



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme

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GCE

Information and
Communication Technology

Unit ICT4

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Unit 4: Information Systems within Organisations

Overall guidelines

1. All examples accepted should be clearly related to the subject area and should not be “generalised”.
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 question parts and a ringed total for the 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.
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 \times 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.**
- a. **NO** other symbols or comments should be used

1 **13.3 Information flow**

- A system with fully documented/agreed procedures (1)
- Stating stages of flow/control/exception handling/distribution (1)
- Suitable example (1)
 - **NOT** just channel of communication
 - “email” or *Internet/Intranet* only accepted if it follows ‘fully documented’ or ‘set procedures’ answer.
 - *Lotus notes accepted as example*
 - “*Business letter*” is good example; “*Letter*” on its own not good unless a very strong definition (3)

2 **13.2 Success or failure of an MIS**

1 per factor to maximum 5

- inadequate analysis/testing/life cycle stage
- lack of management/end-user involvement in design/testing/development
- emphasis on computer system
- concentration on low level data processing
- lack of management knowledge of ICT and its capabilities
- inappropriate or excessive management demands
- lack of team work
- lack of standards
- problems with changeover

NOT

- *size of project*
- *resentment/resistance to change*
- *organisation structure*
- *training*
- *costs* (5)

3 **13.9 Information & the professional**

Max. $4 \times (2,1,0)$ but if answer written from employees viewpoint, then 1 mark maximum per point. First mark for the issue, then second mark for either an example, or a good expansion or a penalty for misuse point.

- responsibilities for use of company hardware
- responsibilities for use of company software
- responsibilities for use of data
- responsibilities for correct use of time
- responsibilities for use of the internet or intranet
- authorisation paths/levels, access rights/job related
- security, password/ids/physical aspects
- company’s implementation of legislation e.g. DPA

NOT

- *general responsibilities to public*
- *plagiarism*
- “*locked out*” when leave company (8)

- 4 **13.6 Legal aspects, audit, disaster recovery**
- (a) 1 for factor (*F*), 1 for description/example (*E*) – max. $4 \times (2,1,0)$
- prevention of misuse/protection against misuse/prevent unauthorised access (*F*); allow any sensible prevention example e.g. physical, anti-hacking etc (**NOT** *vetting of staff*)
 - detection of misuse; e.g. finding an anomaly/discrepancy by regular checking
 - investigation of misuse; e.g. by using monitoring software, audit trail etc
 - procedures for keeping data safe e.g. *data backup, file passwords etc*
 - staff responsibilities e.g. *network manager monitors; responsibilities for backup procedure*
 - disciplinary procedures
- 8
- (b) By using an audit trail (1) to show what was amended
and by whom/when (1)
- 2
- (c) 1 for name, 1 for description/expansion/example – max. $3 \times (2,1,0)$ Generic answers/example accepted, therefore context not important, but do not allow examples using contexts that are definitely not medical centre related
- Scale/size of organisation
 - Timing e.g. how quickly to recover system and be up and running'how important for the company
 - Costs of implementation/contingency site/external contract (make sure costs are of the plan, **NOT** costs if no disaster recovery plan *or as a result of a disaster*)
 - Likelihood of disaster
- NOT**
- *volume of data*
 - *any of the contents of the plan*
- 6

(16)

5 **13.2 Development & life cycle**(a) Maximum 3×1

- Current system no longer fit for purpose/is ineffective
- Changes in processes/business methods (Do not allow business studies reasons)
- New legislation forces changes
- Technical developments mean current system outdated/redundant
- Current system inflexible/too expensive to run/developer skills rare therefore expensive

***NOT** competitive edge*

3

(b) 1 for factor (*F*), 1 for expansion/example (*E*) – max. $3 \times (2,1,0)$
(if give T E L O S as single words, then one mark only; if say 'issues' e.g. 'Technical, Economic and Legal issues' then 3 marks)

- Technical issues
- Economic issues
- Legal issues
- Operational issues
- Schedule issues
- Training issues
- Changeover issues

$$\frac{6}{(9)}$$
6 **13.4 Information & Data**(a) 2 marks per point, max 2 points - $2 \times (2,1,0)$

- Level (operational/strategic)
- Timing (current/historical)
- Frequency (short/long-term)
- Use
- Type

4

(b) 1 for characteristic, max 1 for description and up to 2 for example $1 \times (3,2,1,0)$

- Relevant
- Accurate
- Complete
- User confidence
- To right person
- At right time
- In right detail (*appropriate format – shows the correct level of detail for the recipient*)
- Via correct channel of communication
- Understandable (*appropriate format – shows in an appropriate style e.g. graphs for shareholders may communicate more*)

$$\frac{3}{(7)}$$

7 13.7 User support & training

- (a) 1 for factor(*F*), 1 for explanation/example(*in context*) (*E*) –
max. 2 × (2,1,0)
- Level of detail for level of user/type of use of training e.g. skill-based or task-based
 - Staff familiarisation with hard/software
 - Staff IT literacy
 - Strategy for new staff
- NOT**
- Timing of training
 - Who and how many/train the trainer
 - Cost
 - Age of trainee
 - Location
 - Method of training
- (b) 1 for method, 1 for description – max. 2 × (2,1,0)
- Help desk/phone line open hours of business (1), someone technical to guide/help (1)
 - On-site technical support (1), for first few weeks/months of new installation/to be on-hand (1)
 - User guides/articles/utilities/books/documentation (1), people can work at own pace/have instructions at side/look it up for themselves (1)
 - Communications systems/bulletin boards/internet site/email updates (1), more able users can help themselves (1)
 - On-line technical help(1) use of the internet to get queries solved by a technical expert/via email (1)
 - On-screen help(1) installed with package/wizards to help solve problems (1)
- (c) 1 for method, 1 for advantage – max. 2 × (2,1,0)
advantage must be **viable** in context and is dependant on the method (i.e. no single marks for advantage)
- CBT (allow CD-Rom or DVD-Rom)/course on intranet/delivered through network; adv. e.g. Study at own pace
 - Video/interactive video adv. e.g. can be rewound
 - On-line tutorial
 - Self-study/step through guides
 - Formal external course adv. e.g. tutor present to help or answer questions

4

4

4

(12)

8 13.2 Information systems & organisations

- (a) 1 mark for each of DP and IS, plus 1 for each example
- DP – precise/low level/electronic data capture/used for repetitive/routine business activities. (1)
 - Examples: Stock control/payroll calculations/invoices/ point-of-sale (1)
 - IS – collection of data to improve performance/aid to decision making/support for management. (1)
 - Examples: Sales Information system/Financial info system/*stock* summary (1)
- 4
- (b) 2 marks for each level - $2 \times (2,1,0)$
- Tactical (*local in this context*) – affecting hour by hour/day-to-day/short-term operational decisions (1), e.g. staff rosters, reorder quantities on previous local sales, how many tills to open etc (1)
 - Strategic (central in this context) – long term decisions (1), where to locate new stores, what lines of merchandise to carry, based on sales figures etc (1)
- 4
- (c) Must be in context – *first mark for indicating output from DP system is used/processed by an MIS; second mark is dependant on the first*
- The data from the POS system (items sold, loyalty card information) is **processed** (1)
- AND
- to show who buys what, location, time of day/week/year (1)
- OR
- into information that can be presented in a way to enable management to make strategic decisions(1)

$\frac{2}{(10)}$

- 9
- 13.1 Organisational structure
 - 13.3 Corporate information systems strategy
 - 13.5 The management of change
 - 13.6 Legal aspects
 - 13.8 Project management and effective ICT teams
 - 13.9 Information and the professional

Maximum 6 marks in each category; generally 1 for point, plus 1 for expansion or example, but can give up to 4 single points (but no example mark without point made). Maximum 16 content marks each marked with a letter as given below.

- Organisation structure and information needs [O]
 - Changing shape of organisational structure (need to mention hierarchical/flat or jobs created/lost) (*be careful not to credit pure business studies answers – changing shape is due to new systems*)
 - Levels of information pertinent to different people/Operational, Tactical and Strategic
 - Definition of an MIS, plus reasons
 - Information strategy in organisation
 - Information flow
- Management /Staffing issues [S]
 - Team working/Project organisation
 - Code of practice/code of conduct
 - Staff attitude/resistance to change
 - Importance of good communication
 - Staff training planning/re-skilling
 - Employment patterns/conditions
- Internal and External procedures and interfaces [P]
 - Changeover methods
 - Security procedures
 - H&S policy/procedures
 - Other internal policy/procedures/guidelines
 - Coping mechanisms for legislative changes
 - Management/interface with external sources and sinks

16

Quality of written communication will be assessed in this answer [Q]

4

 (20)

- 4 marks The candidate has expressed complex ideas clearly and fluently. Sentences and paragraphs follow on from one another smoothly and logically. Arguments will be consistently relevant and well structured. There will be few, if any, errors of grammar, punctuation and spelling.
- 3 marks The candidate has expressed moderately complex ideas clearly and reasonably fluently through well-linked sentences and paragraphs. Arguments will be generally relevant and well structured. There may be occasional errors of grammar, punctuation and spelling.
- 2 marks The candidate has expressed straightforward ideas clearly, if not always fluently. Sentences and paragraphs may not always be well-connected. Arguments may sometimes stray from the point or be weakly presented. There may be some errors of grammar, punctuation and spelling, but not such as to suggest a weakness in these areas.
- 1 mark The candidate has expressed simple ideas clearly, but may be imprecise and awkward in dealing with complex or subtle concepts. Arguments may be of doubtful relevance or obscurely presented. Errors in grammar, punctuation and spelling may be noticeable and intrusive, suggesting weaknesses in these areas