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**General Certificate of Secondary Education** 2010

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# **Information and Communication Technology**

**Full Course** 

Paper 2 Foundation Tier



[G5802]

#### THURSDAY 24 JUNE, MORNING

TIME

1 hour.

#### INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Complete in blue or black ink only. Do not write in pencil or with a gel pen. Answer all twelve questions.

## INFORMATION FOR CANDIDATES

The total mark for this paper is 80, including a maximum of 4 marks for quality of written communication.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

	miner's only
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
QWC	

Total	
Marks	

6279 **Examiner Number** 

(jun10G5802)

1	Leisa wants to buy a digital photo frame but needs help with some of the technical description.	Examiner Only  Marks Remark
	<ul> <li>320 × 234 Resolution</li> <li>Stand for landscape or portrait mode</li> <li>Single image or slideshow mode</li> <li>128 MB ROM</li> <li>Memory card expansion slot</li> <li>Wireless connection</li> </ul>	
	(a) (i) What does the term <b>resolution</b> mean?	
	[1]	
	(ii) Why is resolution important when displaying computer graphics?	
	[1]	
	(b) Draw a diagram in the space below to show what is meant by landscape mode.	
	[1]	
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(c)	Draw a diagram in the space belo mode.	ow to show what is meant by portrait	Examiner (
		F11	
		[1]	
(d)	Give <b>ONE</b> way Leisa could use the frame.	he wireless connection on the picture	
		[1]	
		[1]	
(e)	Give <b>ONE</b> reason why she might frame.	need a memory card with the picture	
		[1]	
<b>(f)</b>	The picture frame has ROM and	accepts an SD memory card. State	
	which is volatile and which is nor	n-volatile.	
	Storage Device	Volatile/Non-volatile?	
	Storage Device  ROM Chip	Volatile/Non-volatile?	
	ROM Chip	Volatile/Non-volatile?	
	_	Volatile/Non-volatile?  [2]	
	ROM Chip		
(g)	ROM Chip	[2]	Total Quest
(g)	ROM Chip  SD Memory Card  Leisa wants to print some of her p	[2]	Total Quest

- **2** Verification and validation help reduce errors when data is being entered into a computer system.
  - (a) Complete the table below by circling the validation check which is being carried out on the Data Items shown. (The first is completed for you.)

Data Item	Error Message	Validation check
2001	Membership number must be between 1 and 2000	Range check Type check
	between 1 and 2000	Format check
		Length check
@lexander	Member name must contain	Range check Type check
	text only	Format check
		Length check
18th May 2010	Date of birth must be entered	Range check Type check
	dd/mm/yy	Format check
		Length check
Part-time	Membership type must be	Range check Type check
	3 characters long	Format check
		Length check
30	Members should be over 16 and under 25	Range check Type check
	and under 23	Format check
		Length check
		[4]

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 	 	[2]	
		Total Qu	aesti

3		ketmaster have stores all over the UK and Ireland linked by a <b>WAN</b> mputers inside the stores are linked by <b>LANs</b> .	•	Examin Marks	er Only Remark
	AD	SL and ISDN can be used to provide communication links.			
	(a)	What do the following stand for?			
		ADSL	[1]		
		ISDN	[1]		
	(b)	Ticketmaster sometimes use Fax machines. Give <b>ONE</b> advantage a <b>ONE</b> disadvantage of using Fax machines to communicate.  Advantage			
		Disadvantage			
			,		
6279	)				

(c) Ticketmaster need to keep customer data secure when it is being **Examiner Only** transmitted across the Internet. On the web page shown below circle **TWO** ways the customer can tell that the page is secure. File Edit View Favorites Tools Help Forward × 2 6 € Refresh Home Search Favorites History Stop Address 🗃 https://www.ticketmaster.ie ticketmastei Enter Artist, Team, or Venue Arts & Theatre Your Order Is Complete Thanks for using Ticketmaster. Your order number is 32-11589/UK2 Qty Event/Item Venue: Delivery Spandau Ballet Standard Post \* Wed 14 Oct 2009, 20:00 Belfast, Order for: Margaret Debbadi Total Charge: £121.00 View and print full order details \* Standard Post - Your tickets will be posted to your billing address and delivered no later than 48 hours before the event. This in a non-secure method and if you are purchasing general admission or standing tickets some venues may not replace lost tickets. If the option is available, we suggest you use Special Delivery. Next, get iLike concert alerts while you listen. Works with iTunes® 🖺 🍘 Internet [2] Done Done (d) Give ONE advantage and ONE disadvantage of using wireless connections in the store's LAN. Advantage Disadvantage Total Question 3 [1] Turn over 6279

4 Neil has started a new taxi company and wants to create a database to keep records of his staff and bookings. He sets up the following tables in a relational database.

## tblDriver

Driver ID	Driver Name	Tel Num	Car Reg	Car capacity
100	N McFall	07766872363	UHY 8798	5
101	J McMasters	07712398762	JTG 9801	8
102	A McAllister	07712366177	CLZ 2290	5
103	R Jones	07799982771	OIL 2065	15

## tblBooking

Booking ID	Driver ID	Booking Name	Date	Time	Pick-up	Set- down	Num Passengers
200	102	Cowden	01/05/10	12:00	Castlecourt	Green Road	1
201	102	Brown	01/05/10	12:15	City Hall	Lisburn Road	3
201	101	Gribben	01/05/10	12:15	Victoria Sq	Ormeau Road	2
203	102	Ward	02/05/10	12:20	12 Belmont Road	City Centre	2
205	100	Forrester	02/05/10	13:00	Forestside	Belmont Road	1
206	102	Oswald	02/05/10	13:20	Belmont Road	City Centre	1

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(a)	) How n	nan	y records will	these queries i	eturn for Neil?	,	Examiner Only
	( <u>:</u> )					_	Marks Remark
		Field:	Booking ID	Driver ID	Booking Name		
		able: Sort:	tbl Booking	tbl Booking	tbl Booking		
		how:	<b>V</b>		<b>V</b>	$\dashv$	
		teria:		"102"	7		
		or:					
			-				
						[1]	
	(ii)						
	(11)						
Field: E	Booking ID		Driver ID	Booking Name	Date	Time	
	bl Booking		tbl Booking	tbl Booking	tbl Booking	Time tbl Booking	
Sort:							
Show:	<b>Y</b>		~	~	✓	<b>V</b>	
Eriteria:			"102"		"02/05/10"		
or:	,						
						[1]	
T.T.	41	4- :	. 41 4.1.1 1.		41	_	
US	se the da	ta ir	i the tables at	ove to answer	these questions	S.	
<b>(b)</b>	) Drivei	r ID	and <b>Bookin</b> ;	g ID are set up	as the key field	ds. What is meant	
` ′			n <b>key field</b> ?	1	•		
	oj inc	torr	n neg nera.				
						F43	
						[1]	
(c)	Drive	r ID	is used to lir	k the two table	s Give ONE	ndvantage of using	
(C)					s. Give OILE	id vanitage of using	
	a relati	iona	al database to	store data.			
						543	
						[1]	
6279							[Turn over

wing form to add detain  ver ID  ver Name I Num r Reg r Capacity  ays Neil could improve	e the appearan	vers to the data	abase.	
ver ID ver Name I Num r Reg r Capacity  ays Neil could improve	e the appearan			
ver ID ver Name I Num r Reg r Capacity  ays Neil could improve	e the appearan			
ver Name I Num r Reg r Capacity  ays Neil could improve		nce of the form	n.	
ver Name I Num r Reg r Capacity  ays Neil could improve		nce of the form	n.	
Reg Capacity  ays Neil could improve		nce of the form	n.	
r Reg r Capacity ays Neil could improv		nce of the form	n.	
ays Neil could improv		nce of the form	n.	
ays Neil could improv		nce of the form	n.	
		nce of the forn	n.	
			[1]	

5	The	e computers in the call centre that	Patrick manages are linked via a	
	(a)	What do the letters <b>LAN</b> stand f	for?	Marks Remark
				[1]
	<b>(b)</b>	Give <b>TWO</b> advantages of using	a LAN in an office.	
		1		
				[1]
		2		
				[1]
	(-)		1	
	(c)	1	•	
		(i) Tick (✓) TWO storage med for backing up a computer r	dia in the table below that are suit network.	able
		Storage media	Tick (✓)	
		Memory Stick		
		DVD ROM		
		Magnetic Tape		
		External Hard Drive		[2]
		protected against.  1	ed if deleted accidentally.  ata on a computer network should	

(d)	Why are different <b>Levels of access</b> needed on the network?	Examin Marks	er Only Remark
	[2]		
		Total Qu	iestion 5
6279			

(a)	Ith and safety is important when working on a computer.  Finish labelling the diagram below to give advice to someone who will be working for long periods of time on a computer.	Examine Marks	r Only Remark
	(i) Advice:		
) Adv	ice: [1]		
	Advice: Chairs  should have lower back support		
	(http://www.codinghorror.com/blog/images/computing-ergonomics-monitor-position.png)		
	prevent fires it is important that electrical sockets in the workplace ald not be overloaded.		
(b)	Give <b>TWO other</b> safety measures that can help reduce the chance of accidents happening.		
	1		
	[1]		
	2	Total Que	estion

(a) What do the letters H	ΓML stand for?
	[1]
(b) On the web page show	n below
(i) Circle the button	you use to reload web pages. [1]
(ii) Circle the button	you use to view web pages you have visited. [1]
iervices for School - Microsoft Internet Explor Edit View Favorites Tools Help	er .
ack Forward Stop Refresh Home  ress A http://www.c2kni.net/c2k_services.html	Search Favorites History Print Edit
	Search ▼
	DELIVERING TECHNOLOGY FOR LEARNING
	Learning Services for Schools
	Please select from the menu below:
	Email Service Outlook Web Access (OWA)
	Learning <sup>NI</sup> Online learning
	C2k Exchange For C2k Service news and information sharing
	School Folders Access to other C2k services
( <b>iii</b> ) Explain the functi browser.	on of the button labelled <b>HOME</b> on a web

W	eb pages can be accessed by typing their URL into the address bar.		Examin Marks	er Only Remark
(c)	What do the letters URL stand for?			
		_[1]		
			Total Qu	estion 7
6279			[Tur	n over

B	Electricity, gas and telephone bill	s are all produced using batch processing.	Examiner Only  Marks Remark
(		blete the following sentences to describe creating electricity bills using batch	
	Master File	Transaction File	
		Bill	
	Details of current meter reading	gs are entered onto the system in one batch.	
	The current meter readings ar	e then stored on a	
	This file is then merged with	the old and the	
	customer's	is printed. [3]	
(	hours. Give <b>ONE</b> advantage	rmally process data outside normal work of processing data at this time.	
		[1]	
(	c) Give <b>ONE</b> reason why batch of flights.	processing is not used for online booking	
		[1]	
			Total Question 8
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9	Coı	puter control systems are widely used in the home and in society tod	-	Examiner (	Only emark
	(a)	For each computer control system name the <b>sensor</b> used to record da			
		(i) Speed cameras:			
			[1]		
		(ii) Controlling a central heating system in the home:			
			[1]		
	<b>(b)</b>	Use the words below to complete the sentences describing a greenhorcontrol system.	use		
		Input Thermometer Processed Output			
		The temperature is recorded using a			
		The temperature reading is into the system ar	ıd		
		to see if it is below 20 °C or above 30 °C.			
		If the temperature is outside this range a signal is			
		to turn the heating on or off.	[4]		
	(c)	Give <b>ONE</b> <i>other</i> example of a computer control system used in the home.			
			[1]		
			T	otal Ques	tion 9
6279				[Turn	over

10	MI	DI files are often used in digital recordings.		Examiner Only  Marks Remark
	(a)	What do the letters <b>MIDI</b> stand for?		
			[1]	
	<b>(b)</b>	Tick (✓) <b>TWO</b> advantages of digital music recording <b>listener</b> .	s for the	
		Advantage	Tick (✓)	
		The file quality will remain the same at all times		
		The file can be played on any audio device		
		The file can be edited with the correct software		
		The file quality deteriorates over time	[2]	
			[2]	
	(c)	Digital recordings take sound waves in analogue form them to digital using an ADC (Analogue to Digital Co		
		Give <b>ONE</b> reason why this conversion is necessary.		
			[1]	
				Total Question 10
6279				

11		mes consoles such as Xbox 360, Playstation 3, Nintendo Wiare widely available today.	i, Nintendo	Examin Marks	er Only Remark
	(a)	Tick (✓) <b>TWO</b> statements that are TRUE about gaming te today.	chnology		
		Statement	Tick (✓)		
		Some games consoles can be connected to the Internet			
		Virtual reality games are available on mobile phones			
		All computer games can be bought in CD format			
		Virtual reality games can now be found in some gaming arcades			
			[2]		
	<b>(b)</b>	List <b>TWO</b> ways modern technology has helped improve the gaming technology available today.	ne quality of		
		1			
			[1]		
		2			
			[1]		
	(c)	Identify <b>TWO</b> health problems that have developed as a repeople playing games for very long periods of time.  1			
		2			
				Total Que	estion 11
6279				[Tur	n over

(a)	Identify <b>TWO</b> ways mobile phones can also be used as an	
	entertainment device	
	1	
	2	
	[2]	
<b>(1.)</b>		
(b)	List <b>TWO</b> pieces of advice you would give to someone who wanted to purchase a mobile phone for use as an entertainment device.	
	1	
	1	
	2.	
	2.	
	2.	
	2.	
	2.	

	as brought about.	Marks	R
1.			
_			
_			
2.			
_	[2]		
Т	HIS IS THE END OF THE QUESTION PAPER		
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