**Rewarding Learning**

**General Certificate of Secondary Education**
**2012**

# Information and Communication Technology (Short Course)

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

### [GIT41]

**FRIDAY 1 JUNE, MORNING**

# MARK SCHEME

7544.01

**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 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)** | B | Scanner | [1] | |
| | **(b)** | C | The screens can become dirty and difficult to use | [1] | |
| | **(c)** | A | Flatbed Plotter | [1] | |
| | **(d)** | A | Stores the most recently used instructions | [1] | |
| | **(e)** | A | New data can be written to a CD-R but not to a CD-ROM | [1] | |
| | **(f)** | A | Storage that holds data even when the power is switched off | [1] | |
| | **(g)** | A | CD ROM, DVD ROM, Blu-ray | [1] | |
| | **(h)** | C | Adding sound and filtering data | [1] | |
| | **(i)** | D | A slide that when edited will update the contents of all slides made from it | [1] | |
| | **(j)** | D | Animations | [1] | 10 |

**2** **(a)** A program/file/software [1] which is designed to damage a computer system/corrupt files/attack the system/damage files or an example of damage [1]   [2]

**(b)** Worm [1]   [1]

**(c)** Portable storage media/CD/memory stick/DVD [1]
activities related to the internet [1]
Do **not** accept website on its own
email attachments    email [1]    internet [1]   [2]   5

**3** **(a)** www.google.com/Google   [1]

**(b)** **(i)** World wide web   [1]

**(ii)** Server on the web [1]
website address [1]
domain name [1]
website name/name of website [1] website **not** enough   [1]

**(iii)** folder [1] on the server path or directory [1]   [2]

**(c)**

| Statement | Tick (✓) |
|---|---|
| Special software is required to read pdf files | ✓ |
| pdf files can be viewed on a PC but not an Apple Mac | |
| pdf files can be viewed on computers with different operating systems | ✓ |
| pdf means Portable Document File | |

[2]

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**(d) (i)**

| File | File Format | |
|---|---|---|
| Video | **mp4** | [1] |
| Podcast | **mp3** | [1] |
| Photographs | **jpg** | [1] |

[3]

**(ii)** Smaller after compression/takes up less storage/memory [1]
must be decompressed/unzipped/opened using special software [1]
faster upload/download **not** takes up less space [1]        [2]        12

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

**Level 1 ([1]–[3])**
The candidate explains VLE or/expandable VLE Virtual Learning Environment [1].
They provide one or two **uses** with little or no explanation. 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 and little or no evaluation is present. The organisation of the answer
is limited.

**Level 2 ([4]–[6])**
The candidate explains VLE [1]. They provide two or three **uses** with some
explanation of function. 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.

**Level 3 ([7]–[8])**
The candidate explains VLE [1]. They provide three **uses** with a good explanation
of function. The candidate makes good use of spelling punctuation and grammar.
The meaning of the text is usually clear. The candidate demonstrates good form
and style appropriate to the question. The organisation of the answer is good.

Answers may include:

VLE:      Virtual Learning Environment
          Forum; upload coursework/personal file area
          Wiki/Blog

Uses:     To communicate with teacher/videoconferencing
          To collaborate with other pupils
          To view sample material/notes/homeworks
          To take online exam
          To develop user generated content of Wiki, blog        [8]        8
          Quizzes/questionnaire

**5** **(a)** **(i)** LAN: Local Area Network [1]

**(ii)** WAN: Wide Area Network [1]

**(b)** When using a LAN people can share PERIPHERALS [1].
A FILESERVER [1] stores all user DATA [1] and users can log on at
any WORKSTATION [1] to access their files. [4]

**(c)** **(i)** Any **two** from:
The Intranet can only be accessed by users within an organisation [1]
The Internet can be accessed by anyone with the correct technology [1]
Intranet is private [1] Internet can be used worldwide/by anyone to
communicate [1]
Web pages only accessed by people in organisation [1]
May need a username and password to access intranet web pages
Intranet controlled by organisation/school [1]
Use qualified within organisation. [2]

**(ii)** The WWW is the information stored on the Internet [1]
The Internet is a network of computers and communication links [1] [2]

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

**Level 1 ([1]–[2])**
The candidate names **one** [1] or **two** [2] **measures**. There is little or no
explanation of how these measures help keep data secure. 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 and little or no evaluation is present. The
organisation of the answer is limited.

**Level 2 ([3]–[4])**
The candidate names **two** or **three measures**. There is some explanation of
how these **measures** help keep data secure. 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.

**Level 3 ([5]–[6])**
The candidate names **three measures**. There is a good explanation of how
these measures help keep data secure. The candidate makes good use of
spelling, punctuation and grammar. The meaning of the text is usually clear.
The candidate demonstrates a good form and style appropriate to the
question. The organisation of the answer is good.

Answers may include:

**Virus protection/Anti Virus/Anti spyware**
• software used to protect the computer system from all forms of viruses
• protects data from unauthorised access and corruption from (malicious sources)

Do **not** accept physical security measure

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**Firewall**
- a hardware device or a software program
- filters information coming from the Internet to the computer network
- can prevent hackers from entering the network via the Internet or viruses and spam from entering the network via the Internet or users/computers within the network from uploading data onto the Internet

**Levels of access**
- giving users different levels of access.
- suitable example e.g. school pupils, teachers and the system manager have different levels of access/example of levels of access, e.g. read only/read write

**Backup**
- make a copy of data
- if data is lost the system must have some method of recovering the data
- there is a copy of the data that can be loaded on to the system if the original data is lost
- backup copies of data are stored on a variety of media.

**Encryption**
- Encoding data to prevent access
- Decryption code is required                                           [6]          16


**6**  **(a)** Merge/Merging                                            [1]

**(b)** Currency/accounting [1] Date/Time [1] Date on its own acceptable
yes/no [1] Boolean [1]                                                  [2]

**(c)**

| Formula | Tick (✓) |
|---|---|
| =Sum(F11+F16) | |
| =F11*F16 | |
| =Sum(F11:F16) | ✓ |

[1]

**(d)** Formula  **= (F20** [1] **– F22** [1]**)**                     [2]

**(e)** **(i)** Times between 00:30 and 6:00 am                        [1]

**(ii)** A cell reference which does not change [1] when it is copied [1]   [2]

**(iii)** F13: $F$3 [1]
F19: $F$4 [1] Don't need $ symbol                                      [2]          11

**7 (a)** Any **one** from:
Could have two people with the same name [1]
Key field uniquely identifies each customer [1]                                    [1]

**(b) (i)**

| Validation Rule | Tick (✓) |
|---|---|
| >=0 AND <=50 | |
| >0 AND <50 | |
| >=1 AND <=50 | ✓ |
| >1 AND <=50 | |                                                   [1]

   **(ii)** Any **two** from:
   Presence check [1]
   Type check [1]
   Format check [1]
   Length check [1]                                                               [2]

**(c)** Any **one** from:
one-to-one [1]
many-to-many [1]                                                                  [1]

**(d) (i)** Less chance of mistakes being made/speed of data entry
   Limits the entry options [1]    not faster on its own                          [1]

   **(ii)** Any **one** from:
   List needs to be edited if new products become available [1]
   If error made in setting up list it will be in every record [1]                [1]

**(e)** Town = "Belfast" [1] AND [1] Card Type = "Birthday" [1]                    [3]
Field names are required    Quotation marks not necessary

**(f)** Any **three** from:
Select only those customers who have purchased "Birthday Cards" [1]
using query or by selecting in mail merge process [1]
create a standard letter [1] write a letter/open a document
include merge fields in the letter [1]
merge letter with selected customers' details [1]                                 [3]

**8 (a)** Any **one** from:
Shelves are always well stocked [1]
Less human error [1]
Money goes straight into their bank account [1]
Less cash stored [1]
Don't have to wait for cheques to clear [1]
Record of transactions can be kept [1]
No problems with cheques bouncing [1]
Ease of processing [1]
No cash exchange [1]
Less chance of error [1]
No errors with cash exchange [1]
Less chance of staff stealing money from tills [1]
More customers processed in less time as no counting money [1]/
smaller queues [1]                                                                [1]

AVAILABLE MARKS

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**(b)** Any **two** from:
Printer [1]
LCD/Screen VDU/monitor [1]
Speaker [1]                                                                    [2]          3

**9  (a)** Any **one** from:
Allows the hardware/software to communicate [1]
Provides an interface between the user and the computer [1] hardware [1]
Runs the software                                                              [1]

**(b) (i)** Graphic(al) User Interface                                         [1]

**(ii)** Windows – allows multiple applications to be opened/where
applications are opened [1]
Icons – pictures/pictures which represent their meaning/picture when
clicked start up an application [1]
Mouse/menus – options presented to users on a pull down list [1]
Pull down menu/pointer – used to show the position of the cursor
onscreen [1]
Name a minimum of **two** [1] mark if they name 3 or 4 [2] marks
2 plus 2 explanation [4] marks                                                 [4]          6

**10 (a) (i)** Any **two** from:
Able to work from home [1]/where internet is available
Can work flexible hours [1]
No commuting time [1]/costs [1]
Less stress from travelling [1]
Save money on child care [1]/can stay at home with children                    [2]

**(ii)** Any **two** from:
difficult to remain motivated [1]/distractions
difficult to get help when problems arise [1]
reliance on (communication) technology [1]
feeling of never being away from work [1]/long hours
less social interaction/no company ethos [1]                                   [2]

**(b)** Any **two** from:
Can recruit from anywhere in the world [1]
Better chance of finding suitable applicant/greater pool of applicants [1]
Less staff in central office so smaller premises/lower overheads [1]           [2]          6

|  | **Total** | **90** |