



**ADVANCED SUBSIDIARY GCE
INFORMATION AND COMMUNICATION
TECHNOLOGY**

Structured ICT Tasks

G062

MAY 2010

Issued September 2009

Maximum Mark 80



INSTRUCTIONS TO CANDIDATES

- You should attempt all tasks, working independently from other candidates.
- There are no time limitations on the tasks other than that they must be submitted by the appropriate internal deadline set by the Candidate's Centre. This deadline will reflect the need for the Centre to complete marking of the tasks and submission of marks to OCR by 15th May 2010.
- There are no restrictions on computing facilities, hardware or software that may be used.
- All data files required for these tasks can be downloaded from www.ocr.org.uk/qualifications/asa_levelgceforfirstteachingin2010/ict/documents.html#Pre-release_materials
- All work produced for the tasks must be kept secure within Centres and not published or distributed externally in any form.
- **Once your tasks have been marked by the Centre, they cannot be re-submitted for improvements.**

INFORMATION FOR CANDIDATES

- **Candidates are reminded of the need for good English and clear presentation in their answers. They will be expected to have used software tools, such as spellcheckers, to help achieve this.**

Notice to candidates

- 1 The work which you submit for assessment must be your own.
However, you may:
 - (a) quote from books or any other sources: if you do, you must state which ones you have used;
 - (b) receive any guidance from someone other than your teacher: if so you must tell your teacher, who will record the nature of the assistance given to you.
- 2 If you copy from someone else or allow another candidate to copy from you, or if you cheat in any other way, **you may be disqualified from at least the subject concerned.**
- 3 When you hand in your coursework for assessment, you will be required to sign that you have understood and followed the coursework and portfolio requirements for the subject.

ALWAYS REMEMBER – YOUR WORK MUST BE YOUR OWN

- This document consists of 12 pages. Any blank pages are indicated.

Task 1 [Total 17 Marks]

MarNet is an internet café with eight computers which is open six days each week from Monday to Saturday inclusive, between 8.00a.m. and 6.00p.m. Customers can use the computers which belong to MarNet or they can use their own laptop. Customers who use their own laptop are charged a connectivity fee of £1.50 per session. Customers can use only one of the company computers at a time. The maximum amount of time a customer can access the internet services in a single session is six hours. If a customer needs extra units beyond six hours, it will be calculated as a new session.

The internet services are charged for in units of time as shown in table 1.1

Unit	1	2	3	4	5	6
Time	Up to 30 minutes	to 60 minutes	to 90 minutes	to 120 minutes	to 240 minutes	to 360 minutes
Fee	£2.50	+ £0.50	+ £0.75	+ £1.00	+ £1.25	+ £2.50

Table 1.1

A customer using their own laptop for 95 minutes will need to buy four units and pay the connectivity fee, a total fee of £6.25. Units cannot be transferred to another customer or be used for a return visit. Each Session is charged as a separate transaction.

Table 1.2 shows the computer use for ten transactions during a Monday in 2009.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		Own Laptop	C1	C2	C3	C4	C5	C6	C7	C8	Units	Unit Fee	Connectivity Fee	Total Fee
2	Customer 1		Yes								2			
3	Customer 2			Yes							6			
4	Customer 3	Yes									6			
5	Customer 4				Yes						2			
6	Customer 5								Yes		5			
7	Customer 6	Yes									5			
8	Customer 7								Yes		3			
9	Customer 8					Yes					4			
10	Customer 9	Yes									4			
11	Customer 10									Yes	6			
12													Daily income	
13	C1 = Computer 1													

Table 1.2

Create a worksheet suitable for MarNet to use which is set out the same as and uses the data from table 1.2. The data from table 1.1 is to be added as a separate worksheet. Formulae and functions must be used so that if the company wants to change the unit 1 fee or the connectivity fee the other fees are updated automatically.

The worksheet showing the transactions requires rules which:

- limit the number of units per customer
 - prevent a customer from using more than one of MarNet's computers in the same session
 - prevent a customer from using their own laptop and one of MarNet's computers in the same session
- (a) (i) Print both completed worksheets. Each worksheet should cover no more than one side of A4 paper. [3]
- (ii) Print and annotate the rules you used which prevent input errors. [2]
- (b) (i) All calculations in the unit fee column, connectivity fee column, total fee column and the daily income must be 100% accurate and automatic. Print annotated evidence of the formulae or functions you have used in these areas of the spreadsheet (including column and row headings e.g. A, B, C, 1, 2, 3 – if named cell ranges have been used they need to be clearly identified). [4]
- (ii) Print annotated evidence of the formulae and/or functions you have used to calculate the unit fees on the worksheet showing the data from table 1.1 (including column and row headings e.g. A, B, C, 1, 2, 3 – if named cell ranges have been used they need to be clearly identified). [1]
- (c) Plan **three** different tests for MarNet on different formulae/functions within the worksheets. Produce a table of valid test data using the structure below. Clearly identify the input values to be used and the expected output values (only the first **three** tests will be assessed). [3]

Test number	Description of test	Type of test	Input data value(s)	Expected output value
1		Valid		
2		Valid		
3		Valid		

Table 1.3

- (d) Change the unit 1 fee (shown in table 1.1) to £3.50 and use annotated screenshots to show how **two** different calculations are affected by this change. [2]

MarNet want you to create a workbook that contains the computer usage for each of the days they are open in a week and a summary showing the income from each day. At the end of each week MarNet want an automated routine that will archive the workbook and will create a new workbook ready for entering the following week's computer use.

- (e) Print annotated evidence of the solution you have created showing how it meets MarNet's requirements. [2]

Task 2 [Total 7 marks]

MarNet internet café needs a logo to be designed and produced so that they may use it on all documents and other marketing materials. They need to have a unique image as part of the logo and do not want to use an image from the internet, clipart or an image library.

MarNet require the completed logo:

- to have an image 'created from scratch'
- to have an image which includes 3 different shapes
- to have an image which uses 4 complimentary colours
- to have their name and slogan 'Internet Services' included within the logo
- to be a single layer
- to be a pixel size of 'width 142 x height 118'

- (a) Using a computer and suitable graphics software, produce the logo.
Use annotated screenshots to show **three** stages of development in the creation of the completed logo which meets MarNet's requirements. **[3]**
- (b) Provide annotated evidence to show how the completed logo meets the requirements of MarNet. **[4]**

Task 3 [Total 12 marks]

MarNet requires an electronic tutorial which will run on their computers to assist its customers on how to do effective searching on the internet.

The tutorial needs to include at least one aspect of multimedia (sound or video) and:

- demonstrate how to select a search engine from the many that are available
 - compare the benefits of two different search engines
 - explain how to find a page which contains information about a current local news item
 - demonstrate how to move backwards and forwards through previous pages
 - explain how to save a link to a page as a favourite or bookmark
- (a) Produce a hand drawn diagram which shows the design of the electronic tutorial and the differing pathways through the electronic tutorial. **[2]**
- (b) (i) Produce annotated evidence which shows how the logo which you created in Task 2 is suitable for MarNet by adding it to the electronic tutorial. **[1]**
- (ii) Using a computer and suitable software, produce the electronic tutorial and use annotated evidence to show how it meets MarNet's requirements. **[4]**
- (c) Produce a printed user guide demonstrating how to use the electronic tutorial. Print a copy that would be placed next to each computer. **[5]**

Task 4 [Total 13 marks]

MarNet internet café provide refreshments for their customers and they require a menu that they can place in different areas of the café. The manager needs the menu to be produced and printed in A5 size. The printed menu must show the description of each item and its price. MarNet need to be able to change all the prices using an automated routine so that they can change all item prices in a single action (e.g. changing all items by a set percentage). MarNet have been informed that the menu can be created using mail merge. Use the data files *Menu.txt* and *Company.txt* to complete the task.

The following information needs to be included in the menu:

- café logo (from Task 2), café name, address and contact details
 - café opening times and days opened each week (from Task 1)
 - snacks, main courses (with salad), desserts, drinks
 - vegetarian items clearly indicated
 - prices of all items clearly shown, payment terms that are acceptable
- (a) Produce a hand drawn design showing the layout of the menu. Include specification details so that a third party could produce the menu to MarNet's requirements. [3]
- (b) (i) Using a computer and appropriate software, produce and print the menu to meet MarNet's requirements. [2]
- (ii) Print evidence of the mail merge field names used on the menu. [1]
- (iii) Print annotated evidence of how the data source is linked to the menu. [1]

MarNet want to add the following items to each of the menu sections. They also want the new items to be clearly indicated on the menu.

snacks	price	main courses (with salad)	price	desserts	price	drinks	price
Toasted sandwich	£2.00	Pizza (cheese and tomato)	£3.50	Fruit cake	£1.50	Milk shake	£1.50
Scone	£1.50	Veggie burger	£2.80	Muffin	£1.60	Frappe	£1.80

- (c) Add the additional items to each of the menu sections. Print the changed menu. [2]

MarNet want to increase the price of all the items on its menu by 10%.

- (d) (i) Increase the price of all items on the menu by 10%. Produce annotated evidence to show how the price of all the menu items are increased in a single action. [2]
- (ii) Print the changed menu. [2]

Task 5 [Total 20 marks]

MarNet internet café have converted an upstairs area into a training room to offer ICT courses to their customers. Customers have to use MarNet's computers for the courses. There is enough space to put 20 computers into the new training room and MarNet will offer the following courses:

Course	Day	Time	Price	Trainer
Basic word processing	Monday	10:00 – 12:00	£10.00	Sam
Basic webpage design	Tuesday	9:00 – 12:00	£15.00	Sasha
Basic spreadsheet	Wednesday	10:00 – 12:00	£10.00	Sam
Basic multimedia	Thursday	9:00 – 12:00	£15.00	Sasha
Basic desktop publishing	Saturday	10:00 – 12:00	£10.00	Sam

Table 5.1

The manager requires a database system that will:

- store customer details (title, first name, surname, address, town, postcode, telephone number)
- store details of each course, including the day, time, price and the trainer name
- store the data in more than one table to ease maintenance
- provide a data entry form for adding new customer details
- provide an on-screen booking form which has the following:
 - company logo (from Task 2)
 - internet café name, address and contact details (from Task 4)
 - drop down lists to select customers and courses
 - all the bookings made by a customer
- provide information when a new course is selected on the data entry booking form to:
 - confirm if the place is available on the course
 - confirm how many places are available on the course selected
 - show if the customer has already booked a place on the course
- display the total price for all the courses booked by a customer in any given week
- apply a 10% discount for any customer who has booked more than one course in a week
- display the total bill for the customer less any discount that applies for a given week
- produce a printed invoice that will display all the courses booked by a customer within a given week and to clearly display course prices, sub total, discount value and the weekly total bill
- use validation rules to limit input errors

Create a database to meet the manager's requirements with a booking form showing a customer's bookings for any given week, using the data files *Customer.txt* and *Booking.txt*.

- (a) Show evidence of the field names, data types, primary and foreign keys used for each table. **[2]**
- (b) Show evidence of the entity relationship diagram created within the database software. **[1]**
- (c) Provide screenshot evidence of the on-screen booking form you have created so that the details for customer 3, all their bookings and prices of courses booked are visible. **[3]**

- (d) (i)** Show annotated evidence of how the on-screen booking form confirms if the place is available on the course when a booking is made. [1]
- (ii)** Show annotated evidence of how the on-screen booking form confirms how many places are available on the course selected when a booking is made. [1]
- (iii)** Show annotated evidence of making a new booking for customer 3 onto the Basic multimedia course. [1]
- (e) (i)** Give one item of invalid test data, with a reason, to test the input of telephone number. [1]
- (ii)** Give one item of invalid test data, with a reason, to test the input of the customer title. [1]
- (f)** Show annotated evidence of how the validation applied to the postcode deals with the following data:
- HT49 6BX
 - 3HT B22
 - H6 5RT
- [3]
- (g)** Produce and print a help sheet to show staff how to add a new customer to the database and how to make a course booking for the new customer using the on-screen data entry booking form. [2]
- (h) (i)** Produce and print the invoice for customer 5. The printed customer invoice should cover no more than one side of A4 paper. [1]
- (ii)** Show annotated evidence of the calculations used in the production of the invoice. [3]

Task 6 [Total 11 marks]

The manager has decided that MarNet internet café needs a website to advertise their services and facilities. He has produced the following set of requirements which must have the following pages:

- *Home page* with
 - café logo (from Task 2)
 - café name, address and contact details (from Task 4)
 - café opening times and days opened each week (from Task 1)
 - links to all the pages below
 - a link to a search engine

- *Internet services page* with
 - number of computers available in the internet café
 - laptop connectivity details and prices
 - unit prices for internet access
 - a suitable image
 - payment terms that are acceptable
 - some reviews from satisfied customers
 - links to all the pages

- *Refreshments page* with
 - menu sections available (from Task 4)
 - details and prices of at least two items from each menu section
 - a suitable image for each section
 - payment terms that are acceptable
 - links to all the pages

- *ICT courses page* with
 - details of the ICT courses, with days/times and prices
 - a brief description for each course
 - how to make a booking
 - payment terms that are acceptable
 - messages from the trainers advertising their courses
 - links to all the pages

Files for each page must be stored in a separate folder for that page, except the home page.

- (a) Using a hand drawn diagram, design the structure of the website, showing how all the pages will link together, including external links. [3]

- (b) Produce the website showing evidence of the web pages you have created. [5]

- (c) Using screenshots, show annotated evidence of how you created the link from the home page to the internet services page. [1]

- (d) Show the file structure of your website. Produce screenshot evidence of the file names used and the folders where the files have been stored. [2]

**Copyright Information**

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations, is given to all schools that receive assessment material and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.