



GCSE

4332/01

INFORMATION AND COMMUNICATION TECHNOLOGY

**Unit 2 Solving Problems**

**CONTROLLED ASSIGNMENT**

**For submission in May 2019 or May 2020**

**INSTRUCTIONS TO CANDIDATES**

Read the given scenario.

You will have 22½ hours to complete these tasks. Research tasks can be carried out outside timed conditions.

It is important that you work independently from other candidates and make sure that what you submit is your own unaided work.

Read the tasks carefully to make sure that you understand what is needed. Refer to the marking guidance for each task to help you.

Carry out all tasks and make sure that you check your work carefully to ensure that the work you produce is accurate and correct.

Save your work regularly.

**INFORMATION FOR CANDIDATES**

Teachers and students will be required to sign a declaration that all work presented is the work of the candidate alone. Failure to authenticate the work may result in grades being delayed or refused.

The quality of written communication will be assessed in your evaluation.

### Personalised

A company sells a variety of personalised products including t-shirts, children's storybooks, sportswear, mugs, bags, furniture etc.

The company sends out newsletters advertising its products. In addition, it wants to develop an online facility to advertise its products.

Details of customer orders and personalisation are kept on a database.

The company keeps a record of all of its sales and profit on a spreadsheet.

In order to prepare for this, you have been asked to:

- (i) produce a newsletter to advertise one or more of the company's products;
- (ii) produce a screen-based presentation to advertise one or more of the company's products;
- (iii) import a datafile with details of orders and add suitable extra fields so that this data could be used as part of the ordering process;
- (iv) use spreadsheet software to calculate the costs of various orders and discounts and other options and to record the company's profits.

**You must undertake the following tasks to research, design and implement an ICT system to enable the company to advertise and to sell its products.**

**IN YOUR DESIGNS MAKE SURE YOU REFER TO THE MARKING SCHEME FOR EACH TASK TO ENSURE YOU GAIN AS MANY MARKS AS POSSIBLE.**

**Organise and store this information in a suitable folder structure** (5 marks)

**Task 1**

You must organise your work, so it is easy to find and use suitable folders and file names. Ensure your work is backed up appropriately.

**Research** (6 marks)

**Task 2**

Collect information and pictures about suitable products.

Keep a log and evidence of your sources of information and store this information in appropriate folders. You may use online or non-electronic methods of collecting data.

**Communicating information** (2 marks)

**Task 3**

Create the first draft of a newsletter containing details of the products the company offers.

**Task 4**

Create the first draft of a presentation using at least 3 slides **or** a website using at least 3 pages to promote the products the company offers.

**Email**  
**Task 5**

**(6 marks)**

Attach the first drafts of your newsletter and presentation **or** web pages to a suitable email and send it to a friend or group of contacts asking for their comments on how to improve both your drafts.

*Ensure you keep screenshot evidence.*

Open the reply or replies which have been sent to you and save them in a suitable format for use later on.

**Communicating information and formative evaluation**

*Formative Evaluation*

**Review**  
**Task 6**

**(6 marks)**

- (i) Comment on how your own work could be improved.
- (ii) Consider the screenshot comments received from others about your drafts.

**Redraft in response to comments**

**(2 marks)**

**Task 7**

- (i) Improve your newsletter using the advice received and your own ideas.
- (ii) Improve your presentation **or** web pages using the advice received and your own ideas.

*Communicating Information*

**Production of final documents**

**(14 marks)**

**Task 8**

**(i) Leaflet**

- Complete the newsletter using basic and advanced skills.
- Check it for accuracy.

**(ii) Presentation or web pages**

- Complete the presentation **or** web pages using basic and advanced skills.
- Check it for accuracy.

**Data Handling**

**Task 9**

**(12 marks)**

Develop the data file 'Orders'.

In order to do this, you must complete the following:

- (i) Import the CSV 'Orders' file your teacher will give you into a database.
- (ii) Add a suitable validation technique to the keyfield **Order ID**.
- (iii) *Other than address and contact details*, add up to **four** extra suitable fields; ensure suitable data types and a variety of data types.
- (iv) Add details of any **two** sensible records to the existing database.
- (v) James Anders has cancelled his order. Delete this record from the database.

### Task 10

Use your data file to:

- (i) Sort the database in *ascending order* of **Date of Order** to find an order quickly.
- (ii) Search for all the customers who have ordered a **Storybook** to inform customers of a delay.

Create and save a list of only these customers.

- (iii) The company wants to find customers who have ordered only **one pair of Trainers**, to encourage them to buy an extra pair.

Create and save a list of only these customers.

- (iv) Show the validation technique works.

### Task 11

(4 marks)

Using advanced skills, implement **four** other improvements to this database.

### Modelling

#### Task 12

(14 marks)

1. Create a spreadsheet model to:
  - store details of orders;
  - store details of the various lettering / printing options etc. and costs;
  - store details of extras such as insurance or delivery options and costs;
  - store details of a discount for a large order.
2. Your spreadsheet must be able to:
  - automatically calculate the *total cost* of each order with option choices;
  - calculate a *discount* on a large order;
  - automatically calculate the *total profit* of each order;
  - automatically calculate the *total overall profit from all orders*.
3. You must produce a **graph** to compare the *profit* from each order.
4. Complete the spreadsheet:
  - using basic and **four** advanced skills;
  - Check it for accuracy or implausible data;
  - Screenshot the whole of your spreadsheet in data and formula view;
  - Write an explanation of the data, formulas, functions or any other features you have used.

### Task 13

(2 marks)

Use this spreadsheet to do *at least two* 'what if' investigations.

- (i) One of your '*what if*' investigations may just change an item of numerical **data**. You must describe the purpose of your investigation and what was the result of your investigation.
- (ii) The other '*what if*' investigation must alter an **existing formula**. You must describe the purpose of your investigation and what was the result of your investigation.

### Summative Evaluation

(7 marks)

### Task 14

Produce an evaluation of your work. You should evaluate:

- analysis of data and information used in modelling
- analysis of data and information used in data handling
- evaluation of final documents, web pages or presentation produced, and review feedback given and received
- evaluation of other tools and techniques
- suggestions for improvements
- analysis of research methods / data
- evaluation of working practice.

## GUIDANCE FOR CANDIDATES

Your work for this assignment will be marked against the following assessment scheme.

Unit 2 Solving Problems with ICT - Outline Scheme of Assessment	
File handling	5
Research and data collection	6
Email	6
Communicating information	16
Modelling	16
Data handling	16
Evaluation	15
Total	80

### IT 2 Essential Skills Controlled Test

Controlled Task		Maximum Mark
Organisation of folders and files		
	<b>1 mark for each to MAX of 5</b> <ul style="list-style-type: none"><li>• Store a file(s)</li><li>• Use of folders</li><li>• Use of subfolders and their files</li><li>• Sensible naming of files and folders</li><li>• Evidence of backup folders on an external device</li><li>• Demonstrate careful version management</li><li>• Evidence of at least two different folder operations e.g. copy, move</li><li>• Organise emails, groups and folders.</li></ul>	
Total		5
RESEARCH AND DESIGN		
RESEARCH	<b>1 mark for each to MAX of 6</b> <ul style="list-style-type: none"><li>• use of online information sources</li><li>• use a url for a purpose</li><li>• use search engines for different purposes</li><li>• manage and use references to make it easier to find information again</li><li>• download, organise and store different types of information</li><li>• data collection from printed sources</li><li>• data collection from other people</li></ul>	
Total		6

Email		
FURTHER RESEARCH	<b>1 mark for each to MAX of 6</b> <ul style="list-style-type: none"> <li>• open email</li> <li>• save emails efficiently</li> <li>• create and send email</li> <li>• reply to email</li> <li>• send to a group</li> <li>• attach a file to an email</li> <li>• open attachment</li> <li>• use a contacts list – add amend and delete entry</li> <li>• forward an email</li> <li>• adapt style to suit purpose</li> <li>• contribute to blog or forum</li> </ul>	
	<b>Total</b>	<b>6</b>
IMPLEMENTATION		
Communicating Information		
DRAFTS	<ul style="list-style-type: none"> <li>• <b>Create 2 DRAFT documents i.e. DTP / web or Powerpoint type presentation for different purposes</b></li> </ul>	2
Final Documents	<ul style="list-style-type: none"> <li>• <b>produce the final version of DTP / web or Powerpoint type presentation for different purposes</b></li> </ul>	2
Data entry	<b>Accuracy and plausibility and fitness for purpose</b>	2
Basic skills	<b>1 mark for each to MAX of 6</b> <ul style="list-style-type: none"> <li>• use of appropriate page layout and formatting of data e.g.               <ul style="list-style-type: none"> <li>○ fonts and sizes</li> <li>○ simple formatting techniques e.g. bold, text alignment, colour fonts</li> <li>○ word art, borders, autoshapes,</li> <li>○ simple tables or original templates</li> <li>○ simple bullets or numbering</li> </ul> </li> <li>• Insert, crop or resize and position an image fit for purpose</li> <li>• combine text with information in different forms <i>from a library</i> e.g. images, sound, Gif, video</li> <li>• on a web page or in a presentation, sequence a set of events e.g. simple animations</li> </ul>	6
Advanced skills	<i>Additional marks awarded for each one of the following to a MAX of 4 marks;</i> <b>Develop and format data</b> <ul style="list-style-type: none"> <li>• e.g enhance tables with borders, cell merging, text direction or rotation; text to tables</li> <li>• rotation or enhanced manipulation of image'</li> <li>• customised bullets using <i>internal</i> facilities;</li> <li>• numbering with subnumbering;</li> <li>• use of formulas in a document e.g. invoices etc.</li> <li>• use a <b>second</b> different sources for data e.g. digital image, sound, original graph.</li> <li>• mailmerging</li> <li>• headers <b>or</b> footers</li> <li>• page numbering on more than one page</li> </ul>	4

	<ul style="list-style-type: none"> <li>macros (<i>play and record macros</i>)</li> </ul>	
<b>Total</b>		<b>16</b>
<b>Modeling</b>		
<b>Data entry</b>	<b>Create and use a spreadsheet model</b> <ul style="list-style-type: none"> <li>Data entry.</li> <li>Explanation of formulas and features and functions used</li> </ul>	2 2
	<b>Accuracy and plausibility and fitness for purpose</b>	1
<b>Basic skills</b>	<b>Develop and organise numerical data fit for purpose</b> <b>1 mark for each to MAX of 5</b> <ul style="list-style-type: none"> <li>Currency, or % Decimal places, or grid</li> <li>Use formula with single operator</li> <li>Simple function e.g. SUM, Average, Max, Min RAND etc</li> <li>Relative referencing</li> <li>Create a chart</li> <li>Have appropriate title legend axis labels and formatting on the chart</li> </ul>	5
	<b>Testing with investigations</b> <ul style="list-style-type: none"> <li>What if investigation changing data</li> <li>What if investigation changing formula</li> </ul>	1 1
<b>Advanced skills</b>	<b>1 mark for each to MAX of 4</b> <u>Development of the model.</u> Enhanced layout and format of the spreadsheet; <ul style="list-style-type: none"> <li>enhanced grids/borders/ merged cell/text wrap</li> <li>headers or footers,</li> <li>forms/combo boxes/spinners</li> </ul> A wider variety of functions or advanced features e.g. <ul style="list-style-type: none"> <li>IF, LOOKUP and COUNT functions</li> <li>absolute referencing</li> <li>sorts</li> <li>goal seek</li> <li>pivot tables / conditional formatting</li> <li>macros e.g. navigation etc</li> <li>testing.(more what if investigations)</li> </ul>	4
<b>Total</b>		<b>16</b>
<b>Data Handling</b>		
<b>Basic skills</b>	<b>Basic skills</b> <ul style="list-style-type: none"> <li>Importing data from CSV file.</li> <li>adding key field</li> <li>adding fields with suitable fieldnames (<i>1mark 2 fields; 2 marks 4 fields</i>)</li> <li>adding suitable data types</li> <li>variety of data types (<i>At least two other than text</i>)</li> <li>adding suitable data to complete the file</li> <li>editing a record <i>as required or state a reason</i></li> <li>deleting a record <i>as required or state a reason</i></li> </ul>	7
	<b>Produce lists</b> <ul style="list-style-type: none"> <li>obtaining information fit for purpose using sort</li> <li>obtaining information fit for purpose using simple search.</li> <li>obtain information fit for purpose using a double searches(search within a search)</li> <li>add a validation technique</li> </ul>	5



	<ul style="list-style-type: none"> <li>• testing that validation works</li> </ul>	
<b>Advanced skills</b>	A range of more advanced skills e.g. <ul style="list-style-type: none"> <li>• create an on screen data entry form</li> <li>• use logical operators and at least one wild card</li> <li>• sort on multiple fields</li> <li>• use of clearly explained logical operators</li> <li>• use of a calculation</li> <li>• use a report</li> <li>• command buttons or macros</li> <li>• VB enhancements</li> </ul>	4
<b>Total</b>		<b>16</b>
<b>Evaluation</b>		
<b>Level of depth and detail determines level 2 or level 3</b>	<p><b><u>Formative process</u></b></p> <p><b>Review and redrafting of <u>each</u> document</b></p> <ul style="list-style-type: none"> <li>• Make comments with criticisms and suggestions for improvements</li> <li>• Comments from others</li> <li>• Final quality production responding to comments</li> </ul> <p><b><u>Summative process</u></b></p> <ul style="list-style-type: none"> <li>• analysis of data and information used in modelling and data handling</li> <li>• evaluation of final documents /presentation or web pages and review feedback given and received</li> <li>• evaluation of other tools and techniques used</li> <li>• suggestions for improvements</li> <li>• analysis of research methods and data collected</li> <li>• evaluation of working practice</li> </ul>	4  2 2  7
<b>Total</b>		<b>15</b>
<b>Max mark</b>		<b>80</b>

NB Any research, including collection of data and images and keeping log of sources or any initial preparation classed as research and any reviewing can be done outside of the recommended 22.5 hours.