**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

[GIT41]

WEDNESDAY 14 MAY, MORNING

MARK SCHEME

General Marking Instructions

Introduction
Mark schemes are intended to ensure that the GCSE examinations are marked consistently and fairly. The mark schemes provide markers with an indication of the nature and range of candidates' responses likely to be worthy of credit. They also set out the criteria which they should apply in allocating marks to candidates' responses. The mark schemes should be read in conjunction with these general marking instructions.

Assessment Objectives
Below are the assessment objectives for GCSE ICT.

Candidates must:
- recall, select and communicate their knowledge and understanding of ICT;
- apply knowledge, understanding and skills to produce ICT-based solutions; and
- analyse, evaluate, make reasoned judgements and present conclusions.

Quality of candidates' responses
In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 16-year-old which is the age at which the majority of candidates sit their GCSE examinations.

Flexibility in marking
Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking
Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 16-year-old GCSE candidate.

Awarding zero marks
Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Types of mark schemes
Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response
Tasks and questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for the "best fit" bearing in mind that weakness in one area may be compensated for by strength in another.

In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement. The following guidance is provided to assist examiners.

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.

- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.

- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Marking calculations
In marking answers involving calculations, examiners should apply the "own figure rule" so that candidates are not penalised more than once for a computational error.

Quality of written communication
Quality of written communication is taken into account in assessing candidates' responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is limited.
Level 2: Quality of written communication is satisfactory.
Level 3: Quality of written communication is of a good standard.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1 (Limited): The candidate makes only a limited attempt and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 (Satisfactory): The candidate makes a reasonable attempt and use of an appropriate form and style of writing, supported with appropriate use of diagrams as required. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 (Good): The candidate successfully selects and uses an appropriate form and style of writing, supported with effective use of diagrams where appropriate. Relevant material is organised with a good degree of clarity and coherence. There is good use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a sufficiently high standard to make meaning clear.

1 (a) C A smartcard chip has more storage capacity than a magnetic stripe and data on a smartcard chip can be updated [1]

(b) B Internet Service Provider, Telecommunications Line, Router [1]

(c) D It provides Internet access [1]

(d) D A graphics digitiser uses a stylus to input data [1]

(e) C A Universal Serial Bus [1]

(f) A It has no moving parts and consumes very little power [1]

(g) D Upload via cables and Bluetooth [1]

(h) C The data can be easily transferred from one system to another [1]

(i) D Fibre optic cable carries data in pulses of light and is not prone to interference [1]

(j) B A graphic representing a short cut to a program [1]

AVAILABLE MARKS

10

2 (a) batt cell references correct and SUM to left SUM(H2, H5)
Any **one** from:
SUM(H2:H5); H2+H3+H4+H5 [1]

(b)

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

[1]

(c)

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) Change the value/price/cost [1] to show how the profit/income is affected [1]
Mentions changing the value [1]. How that would impact on other values [1] [2]

(e) Any **two** from:
Increase charges for any class[1]
Cancel the Solo Drama class [1]/increase the numbers in the Solo Drama class [1]
Encourage higher numbers for any class [1]
Reference to profit levels [1] [2]

(f) Any **three** from:
A1:A5 [1]/A1 to A5 [1]/A1–A5 [1]
D2/D1:D5 [1]/D1 to D5 [1]/D1–D5 [1]
H2/H1:H5 [1]/H1 to H5 [1]/H1–H5 [1] [3]

(g) (i) Any **two** from:
A set of commands/instructions [1]/code [1]
Recorded/grouped together [1]
A short cut to a task/activated by a mouse click/pressing a key [1]
A pre-programmed code [1] [2]

(ii) Any **two** from:
Click/use the record macro (function) [1]
Carry out the tasks (to be included) [1]
Name/save the macro [1]
Write a macro using the script editor [1] [2]

15

3 (a)

Advantage	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) **Level 0 ([0])**
Answer is not worthy of credit.

Level 1 ([1]–[2])
The candidate mentions **one** [1] or **two** [2] or describes one of the areas.
The candidate makes limited use of spelling, punctuation and grammar.
The meaning of the text is not always clear. The candidate demonstrates a
limited form and style appropriate to the question. The organisation of the
answer is limited. There is little use of specialist terms.

Level 2 ([3]–[4])
The candidate describes **two** of the areas. The candidate makes satisfactory
use of spelling, punctuation and grammar. The meaning of the text is usually
clear. The candidate demonstrates a satisfactory form and style appropriate
to the question. The organisation of the answer is satisfactory. There is some
use of specialist terms.

Answers may include:
Advantages of online banking:
24×7 banking
Easy transferral of funds/payment of bills/other appropriately described
services, e.g. communication
A variety of locations/no need to travel

The importance of secure websites:
Protect customer details
Prevent hacker accessing details
Ensure that data is delivered correctly
Provide secure transactions
Enable secure payments using card

[4]

6

4 (a) [2] for a correct feature plus an explanation of its use.

Discussion forum [1] To collaborate/communicate with other pupils [1]/ teachers
Wiki/Blog [1] to generate content [1]/explanation [1]
To view sample material/notes/homework [1] + explanation [1]
To take online exam [1] + explanation [1]
To take quizzes/questionnaire/survey [1] + explanation [1]
Assessment feedback for pupils [1] + explanation [1]
Teacher tracking [1] for evaluation of pupil performances [1]   [4]

(b) Any **two** from:
Dependence on technology [1] may mean failure/unpredictability [1]
Need skills to operate [1] so training required [1]
Do not have Internet/students need equipment at home [1] economic factors may limit this [1]
Less contact with teacher [1] students cannot ask questions/may find it less satisfactory than classroom [1]
Less social interaction [1] + explanation [1]
Lack of immediate response [1]   [4]

(c) (i) Any **three** from:
High speed telecommunications link/line [1]/broadband [1]
Webcam/video camera [1]
Screen/monitor/projector [1]
Speaker [1]
Microphone [1]
Router [1]   [3]

(ii) The rate at which data can be transmitted [2]
Technical definition of bandwidth bps [1]
The amount of data [1] which data can be transmitted [1]   [2]

(iii) High bandwidth provides good quality sound/picture/no lagging [2]
Low bandwidth may cause poor quality sound/picture/lagging [2]
Impact [1] + correct impact [1]   [2]   15

5 (a)

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

[1]

(b) (i) He does not have the correct software [1]   [1]

(ii) Any **one** from:
Reduced file size [1]
Can send a folder/number of items as one attachment [1]
Time taken to attach file is reduced [1]   [1]   3

6 (a) Any **two** from:
Country of origin/country it came from/country code [1]
Manufacturer code/number/ID [1]
ID/Item/Product code/Number [1]   [2]

(b) **Level 0 ([0])**
Answer is not worthy of credit

Level 1 ([1]–[2])
The candidate mentions **one** [1] or **two** [2] or describes one of Input/Output components in an EFTPOS. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question. The organisation of the answer is limited. There is little use of specialist terms.

Level 2 ([3]–[4])
The candidate describes **two** of Input/Output components in an EFTPOS. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question. The organisation of the answer is satisfactory. There is some use of specialist terms.

Answers may include reference to:
Input: Scanner; keyboard; scales; card into card reader
The barcode scanner reads the barcode on the product
The barcode is sent to the computer

Output: Monitor; Printer; Speakers
Beeping when goods are scanned
Itemised receipt produced/card reader receipt
Onscreen data to operator/customer – including card reader
(Accept chip and pin provided it has the required depth)   [4]   6

7 **Level 0 ([0])**
Answer is not worthy of credit.

Level 1 ([1]–[2])
The candidate mentions **one** [1] or **two** [2] or **three** [2] or discusses **one** advantage to the company. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question. The organisation of the answer is limited. There is little use of specialist terms.

Level 2 ([3]–[4])
The candidate discusses **two** advantages to the company. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question. The organisation of the answer is satisfactory. There is some use of specialist terms.

Level 3 ([5]–[6])
The candidate discusses **three** advantages to the company. There is a good explanation of each aspect. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is always clear. The candidate demonstrates good form and style appropriate to the question. The organisation of the answer is good. There is good use of specialist terms.

Answers may include:
Company
The website is open 24×7.
Requires few personnel.
Global customers/the chance of getting more customers/sell more.
It can trade without the need to rent large city centre premises.
Immediate payment as goods are purchased.
Maintain a marketing database/track purchases.   [6]

6

8 (a)

Field Name	Data Type
VideoNumber	Number
VideoTitle	**TEXT/ ALPHANUMERIC/ STRING**
Genre	**LOOKUP/TEXT/ ALPHANUMERIC/ STRING**
Release Date	**DATE (TIME)**
InStock	**BOOLEAN/YES/NO**

[4]

(b) The **INPUT MASK** defines the format of the data being entered. [1]

(c) Primary key uniquely identifies each record/video. [1]

(d)

Type of Relationship	Tick (✓)
One-to-One	
One-to-Many	✓ [1]
Many-to-Many	

[1]

(e) **Two** from:
A wizard is software [1] that helps the user through a process/to complete a task [1] step by step. [1] [2]

9

9 (a) The advantage of using PLOTTERS is that businesses can produce high quality detailed diagrams. LASER PRINTERS are more suitable for printing large volumes of data. INKJET printers consist of a print head which contains nozzles. [3]

(b) Digital Versatile/Video Disk [1]

(c) Any **two** from:
Bit/Bytes/Kilobytes/Megabytes/Gigabytes/Terabytes
Accept abbreviations [2]

(d) Any **two** from:
It is volatile [1]/or a relevant statement, e.g. info is lost when the computer is turned off
The amount of RAM impacts on the computer's performance [1]
More RAM, better performance (or vice versa) [1]
Storage of programs currently being used [1]
Data contents can be changed/can be written to [1] [2]

(e) ([1] for device, [1] for reason)
External hard drive [1] portable [1]/any reference to capacity [1]
Blu-ray[1] portable/resistant to damage [1]
USB storage/memory/flash drive [1]
Cloud [1] [2]

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

[10]　　10

Total　　**90**