Rewarding Learning

General Certificate of Secondary Education
2013

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]

THURSDAY 6 JUNE, 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 Wide Area Network [1]

(b) **D** Uniform Resource Locater [1]

(c) **C** The system can be used for the ongoing training of experienced
pilots but cannot always take every factor into consideration. [1]

(d) **C** Asymmetric Digital Subscriber Line. [1]

(e) **B** Icons, Menus, Pointers, Windows [1]

(f) **C** ROM can be read from but not written to [1]

(g) **D** RAM is volatile and the amount of RAM in a computer can affect its
performance. [1]

(h) **B** is a standard layout for a document which can be reused [1]

(i) **C** A LAN is a Local Area Network, allows peripherals to be shared
across and allows users to share data. [1]

(j) **D** It provides itemised receipts and allows payments to be processed [1]   10

2 **(a)** **ONE** from:
SUM(H3:H8)[1]/ H3+H4+H5+H6+H7+H8[1]/ G9+E9[1] [1]

(b)

Formula	Tick(✓)
=IF(H3>100,"Yes", "No")	✓[1]
=IF(H3<100,"Yes", "No")	
=IF(H3=100, "No", "Yes")	

[1]

(c) The cell reference will not change when copied [1] only one cell needs to
be changed to make changes to other cells [1] [2]

(d) A12[1]:B15[1]/answer in range A10:I15 to include cells A12:B15 [2]
Cells not in range but both mentioned [1]

(e) **THREE** from:
B2/B3:B8[1]; E2/E3:E8[1]; H2/H3:H8 [1]
or
B2/B3 to B8 [1]; E2/E3 to E8 [1]; H2/H3 to H8 [1]
or
B2/B3 - B8 [1]; E2/E3 - E8 [1]; H2/H3 - H8 [1] [3]

(f) The percentage amount of time that each person has worked [1]
surname of each person [1] [2]   11

3 (a) (i) Communicating on a network/online using microphones and cameras/
sound and pictures/video [1]

(ii) High bandwidth is required [1] to ensure the quality of the
conference [1]/to transmit image and sound together [1] [2]

(iii) TWO from:
Reduction in pollution due to less travel [1]
Reduction in carbon footprint [1] explanation of how this occurs [1]
Reduction in greenhouse gas emission [1] explanation of how this
occurs [1]
Emissions are reduced [1] Fuel is conserved [1]/less fuel energy
used [2]

(b) (i)

Statement	TRUE/FALSE
Teleworking is the use of the telephone to make sales to customers.	**FALSE**
Teleworking allows employees to work flexible hours.	TRUE [1]
Teleworking activity is more difficult for managers to monitor.	TRUE [1]
Teleworking allows for a lot of face-to-face contact between workers.	FALSE [1]

[3]

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

Level 1 ([1]–[2])
A candidate can obtain [1] if they provide a response with suitable SPG
and reasonable context.
The candidate mentions **one**, **two** or **three** impacts 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.

The candidate demonstrates some knowledge and understanding of the
impact of teleworking, but this is limited.

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 to the question. The organisation of the answer is satisfactory.

The candidate demonstrates satisfactory knowledge and understanding
of teleworking.

Level 3 ([5]–[6])
The candidate describes **three** of the areas. 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.

The candidate demonstrates good knowledge and understanding of teleworking. For example:

- Change in recruitment potential (from a local to a global market). Distance doesn't matter.
- How employees could be trained by referring to communications technologies or specialist teleworking training.
- Evaluation of the economic impact of employing teleworkers and refers to for example, no travel expenses, smaller premises, lower overheads/cost of specialist equipment. [6]
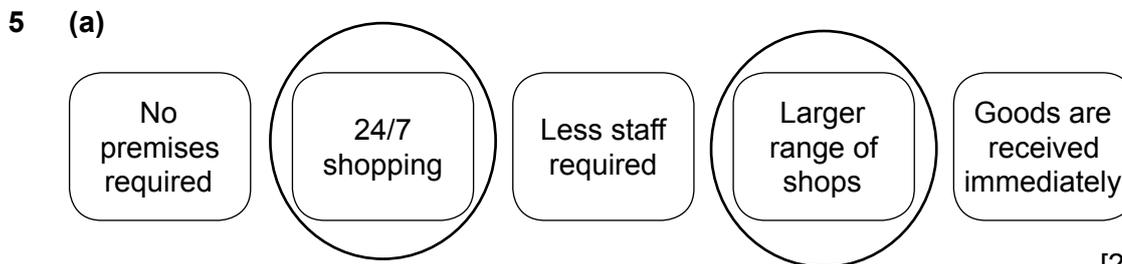
14

4

Data	Validation	Reason for choice
(a) Surname	Presence check [1]	To ensure that this field is not left blank [1]
(b) Budget	Type check [1]	To ensure that the budget is entered in pounds – currency. [1] money
(c) Age	Range check [1]	To ensure all those registering are in the age range 10–18 [1]
(d) Password	Length check [1]	To ensure the password is at least 8 characters in length [1]

[8]   8

5 **(a)**

No premises required   24/7 shopping   Less staff required   Larger range of shops   Goods are received immediately

[2]

(b) TWO from:
Card Number [1] Name on Card [1] Valid from Date [1]
Expiry Date [1] Issue Number[1] (Signature Strip Number [1]/security code [1])
Card Type [1]   [2]

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

Level 1 ([1]–[2])
The candidate refers to **one** or **two** of the areas in context. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate displays a limited form and style appropriate to the question. The organisation of the answer is limited.

Level 2 ([3]–[4])
The candidate briefly describes one/two of the areas. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate displays a satisfactory form and style appropriate to the question. The organisation of the answer is satisfactory.

Level 3 ([5]–[6])
The candidate fully describes one area **or** describes two areas. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate displays a good form and style appropriate to the question. The organisation of the answer is good.

Answers may include:
- Secure Electronic Transaction used when credit card transactions are being processed
- SET keeps details confidential and prevents fraud
- Processing of data in scrambled format protects data
- Encryption protects data in transit
- Encrypted data cannot be understood by unauthorised individuals   [6]

A candidate can obtain [1] if they provide a response with suitable SPG and reasonable context.

10

6 (a)

Name	House number	Street	Town/City	Postcode
Mr Joe Watson	1	High Street	Belfast	BT4 6TD
Mr Jim Donald	31	Mary Street	Newry	BT24 6TL
Miss Amy White	52	West Street	Armagh	BT62 8TY
Ms Caitlin Rooney	2a	Church Walk	Lisburn	BT18 5FG

[1]

(b) A field which uniquely identifies a record   [1]

(c)

Field Name	Data Type
Rental No.	**Auto-number/number/numeric**
Member ID	**String/Text/Character/alphanumeric**
Price per night	**Currency**

[3]   5

7 (a)

Rank	Storage Device
1.	External Hard Drive
2.	USB Memory Stick
3.	CD-R

[3]

(b)

Statement	Tick (✓)
Both DVD-R and DVD-RW are read only	
DVD-R can be written to only once	✓
DVD-RW can be written to many times	✓
Both DVD-R and DVD-RW can be written to only once	

[2]   5

–

8 (a)

Tool	Tick (✓)
Timings	
Buttons	✓
Hyperlinks	✓
Master slide	
Templates	

[2]

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

Level 1 ([1]–[2])
A candidate can obtain [1] if they provide a response with suitable SPG in reasonable context.
The candidate mentions **one** [1] or **two** [2] or **three** [2] or describes **one** test.
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.

Level 2 ([3]–[4])
The candidate describes **two** tests. 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 describes **three** tests. There is a good explanation of each aspect. 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:
Testing
Ensure in correct sequence – play thorough presentation and compare to storyboard
Ensure all links are working – click on action buttons/hyperlinks
Ensure all animations play – play through each slide in turn
Ensure all sound files are working – click on audio link to test
Ensure all multimedia elements play in correct sequence – play through each slide in turn [6]

8

9 (a) Any **one** from:
Not suitable for lengthy responses [1]/suitable only for short messages
Discussion threads cannot be developed or followed [1]
Students not online would need access to archived conversations [1]
Difficult to collaborate on single document/No storage facility for document [1]
Need everyone online at same time [1] [1]

(b) Bulletin boards are not offline/**interactive**. [1] Not everyone in the group has to be **online** [1] at the same time to take part in the discussion. Users can comment on the article and read the **replies** [1] from other group members at anytime. [3]

(c) Any **one** from:
Voice Over Internet Protocol [1]
Allows users to make telephone calls over internet/broadband/online [1]/
Calls made from computer to computer [1]/Cheaper than using
telephone [1]/Use headphones/microphone/webcam[1]
e.g. Skype/facetime etc [1] [2]

AVAILABLE MARKS: 6

10 Font:
Any **one** from:
Consistent font [1]/all the same [1]
More appropriate font [1]

Tick Boxes:
Any **one** from:
Could provide options for the question about lunches/school canteen [1]
Could provide options for the question about travel [1]

Instructions:
Any **one** from:
Give instructions on how to write DOB [1]
Give instructions to say e.g. the school will complete the Pupil Num field [1] [3]
(Instructions should be specific)

AVAILABLE MARKS: 3

11

Definition	Term
Software designed to protect a network from hacking via the Internet	FIREWALL
Technology which allows musical instruments to connect to a computer	MIDI
A software tool designed to deliver courses online	VIRTUAL LEARNING ENVIRONMENT
A type of cable which sends data using light pulses	FIBRE OPTIC
A program used to find information on the Internet	SEARCH ENGINE
A wireless technology which can be used to connect a headset to a mobile phone	BLUETOOTH
A set of words used to find information on the Internet	SEARCH CRITERIA
A compressed file format	JPEG
A method of data capture which detects the position of pencil marks on a form	OPTICAL MARK RECOGNITION
A copy of data currently held on a computer system	BACKUP

[10]

AVAILABLE MARKS: 10

Total 90