



General Certificate of Education

AS Design and Technology Systems and Control Technology 5556

SCT 3 Design and Market Influences

Mark Scheme

2008 examination - June series

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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Quality of Written Communication

The following marks are allocated to the quality of the candidate's written communication. Make a separate assessment of the candidate's overall ability as demonstrated across the paper using the criteria given below.

Performance Criteria	Marks
The candidate will express complex ideas extremely clearly and fluently. Sentences and paragraphs will 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.	4
The candidate will express moderately complex ideas clearly and reasonably fluently, through well-lined sentences and paragraphs. Arguments will be generally relevant and well structured. There may be occasional errors of grammar, punctuation and spelling.	3
The candidate will express 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.	2
The candidate will express 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.	1

NB This mark scheme is intended as a guide to the type of answer expected but is not intended to be exhaustive or prescriptive. If candidates offer other answers which are equally valid **they must be given full credit.**

Many responses at this level are assessed according to the **quality** of the work rather than the number of points included. The following level descriptors are intended to be a guide when assessing the quality of a candidate's response.

Low mark range

The candidate has a basic but possibly confused grasp of the issues. Few correct examples are given to illustrate points made. Description may be unclear.

Mid mark range

The candidate has some knowledge but there will be less clarity of understanding. Some correct examples given to illustrate points made. Description better but unclear or confused in parts.

High mark range

The candidate has a thorough understanding of the issues and has provided relevant examples to support the knowledge shown. This candidate's answer shows clear evidence of understanding.

1. (a) Convenience for the user - 24 hour - automatic control overcoming human error, economics due to cost of labour, reliability, the ability to provide more complex functions, overcoming repetitive tasks
- Each point (1 mark)
- Reason (1 mark)
- Maximum (3 × 2 marks)
- (b) Description of system (1 mark)
- In detail (1 mark)
- Suitable benefit to consumer (1 mark)
- Maximum (2 × 3 marks)
- (c) Litter in environment, irregular eating patterns, increased intake of junk food, etc
- Each point (1 mark)
- Maximum (2 × 1 mark)
- (d) Storage of food at correct temperature to reduce bacterial build up, easy cleaning to remove germs, non-toxic materials to avoid poisoning etc.
- Each Point (1 mark)
- Reason (1 mark)
- Maximum (3 × 2 marks)

20 marks

2. (a)	Suitable method of producing delay	(2 marks)
	(i) Accuracy for 2 hour time period	(2 marks)
	Method of producing an electrical pulse	(2 marks)
	Maximum	(2 × 6 marks)
	(ii) Suitable system of adjustment	(2 marks)
	Method of regulation and setting time period	(4 marks)
	Maximum	(6 marks)
	(b) Method of holding tablets	(1 mark)
	Suitable for 48 tablets	(1 mark)
	Design shows relevant dimensions	(2 marks)
	Method of releasing one tablet	(2 marks)
	Method of retaining remaining tablets	(2 marks)
	Delivery system	(1 mark)
	Description of operation (may be self explanatory from annotation)	(2 marks)
	Maximum	(max 10 marks)
	(c) Quality of communication	(8 marks)
	Development of system	(20 marks)
	Originality and innovation	(4 marks)
	Suitability of materials and components	(6 marks)
	Overall assembly	(4 marks)
	Explanation of manufacturing methods	(6 marks)
	Maximum	(48 marks)

76 marks