Rewarding Learning

General Certificate of Secondary Education
2014

Information and Communication Technology (Short Course)

Unit 2: Understanding ICT
Systems in Everyday Use and
its Implications for Individuals,
Organisations, Society and
the Wider World

ML

[GIT41]

WEDNESDAY 14 MAY, MORNING

TIME

1 hour, plus your additional time allowance.

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 ten** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is **90**.
Figures in brackets printed down the right-hand side of pages indicate the
marks awarded to each question or part question.
Quality of written communication will be assessed in questions **3(b)**, **6(b)**
and **7**.

For question 1 insert the appropriate letter in the space provided.

1 **(a)** Which statement is true about a smartcard chip?

    A A smartcard chip has less storage capacity than a magnetic stripe and data on a smartcard chip cannot be updated

    B A smartcard chip has less storage capacity than a magnetic stripe and data on a smartcard chip can be updated

    C A smartcard chip has more storage capacity than a magnetic stripe and data on a smartcard chip can be updated

    D A smartcard chip has more storage capacity than a magnetic stripe and data on a smartcard chip cannot be updated

Answer _____ [1]

(b) As well as a computer, the following are required to access the Internet:

    A Webcam, Telecommunications Line, Internet Service Provider

    B Internet Service Provider, Telecommunications Line, Router

    C Telecommunications Line, Webcam, Router

    D Telecommunications Line, Internet Service Provider, Email

Answer _____ [1]

(c) Which of the following is not a function of a computer operating system?

    A It provides an interface for the user to interact with the hardware

    B It allocates RAM to programs and data

    C It controls peripheral devices

    D It provides Internet access

Answer _____ [1]

(d) Select the statement which describes the function of a graphics digitiser.

A A graphics digitiser prints high quality graphics

B A graphics digitiser connects the monitor to the motherboard

C A graphics digitiser is the main electronic circuit board in a computer

D A graphics digitiser uses a stylus to input data

Answer _____ [1]

(e) Expand the acronym USB.

A A Universal Serial Byte

B A Uniform Serial Byte

C A Universal Serial Bus

D A Uniform Serial Bus

Answer _____ [1]

(f) Select the statement which is true about flash memory technology.

A It has no moving parts and consumes very little power

B It operates using read write heads and is used to store data

C It has no moving parts and requires a large power supply to operate

D It operates using read write heads and consumes very little power

Answer _____ [1]

[Turn over

(g) Which of the following can always be used to transfer photographs to a computer without having to pay a fee?

   A   Short Messaging Service and Bluetooth, Upload via cables, Multimedia Messaging Service

   B   Upload via cables and Multimedia Messaging Service

   C   Short Messaging Service and Bluetooth

   D   Upload via cables and Bluetooth

Answer _____ [1]

(h) Good data portability means that:

   A   The data stored uses very little storage space

   B   The data cannot be transferred from one system to another

   C   The data can be easily transferred from one system to another

   D   The data stored uses a large amount of storage space

Answer _____ [1]

(i) Select the statement which is true about fibre optic cable.

   A   Fibre optic cable carries data in pulses of light but is prone to interference

   B   Fibre optic cable carries data as electronic signals and is not prone to interference

   C   Fibre optic cable carries data as electronic signals and is prone to interference

   D   Fibre optic cable carries data in pulses of light and is not prone to interference

Answer _____ [1]

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(j) Which of the following best describes an icon when using a GUI?

    A   A graphic which has been cropped

    B   A graphic representing a short cut to a program

    C   A graphic provided on a pull down menu

    D   A graphic created when a program is opened

Answer _____ [1]

Total Question 1

[Turn over

2 Below is a simple spreadsheet created by Anna. She runs a drama school and is trying to find out how much she should charge customers in order to make a profit.

	A	B	C	D	E	F	G	H
1	Lesson Name	Day of Week	Venue	Number of people	Total Income	Venue Rental	Insurance	Profit
2	Poetry	Monday	Study	22	£ 110.00	£ 45.00	£ 22.00	£ 43.00
3	Solo Drama	Monday	Studio	10	£ 50.00	£ 45.00	£ 5.00	£ 0.00
4	X-FactorFun	Tuesday	Main Hall	20	£ 100.00	£ 60.00	£ 5.00	£ 35.00
5	StrictlyDancing	Thursday	Main Hall	20	£ 100.00	£ 70.00	£ 5.00	£ 25.00
6								
7							Total Profit	£ 103.00
8								
9		How much will I charge?	£ 5.00					

(a) Write down the formula you should use to give the correct result in cell H7.

_____ [1]

(b) In the table below, tick (✓) **one** formula that you should use to give the correct result in cell H4.

Formula	Tick (✓)
D4-G4-F4	
E4+F4-G4	
E4-F4-G4	

[1]

(c) Insurance is charged as shown below:

Number of people	Cost
Up to 20 people	£5.00
More than 20 people	£1.00 per person

In the table below, tick (✓) **two** formulae that would give the correct result in cell G2.

Formula	Tick (✓)
If(D2<=20,5,D2*1)	
If(D2>20,D2*1,5)	
If(D2<=20,D2*1,5)	
If(D2>20,5,D2*1)	

[2]

(d) How can cell C9 be used to help predict profit?

_____

_____ [2]

(e) Examine the Profit column. What advice would you give to Anna about each class she runs?

_____

_____

_____ [2]

(f) Which **three** cell ranges have been used to create the graph shown?

_____

_____

_____ [3]

(g) Anna wants to create the graph using a macro.

(i) What is a macro?

_____

_____ [2]

(ii) Describe how a macro is created in a spreadsheet.

_____

_____ [2]

Total Question 2

3 Eleanor works for the NIGOLD Bank. The bank wants to promote new student accounts.

(a) From the list below, tick (✓) **two** statements which are advantages of online banking.

Statement	Tick (✓)
The bank's employees can work from home	
Less staff will be needed in branches of the bank	
Overheads such as building rental will be reduced	
More branches of the bank will have to be opened	

[2]

(b) Eleanor is going to explain online banking to new students entering university. Write her speaking notes under the following headings.

● Advantages of online banking to customers
● The importance of secure websites

Write the speaking notes in the space provided.

Advantages of online banking to customers:

_____

_____

_____

_____

The importance of secure websites:

_____

_____

_____

_____ [4]

Total Question 3

[Turn over

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9

4 Westside College allows pupils from another school to study GCSE ICT. These pupils use the Virtual Learning Environment (VLE) and video conferencing for their studies.

(a) Uploading and downloading materials are features of the VLE which could be used to teach GCSE ICT. Explain **two** other features of the VLE.

1. _____

_____

2. _____

_____ [4]

(b) Explain **two** disadvantages to the pupils of using the VLE to teach them.

1. _____

_____

2. _____

_____ [4]

(c) When the school is using video conferencing they must ensure they have enough bandwidth.

(i) A computer is needed for video conferencing. List **three** other items of equipment needed for video conferencing.

1. _____

2. _____

3. _____ [3]

(ii) What is bandwidth?

_____

_____ [2]

(iii) How can bandwidth affect video conferencing?

_____

_____ [2]

[Turn over

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5 Ruth wants to edit pictures on her computer. The following software packages are available on her computer.

(a) From the list below, tick (✓) the most appropriate software package for editing pictures.

Software Package	Tick (✓)
Presentation Software	
Database Software	
Graphics Software	
Spreadsheet Software	

[1]

(b) Ruth sends the pictures to her friend Ahmed in a zipped folder. He cannot open the folder.

(i) Give **one** reason why Ahmed may not be able to open the zipped folder.

_____

_____ [1]

(ii) What is the benefit of sending items by email in this format?

_____

_____ [1]

Total Question 5

6 Barcodes are used in supermarkets.

(a) The check digit is one piece of information stored on a barcode. Write down **two** other pieces of information stored on a barcode.

1. _____

2. _____ [2]

(b) Most supermarkets have installed EFTPOS. These systems record sales transactions and allow customers to pay for their purchases.

Describe the input and output components of a typical EFTPOS system. State how they are used when a customer arrives at the checkout to make a purchase.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [4]

Total Question 6

[Turn over

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7 The number of people who shop online is increasing. There are advantages for both the customer and the company.

Discuss **three** advantages for a company when using a website to sell products.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ [6]

8 **(a)** Zen Video is constructing a new database. The figure below shows the table structure being set up in their database package. The table is called VIDEO.

VIDEO		
Field Name	Data Type	Description
⚷ VideoNumber	Number	Video Number - Primary or Key field
Video Title		Title of the video
Genre		Classification of the Video, e.g Comedy, War etc
Release Date		Date video released
InStock		Is the video in stock

In the table below insert data types for the fields in the Video table structure. The first one is completed for you.

Field Name	Data Type
VideoNumber	Number
VideoTitle	
Genre	
Release Date	
InStock	

[4]

(b) Some data must be entered in a certain format. Complete the sentence below by inserting the correct words from the list provided.

Data Type

Length Check

Input Mask

Error Message

The _____ _____ defines the format of the data to be

entered. [1]

VIDEO		
Field Name	**Data Type**	**Description**
VideoNumber	Number	Video Number - Primary or Key field

In the figure above, the VideoNumber field is shown and described as a Primary or Key field.

(c) Why is a Primary or Key field necessary in the Video table?

_____ [1]

A Loan table is also created. The diagram below shows the relationship between the Loan and Video tables.

| VIDEO | | LOAN |

(d) From the list below, tick (✓) the relationship shown between the Video and Loan tables.

Type of Relationship	Tick (✓)
One-to-One	
One-to-Many	
Many-to-Many	

[1]

[Turn over

Zen Video produce a monthly report. It shows which members have returned videos and the total value of each loan.

Monthly Video Returned Report

First Name	Surname	Title	Price	Returned
William	Black			
		Ice Age	£2.50	☑
			£2.50	
Kalif	Omar			
		The Matrix	£3.00	☑
		Perfect Storm	£3.00	☐
		Big Daddy	£3.00	☐
			£9.00	
Peter	Sergant			
		Shrek	£3.50	☐
		Gladiator	£3.50	☑
		Forrest Gump	£3.50	☐
			£10.50	
Oisin	Dundas			
		Da Vinci Code	£4.00	☑
			£4.00	

(e) Zen Video used a wizard to produce this report. What is a wizard?

_____

_____ [2]

9 **(a)** Complete the following sentences using the words below.
(Not all words will be used).

| Impact printers | Ink-jet printers | Laser printers | Plotters |

The advantage of using _____ is that businesses

can produce high quality detailed diagrams.

_____ are more suitable for printing large volumes

of data. _____ consist of a print head which

contains nozzles. [3]

(b) Expand the acronym DVD.

_____ [1]

(c) List **two** units used to measure memory capacity in a computer.

1. _____

2. _____ [2]

(d) A computer contains RAM. State **two** features of RAM.

1. _____

2. _____ [2]

(e) Kieran has 20 films of 1 hour or more in length stored on his
computer's hard drive. He needs a device that will enable him to back
up these files.

Suggest a suitable backup device. State **one** advantage of using this
device.

_____

_____ [2]

Total Question 9

[Turn over

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10 Using the terms in the list below choose **one** term that best matches the definition in the left-hand column (not all terms will be used).

INTEGRITY   TRANSITION   VALIDATION   E-COMMERCE

MAILMERGE   CACHE   REDUNDANCY   TEMPLATE

ENCRYPTION   BLU-RAY   PIXEL   ROM

CD-RW   BITMAP   HYPERLINK   HTTP

Definition	Term
Repeating data unnecessarily in a database	
Creating standard letters for a number of people and taking their details from a database	
The correctness, reliability and accuracy of data in a database	
An optical disk with a storage capacity large enough to hold a HD film	
The smallest area that can be edited on a graphic	
High speed memory that holds frequently used instructions	
A ready made document layout which can be reused	
Shopping and conducting business transactions online	
Contains the boot up program for the computer	
A feature which allows users to move between slides on a multimedia presentation	

[10]

Total Question 10

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