GCE 2005
January Series

AQA
ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark Scheme

Information and Communication Technology

ICT 1

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Further copies of this Mark Scheme are available to download from:the AQA Website:
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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. The answers given in the mark scheme are exemplars. Credit must be given for other correct answers not given in the mark scheme. Please refer to Team Leaders where there is any doubt.

8. One-word answers, where acceptable, will be indicated on the question paper.

9. The meaning of ICT-specific words and phrases are as defined by *A Glossary of Computing Terms* (current edition) by the British Computer Society.

Specific marking guidelines

10. 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.

11. The only figures in the margin should be sub-totals for parts of questions and a final ringed total for a whole question.

12. 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.

13. 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.

14. 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.

15. All zero values should be crossed through.

16. All blank spaces should be crossed through with a vertical line through the text space – not in the margin.

17. All writing must be marked as read, either by the presence of ticks or by striking through the script with a vertical line.

18. All blank pages must be crossed through.

19. 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.

20. 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 sign ^ 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.

21. NO other symbols or comments should be used.

22. 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

> **Examiners: the answers given in this mark scheme are exemplars. Credit must be given for other correct answers not given in the mark scheme. Please refer to Team Leaders where there is any doubt.**

1	*10.1 knowledge, Information and Data*
	
	Three stages of a data processing system are input, processing and output. State, using an example for each one, what is meant by:
	   (a) Input;
	   (b) Processing;
	   (c) Output.	

	For each of (a) (b) and (c) (2, 1, 0) marks, possible to get any of the individual marks
	
	   1 mark for definition
	   1 mark for example
	
	   (a) Input – **capturing/entering data** (1) plus example (1)
		2 marks

	(b) Processing – **converting/changing/ordering/searching data** into information (1) plus example (1) **NOT** processing	2 marks
	(c) Output – **information** produced/action of getting out **information** from the system (1) plus example (1)	2 marks
	ICT related examples only.	**Max 6**

2	*10.7 Information and the Professional*	
	A company is recruiting a new member of staff for its ICT support desk. The head of personnel has asked the manager of the support desk what personal qualities the new employee should have in order to be able to carry out the job effectively.	
	State, with reasons, **two** *personal qualities that the manager would want a new employee on the support desk to have*	
	Any 2 x (2, 1, 0) marks, 1 for **QUALITY** 1 for **REASON**	
	NB Context is ICT support desk so reason must be in context for the second mark	
	Willing to work flexible hours (1) – user support roles require the ability to stick at problems and see them through, may entail working when users don't need equipment e.g. installing new software or fault correction (1)	
	Be able to communicate well orally (1) – to enable efficient and effective communication with users/or colleagues – e.g. interviewing and questioning effectively to discover what the problem is/what support is needed (1)	
	Good written communication skills (1) – ability to write documentation both technical and end users e.g. necessary for recording faults clearly and documenting solutions (1)	
	Ability to work as part of a team (1) – means able to exchange views, share information, solve problems quicker (1)	
	Organisational skills/work under pressure (1) – means have several different jobs running concurrently/users may have urgent work to do and be demanding	
	Ability to listen/patience/approachable (1) - if cannot, then problems are often misinterpreted / member of staff may not seem approachable	
	Perseverance/problem solving (1) – ability to work on problems without giving up/visualise technical issues abstractly (1)	4 marks

	DO NOT ACCEPT INITIATIVE
	                         MANAGERIAL SKILLS
	                         TECHNICAL
	                         PREVIOUS EXPERIENCE
	OR OTHER GENERALISED ANSWERS	

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3	*10.2 Value and Importance of Information* *The owners of a hotel are considering organising some special deals for 2006. They use data obtained from the customers who stayed in the hotel during the year 2002 to decide on what to offer.* *(a) Explain why the date from 2002 might not be suitable for use when deciding on the special deals that could be offered for 2006* *(b) Explain what the effect on the hotel might be if they used the data from 2002*	
	(a) **(2,1,0)** Looking for recognition of data being out of date (1) and reason why (1) Data from 2002 too old /out of date (1) peoples tastes change/hotel has altered/spending patterns/holiday patterns have changed (1)	2 marks
	(b) **(2,1,0)** Looking for recognition of the effect in business terms of using out of date information Any two relevant points including: Offer wrong deals (1) lose money/go out of business/lose business (1) unable to predict room utilisation (1) resulting in empty rooms/too much demand (1) price offers wrong due to wrong assessment of demand (1) fail to recognise needs of market (1) in violation of Data Protection Act for keeping out of date data (1)	2 marks

4	*10.6 Role of Communication Systems* *Describe **three** different ways in which a company could make use of the Internet to benefit its business*	
	Not dependent **Any 3 x (2,1,0) marks** 1 mark for **HOW** Internet can be used (H) 1 mark for **EXPANSION** (E) Examples • Can have on-line store to sell goods (1) saves on cost of retail outlet • Can advertise/marketing on-line (1) expansion (1) • Can communicate with suppliers/staff/customers (1) expansion (1) • Can research suppliers/competitors (1) expansion (1) • Ability to gain market research data (1) expansion (1) • Financial transactions over net (1) expansion (1) • Videoconferencing (1) expansion (1) • Email (1) expansion (1) • Teleworking/Collaborative working (1) expansion (1)	6 marks

5	10.5 Capabilities and Limitations of Information and Communication Technology In order to be able to use an e-mail package effectively, users need to make full use of a range of functions available. State what the following functions allow users to do and, for each one, state how it improves the effectiveness of e-mail usage. (a) Forward (b) Reply (c) Attach (d) Prioritise	

	All are (2,1,0)
	
	(a) Forward
	    • able to send the received message to another recipient (1)
	    • only have to type in new name/address (1)
	    • can add to original message (1)
	(b) Reply
	    • can add response to original message and return to sender (1)
	    • no need to type a new address (1)
	(c) Attach
	    • used to send other files by adding on to the mail message (1)
	    • saves on postage/using other file transfer methods (1)
	    • easy to select and click to add to message (1)
	(d) Prioritise
	    • marks message with symbol(1) to denote importance to recipient (may be implied (1)
	    • saves having to use telephone
	    • allows sorting of messages so can deal with in order of importance (1)
	    NOT allows users to determine order to send messages in
	
	Generally looking for the understanding of the feature and how effectiveness is improved not recursive definitions
		2 marks
		
		2 marks
		
		2 marks
		
		2 marks

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6	*10.8 Information Systems malpractice and Crime* *ICT systems have to be protected from both malpractice and crime* *Using an example for **each one**, explain what is meant by:* *(a) malpractice;* *(b) crime.*	
	1 Mark must be given for the example (a) **(3,2,1,0)** • Principle that malpractice is concerned with bad or incorrect practice (1) • actions within the company or organisation/caused by own staff (1) • not following procedures/internal rules/code of practice (1) • Example (1) (b) **(3,2,1,0)** • Crime is concerned with illegal activities/against the law (1) • frequently caused by people from outside the organisation/but may be own staff too (1) • Crime is actions that are "without permission" or "unauthorised" (1) • Example, e.g Hacking (1) DO NOT ACCEPT NON ICT ANSWERS SUCH AS MEDICAL	3 marks 3 marks

7	*10.9 The Legal Framework*	
	Poorly designed computer workstations can lead to health problems. *State **three** features of a well-designed workstation, and for **each one** state the* *health risk that could be reduced.*	

	3 x (2,1,0)
	
	MARKS ARE DEPENDENT
	One mark for the **FEATURE** and
	One mark for the **HEALTH RISK DESIGNED TO REDUCE**
	
	Tiltable/adjustable screen (1) reduces neck strain/eye strain (1)
	
	Sufficient desk space to rest hands (1) reduces RSI (1)
	
	Provision of wrist support/ergonomic keyboards (1) reduces RSI (1)
	
	Ergonomic/five point chair/adjustable/provides back support (1) reduces backache (1)
	
	    NOT COMFORTABLE
	
	Footrests (1) reducing backache/dvt
	
	High quality screen to reduce flicker/anti-glare filters/coating on screen or dull desk surface (1) reducing eyestrain (1)
	
	There may be others
	
	NOT
	    WIRES
	     LIGHTING
	
	UNLESS MADE RELEVANT
	NOT OTHER GENERAL OFFICE FEATURES NB QUESTION IS ON WORKSTATIONS **NOT** OFFICE DESIGN
		6 marks

8	*10.9 The Legal Framework*	
	(a) *Describe what is meant by a software licensing agreement*	
	(b) *A company uses a network with 100 computers connected to it. The company uses a word-processing package as standard for all uses, and an accounts package that is used on only two machines.*	
	State with a reason, what type of licence would be suitable for:	
	(i) *the word-processing package;*	
	(ii) *the accounts package.*	
	(a) **Any two from:** An agreement on how a piece of software may be used (1) Legal document/contract (1) Agreement is between user and producer/ software company (1) REMEMBER THAT NOT ALL SOFTWARE IS SOLD	2 marks
	(b) (i) **(2,1,0) marks** Multi-user/Site licence/network licence/volume licence (1) – plus reason (1)	2 marks
	(ii) **(2,1,0) marks** Single user licences (1) – reason (1) – MUST STATE 'USER'	2 marks

9	10.4 Capabilities and Limitations of Information and Communication Technology	
	Automated Teller Machines (ATMs) are now provided by banks and building societies in many different locations and are a common way for people to obtain cash.	
	(a) State: (i) **two** advantages to the bank or building society of providing ATMs; (ii) **two** advantages to the customer of using the ATMs	
	(b) The use of ICT has allowed banks and building societies to keep detailed records of the transactions that people make using credit or debit cards. State **one** way in which the bank or building society can make use of these detailed records, and explain why this is a benefit to these organisations.	
	(a) (i) 2 x 1 **Any two from:** reduces need for staff/allows staff to work on other activities (1) saves on having branches/reduces costs (1) allows provision of a new service (1) increasing potential market (1) encourages customers to stay with bank (1) keeps market share (1) allows bank to compete (1) reduces human error (1) more secure/less centralised cash (1)	2 marks
	(a) (ii) 2 x 1 **Any two from:** allows cash to be obtained 24 hours a day, 7 days a week/when required/allow 24/7 (1) saves time/more convenient (1) no need to queue in branches (1) no need to fill in withdrawal slip (1) lack of human error to customer (1) provides wider availability (1)	2 marks
	(b) (3,2,1,0) marks MARKS AWARDED IN THE FOLLOWING WAY: Identify patterns in recorded data (1) Identify decision made (1) Explain benefit to bank (1) For example, and related three from: • bank know normal habits of customer (1) • bank can identify stolen cards more easily (1) • market research (1) • decisions on loans (1) • bank can sell data (1) • bank can gain financially (1) • save money on bad debts (1)	3 marks

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10	10.9 The Legal framework	

	(a) With reference to the Data Protection Act of 1998, describe:
	    (i) the role of the Information Commissioner
	    (ii) what is meant by a data subject
	
	(b) In addition to details about the company, state three items of data that a company must include in an entry on the data Register.	

	(a) (i) Any 2 x 1 mark
	    enforces and oversees (1) the data Protection Act 1998 and the Freedom of Information Act 2000
	    reporting directly to the UK Parliament (1)
	    promotion of good information handling (1)
	    provides guidelines (1)
	    investigates complaints (1)
	    acts as Ombudsman (1)
	    provides help (1)
		2 marks

	(a) (ii) Any 2 x 1 mark
	    living (1)
	    identifiable (1)
	    human being/person/individual/someone - who data is held about (1)
		2 marks

	(b) Any 3 x 1 mark
	    Description of Purpose(s) data to be stored for (1)
	    Data to be stored (classes) (1)
	    Who will have access to the data (recipients) (1)
	    Any organisation to whom data will be passed on (transfers) (1)
	
	    Not company name, address etc.
		3 marks