



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme January 2004

GCE

Information and Communication Technology

Unit ICT1

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Guidance on the award of the mark for Quality of Written Communication

Quality of Written Communication assessment requires candidates to:

- select and use a form and style of writing appropriate to purpose and complex subject matter;
- organise relevant information clearly and coherently, using specialist vocabulary when appropriate; and
- ensure text is legible, and spelling, grammar and punctuation are accurate, so that meaning is clear.

For a candidate to be awarded 1 mark for quality of written communication on the question identified as assessing QWC in a unit test, the minimum acceptable standard of performance should be:

- the longer parts (worth 4 marks or more) should be structured in a reasonably logical way, appropriate and relevant to the question asked;
- ideas and concepts should be explained sufficiently clearly to be readily understood. Continuous prose should be used and sentences should be generally be complete and constructed grammatically. However, minor errors of punctuation or style should not disqualify;
- appropriate AS/A level terminology should be used. Candidates should not use such phrases as ‘fighting disease’, ‘messages passing along nerves’, ‘enzymes being killed’ etc, but a single lapse would not necessarily disqualify. Technical terms should be spelled correctly, especially where confusion might occur, e.g. mitosis/meiosis, glycogen/glucagon.

The Quality of Written Communication mark is intended as a recognition of competence in written English. Award of the mark should be based on overall impression of performance on the question identified on the paper as assessing QWC. Perfection is not required, and typical slips resulting from exam pressure such as ‘of’ for ‘off’ should not be penalised. Good performance in one area may outweigh poorer performance in another. Care should be taken not to disqualify candidates whose lack of knowledge relating to certain parts of a question hampers their ability to write a clear and coherent answer; in such cases positive achievement on other questions might still be creditworthy. No allowance should be made in the award of this mark for candidates who appear to suffer from dyslexia or for whom English is a second language. Other procedures will be used by the Board for such candidates.

Examiners should record 1 or 0 at the end of the paper in the Quality of Written Communication lozenge. This mark should then be transferred to the designated box on the cover of the script.

GENERAL GUIDANCE NOTES FOR EXAMINERS

Overall guidelines

1. All examples accepted should be clearly related to the subject area and should not be “generalised” examples.
2. Attention should be paid to ensure that marks are not awarded for simple restating of the question or the stem, often involving the exact same terms.
3. The answers should be providing evidence of more than “man in the streets” knowledge of ICT.
4. It should be remembered that scripts could be seen after they are marked and so consistency of approach and correct mechanics of marking are essential.
5. Rules on positioning of ticks and marks are to aid in checking and remarking of scripts.
6. Do not expect the candidate to use the exact wording given in the mark scheme. If you are in doubt as to the correctness of an answer given by the candidate, consult your Team Leader.
7. From the examinations for 2003 onwards, where one-word answers are acceptable will be indicated on the question paper. (For 2002 the acceptance or otherwise will be determined at standardisation.)

Specific marking guidelines

8. The basic rule is one mark one tick. The tick to be positioned at the point where the mark is gained in the answer and definitely not in the margin.
9. The only figures in the margin should be sub-totals for parts of questions and a final ringed total for a whole question.
10. Where questions are divided into parts a, b and so on, and a mark is indicated for each on the paper, a mark should be positioned at the end of the appropriate response in the margin.
11. There should in effect be a mark in the margin at every point there is one on the question paper and a number of ringed totals, which relates directly to the number of questions on the paper.
12. Where a question has only one part, the total for that question should be written once and then again and circled. This allows for easy checking that totalling and transcription of marks is correct.
13. All zero values should be crossed through.
14. All blank spaces should be crossed through with a vertical line through the text space – not in the margin.
15. All writing must be marked as read, either by the presence of ticks or by striking through the script with a vertical line.
16. All blank pages must be crossed through.
17. Where candidates have added extra to their answers later in the script, the total mark should be indicated as including x from Page y. The total mark should be in the position where the answer starts.
18. The use of the following symbols/marks is acceptable:
 - a. BOD – where the benefit of the doubt is given for the point the candidate is making. This is generally where poor writing or English is an issue. Its widespread use should be avoided.

- b. Underlining of subject specific terminology, which is misused or incorrect e.g. encoding rather than encryption, information rather than data.
- c. Underlining can also be used to highlight clearly incorrect statements or the use of a generalised phrase such as quicker, user friendly and so on.
- d. An omission mark ^ should be used where the candidate has given insufficient information to gain a mark. This is particularly useful when a teacher or student looks at scripts against a mark scheme.
- e. It may be appropriate to indicate where the same point has been covered more than once by an arrow or where a point has been covered in several lines of prose by the use of brackets.
- f. The use of letters associated with ticks **may** be used to indicate different areas being marked in a question, particularly to indicate the different bullet points in an essay. **THIS WILL BE OUTLINED AT STANDARDISATION.**

19. **NO** other symbols or comments should be used.

20. Markers are responsible for checking

- a. The transposition of marks to the front sheet
- b. That all work has been marked on each script
- c. That all marks for individual questions are totalled correctly
- d. That the script total is transferred to the box at the top right of the script.
- e. That they **clearly** initial the script, under the total at the top right, so it is possible for the Principal Examiner to identify each markers work.

Unit 1 Information: Nature, Role and Context

1 *Explain, using examples, what is meant by each of the following terms:*

- (a) *Data;*
 (b) *Information;*
 (c) *Knowledge.*

a) Data are raw facts or figures, or a set of values, facts, figures, measurements, records of transactions(1) example(1)

no processing carried out, no use to anyone, have no meaning as such

NOT single numbers like 12 or 010768

but ACCEPT a student's mark or a gas reading as they contain multiple items

(2 marks)

b) Information is data, which has been **processed or converted** to give it meaning/to give it context/to organise it (1) example (1)

(2 marks)

c) Knowledge is a "set of rules or concepts" used to interpret/make use of information (1) example (1)

(2 marks)

2 *A company which is selling goods by mail order, purchased a mailing list of names and addresses in the year 2001.*

- (a) *Explain why it was an advantage to the company to purchase the mailing list.*
 (b) *Explain the disadvantage that the company now has of using this list.*
 (c) *The mail order company has data of a personal nature that they wish to sell.*
 i. *Whose permission must they first obtain?*
 ii. *Who should they inform of their intentions?*

a) Saves time or money (1) than having to collect the data themselves (1) (2 marks)

b) Data no longer up to date/people may have moved/married/died(1) means waste of money/time on sending mail shots/data no longer has value (1)

(2 marks)

c) i. The data subject (1)

(1 mark)

ii. The Information/Data Commissioner/Registrar (1)

(1 mark)

NOT Data controller

3

Using examples, describe **four** benefits that ICT can offer to an organisation.

one mark for clear benefit to organisation,
one mark for an example that illustrates a benefit
4x2

INDEPENDENT MARKS

Examples

Increased speed of processing/greater productivity (1) example/expansion (1)

Increased accuracy of calculations (1) example/expansion (1)

24-hour availability/ allows greater flexibility in hours (1)
example/expansion (1)

Vast amounts of data stored in small space (1), example/expansion (1)

Performs repetitive tasks (1) example/expansion (1),

Better presentation possible (1), example/expansion (1)

Improved/up to date company image (1) example/expansion (1)

Efficient search and retrieval (1), example/expansion (1) Including use of
the INTERNET

Improved communication (1) example/expansion (1)

Improved security (1) example/expansion (1)

Better working conditions (1) example/expansion (1)

Improved decision making (1) example/expansion (1)

Ability to employ from a worldwide labour pool (1) example/expansion (1)

**BENEFITS MUST BE OF THE USE OF ICT BY THE ORGANISATION
NOT THE USE OF AN INDIVIDUAL PACKAGE (That would only be an
example)**

Label the ticks with B or E (Benefit or Explanation/example)

4 x Benefit + 4 x Explanation/example

(8 marks)

4

Students at a university are provided with free Internet access by the university.

*(a) Describe **one** advantage to the University of providing this Internet access.*

*(b) Describe **one** advantage (other than a financial one) to the students of having Internet access provided by the university.*

*(c) Describe **two** disadvantages to the students of using the Internet for study.*

Each section is first mark for WHAT and second mark for WHY

MARKS ARE DEPENDENT

a)

Students can study independently (1) saves costs/staff time (1)

Means easier to contact all students using e-mail (1) saves time and costs (1)

Work can be submitted on line (1) less likely to be lost (1)

Improve image/no of students (1) more money/students(1)

Less resources required (e.g. books)(1) saves money (1)

(2 marks)

b)

Can access material from anywhere/anytime (1) saves time finding staff or other acceptable reason (1)

Easier to submit work (1) word process and email (1)

No need to go to lectures (1) as materials available on line (1)

Discussion groups/news groups can be available (1) get help with studies (1)

Greater availability of information (1) books/articles out on loan or other acceptable reason (1)

(2 marks)

NOT DO NOT NEED TO BUY A COMPUTER

c)

Health problems (1) due to overuse of ICT (1)

Lack of social contact (1) as work from room (1)

No need to go to lectures as notes on line (1) so misses detail of lecture (1)

Information obtained may be unreliable/inaccurate (1) Do not know source/not updated recently (1)

INTERNET not as stimulating as a teacher (1) does not learn as well (1).

(4 marks)

5

A webcam is a video camera that captures images which can be transmitted across the Internet.

*Describe **one** way in which a company can make use of this technology to benefit its business.*

One mark for WAY and one mark for BENEFIT

Example:

Can be used for videoconferencing (1) cheap way to hold meetings with people at a distance/can get immediate feedback (1)

To advertise its products (1) increase profits (1)

Ability to monitor activities (1) benefits (1)

(2 marks)

6

When producing a requirements specification for an ICT solution to a task, an IT professional needs to use certain personal skills.

*State **two** such personal skills and explain why each of them will benefit the IT professional when preparing the requirements specification.*

ANY 2 x 2 MARKS

Allocated 1 mark for stating quality

1 mark for explaining **this must be with relevance to the scenario**

Independent marks

Examples:

- **Be able to communicate well orally/Articulate/Good questioning skills (1)** – to enable efficient and effective communication with users/or colleagues/ being able to use suitable language, free from jargon so they can find out requirements (1)
- **Have patience (1)** – to keep calm and prevent end users from becoming flustered when discussing requirements/ follow through all the detail design work needed (1)
- **Have good written skills (1)** – to be able to provide end users with clear documentation of the requirements specification to enable discussion/ make notes at interviews (1)
- **Approachable/Gain trust/people skills/confidence (1)** makes users feel at ease/easier to get information from them (1)
- **Observant/Listening skills (1) plus explanation**
- **Analytical/Problem solving/logical(1) plus explanation**

If have Communication skills, cannot then have separate written and oral

(4 marks)

7

For each of the following items, describe **two** ways in which a company can prevent malpractice in the use of:

- (a) its data;
- (b) its hardware;
- (c) its communication networks.

For each of a) b), and c) 2x2 marks

Marks are for WHAT and HOW

Marks are DEPENDENT

Examples:

- a) Create levels of access/ use passwords (1) so users only have access to data that they need for their job/ prevent modifications or deletions of data(1)
 Have automatic save functions built into software (1) to prevent data loss in event of system failure (1)
 Procedural (e.g. logging off, no one member of staff to have total control of process) (1) explanation (1)
 Code of conduct/ practice (1) DETERS (1)
 Provide training (1) explanation (1)

NOT use of audit trails or monitoring software except where they explicitly state they are a deterrent

(4 marks)

- b) Prevent users from using floppy disks or CDs/disable/remove external drives (1) means viruses/unauthorised software not introduced (1)
 Code of conduct/ practice (1) DETERS (1)
 Provide training (1) explanation (1)

NOT secure room etc. as this is preventing any use not misuse

(4 marks)

- c) Use a firewall (1) to prevent the network becoming vulnerable to external sources when staff use external networks (1)
 Anti virus software (1) to prevent downloading/spreading of viruses when using networks (1)
 Customise log in/passwords/user ids (1) prevent users accessing software/data they do not need (1)
 Control email usage/ timed access (1) prevent networks being overloaded (1)
 Code of conduct/ practice (1) DETERS /may prevent/might prevent/can prevent the committing of an offence (1)

(4 marks)

8

(a) Describe what is meant by a software copyright and licensing agreement.

(b) Explain why software copyright and licensing agreements are needed.

(c) Describe the possible consequences for a company of an employee using unlicensed software on a computer belonging to that company.

a) An agreement on how a piece of software may be used. (1) Agreement is between user and producer of software. (1) (2 marks)

b) Makes copying illegal/deters copying/protect producer (1) and ensure producer of software does not lose money (1)

DO NOT accept **prevents** copying (2 marks)

c) Company can be held responsible (1) and prosecuted/fined (1) (2 marks)

9

The Computer Misuse Act was introduced to allow the prosecution of people who accessed computer systems without authorisation

(a) State and give an example of, each of the three sections of the Computer Misuse Act.

(b) Explain why few companies ever prosecute people under the Computer Misuse Act.

Independent marks

a) unauthorised access to material without any intent to do anything other than just gain access (1). An example would be the student who gains access to the administrative side of a college network or to another student's user area. The person who tries to get into a system just for the sake of it.(1)

unauthorised access with intent to commit or to facilitate commission of further offences(1). For example accessing bank records with the intent of committing fraud. Accessing personal details with the intent of committing blackmail.(1)

unauthorised modification of computer material/ The code or data is actually changed rather than simply viewed and used (1). For example changing the balance in a bank account/ altering someone's credit status/ changing an examination mark.(1) (6 marks)

b) Fear of effect on customers/reputation (1) if think their data/system is unsafe (1) (2 marks)