**Presentation** requirements:
- □ must be a standalone document
- □ titles and subtitles have been applied
- □ consistent use of text styles has been applied
- □ appropriate screenshots that are visible and suitably cropped
- □ text not written as "I did …"
- □ no spelling errors

**Content** requirements:
- □ how to protect an individual worksheet with a password
- □ how to set a cell on a worksheet to locked
- □ how to set a cell containing a variable on a worksheet to unlocked

| MARKS: | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **3** |

| 21–23 ❏ | **Tick** | **Marks** | **Requirement for marks** |
| --- | --- | --- | --- |
| | | 3 | All 6 presentation points and all 3 content points have been met |
| | | 2 | Any 5 presentation points and any 2 content points have been met |
| | | 1 | Any 4 presentation points and any 1 content points have been met |

**d** Each test must be for a different formula
*Note: only mark first 3 tests (zero marks if no table is used)*

24 ❏ □ first test has a clear input **value(s)** with a clear **location(s)** identified for input **and** the output **value** is clearly identified **and** is logically correct based upon the input value(s)

25 ❏ □ second test has a clear input **value(s)** with a clear **location(s)** identified for input **and** the output **value** is clearly identified **and** is logically correct based upon the input value(s)

26 ❏ □ third test has a clear input **value(s)** with a clear **location(s)** identified for input **and** the output **value** is clearly identified **and** is logically correct based upon the input value(s)

| MARKS: | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **3** |

| Task 2 TOTAL MARKS | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **26** |

**Task 3 Website [Total 14 Marks]**

**3**  **a**  Evidence shows:

1 ❏  ☐ the size and position of the page elements for the header, navigation area and main content area are defined
☐ the background colour of each section is given

2 ❏  ☐ two text styles have been defined and include the font style, size and colour

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **2** |

**b(i)**  Annotated evidence explains how the implemented CSS meets:
*Note: Zero marks if part (a) has not been completed*

3 ❏  ☐ the page layout requirements that were specified by the candidate

4 ❏  ☐ the requirements of the text styles that were specified by the candidate

**b(ii)**  Printed evidence shows:
☐ all pages follow a consistent layout
☐ all pages contain consistent fonts
☐ all pages include a clear and appropriate title
☐ all pages contain a navigation bar with links to the other pages in the site
☐ the Homepage contains
  ○ company name EnviroCo
  ○ contact address 23 Windy Lane, Hilltops, Cumbria, LA22 0LD
  ○ company email EnviroCo@progress-media.co.uk
  ○ an introduction about renewable technology
  ○ a map of the company's location
☐ the Services page contains
  ○ text and images about solar photovoltaic installations
  ○ text and images about wind turbines
☐ the Contact page contains
  ○ name of applicant
  ○ job the applicant is enquiring about
  ○ email address of the applicant
  ○ mobile telephone number
  ○ home address
  ○ date of birth
  ○ comments (further information)
  ○ a submit button

| MARKS: | |
|---|---|
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **5** |

| 5–7 ❏ | **Tick** | **Marks** | **Requirement for marks** |
|---|---|---|---|
| | | 3 | All 7 requirements |
| | | 2 | Any 6 requirements |
| | | 1 | Any 5 requirements |

**c** Annotated evidence explains how:

8 ❑ ☐ the map is linked to an external source and is centred on the company postcode LA22 0LD

| MARKS: | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **1** |

**d(i)** Annotated evidence explains how:

9 ❑ ☐ a validation rule was implemented and tested for a form field

10 ❑ ☐ a different validation rule for a different form field was implemented and tested

**d(ii)** A flowchart (that uses recognisable flowchart symbols) shows:

11 ❑ ☐ data fields are checked for validity on the client side

☐ if the form data is valid, it is sent to the server side where a confirmation email is sent to the applicant

☐ if the form data is invalid, an error message is displayed

| MARKS: | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **3** |

**e** Each test must be for a different aspect of the website, eg checking the website on different web browsers, checking the website at different screen resolutions, checking page download time is in a specified limit at a given bandwidth
*Note: only mark first 3 tests (zero marks if no table is used)*

12 ❑ ☐ first test has a clear **item to test** with a clear description of **how to test it** and **the expected result** is clearly explained

13 ❑ ☐ second test has a clear **item to test** with a clear description of **how to test it** and **the expected result** is clearly explained

14 ❑ ☐ third test has a clear **item to test** with a clear description of **how to test it** and **the expected result** is clearly explained

| MARKS: | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **3** |

| Task 3 TOTAL MARKS | |
| --- | --- |
| **Centre** | |
| **Internal Mod** | |
| **Final Mark** | |
| **Max** | **14** |