

GCE 2004

June Series



Mark Scheme

Design and Technology: Product Design *(Subject Code PD3T)*

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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Design and Technology: Product Design

Textiles (PD3T)

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.

<i>Performance Criteria</i>	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.

Question 1

- (a) The candidate may base the response on one or more cultures researched, e.g. Chinese, African, Indian, Japanese or Mexican.

It is expected that reference will be made to points such as the use of modern dyes and machinery to replicate traditional dyeing and printing techniques, machine produced embroidered techniques rather than hand work, easy care, synthetic and ‘smart’ fabrics rather than traditional cottons and silks, modern methods of producing fabrics, modern fabric finishes.

Candidate may refer to methods of designing and manufacturing which use computer control technology.

Marks awarded as follows:

- Little understanding shown, candidate may have misunderstood the question and, while there will be some creditworthy points, most of the response will be confused and disjointed. Few examples given. General points, may refer to CAD/CAM but not give specific points. (1–3 marks)
 - Candidate shows understanding of the use of modern technology to replicate ethnic styles and gives examples to illustrate points made but will lack some clarity of understanding. (4–7 marks)
 - Candidate shows sound understanding of the modern technologies and provides clear examples to illustrate points made. Information will be coherent and logical. (8–10 marks)
- (10 marks)**

- (b) E.g. design for maximum useful life, use of unbleached fabrics, natural fibres grown without pesticides, fibres produced from sustainable forests (Tencel), use of recycled fibres, careful choice of dyestuffs and their disposal, disposal of product at end of its useful life, appropriate care of product to save energy, avoid wastage of materials and energy, minimum packaging, use local suppliers to minimise transportation.

Marks awarded as follows:

- Little relevant knowledge shown, candidate typically makes superficial comments without considering a range of methods. Few examples given (1–3 marks)
 - Candidate shows some knowledge of the methods used and gives some examples to illustrate points made. There may be some irrelevant or confused points. (4–7 marks)
 - Candidate is knowledgeable about the methods used and gives a range of appropriate examples to illustrate the points made. (8–10 marks)
- (10 marks)**

Total 20 marks

Question 2(a) **Quality of communication****Marks awarded as follows:**

- Weak, untidy work with limited annotation to explain both initial and final design ideas. Limited communication techniques so that it is difficult to understand what is intended and see all aspects of design – style details will be omitted. 1–3 marks
 - Neat and tidy work, annotation explains most of what is intended for initial and final ideas. It is reasonably clear what the candidate intends. A range of techniques has been used, e.g. pencil drawing, shading, colour and the candidate shows some flair in presenting work. Many style details shown. 4–7 marks
 - Clear communication about what is intended, this candidate has some artistic ability and is able to communicate ideas with some flair using a range of techniques. Annotation adds further explanation to candidate's thinking in initial and final ideas. Style details will be clearly shown. 8–10 marks
- (10 marks)

(b) Range of ideas**Marks awarded as follows:**

- Limited range of ideas which are very similar. Little annotation to indicate potential for development. Theme has not been explored fully with the result that the ideas are immature and limited. 1–5 marks
 - Range of appropriate ideas with some ideas for development. Designs will tend to be based on a limited number of ideas and possibly lack originality. The work is sound but ‘safe’. 6–10 marks
 - Wide range of ideas with thoughts for development. Designs will show originality and will be for different products. There is evidence that the theme has been explored fully and applied in the widest sense. 11–15 marks
- (15 marks)

(c) Originality /innovation of the products**Marks awarded as follows:**

- Limited and uninspiring initial ideas and final design which are unimaginative. Designs will probably be inappropriate for intended end-use. 1–3 marks
 - A range of initial ideas which will typically be unrelated to each other. The designs are weak and immature, the final design will lack interest and flair but would probably be appropriate for intended end-use. 4–6 marks
 - Candidate has attempted to produce imaginative designs but products lack interest and designs are not wholly relevant. Materials and components have not been explored fully with the result that the final design lacks flair. 7–9 marks
 - Sound idea with some originality in product shape and/or use of materials. Ideas are relevant and there has been an attempt to use material in an innovative way. There is some attempt to be creative but designs will tend to be ‘safe’. 10–12 marks
 - Highly original ideas which exploit use of materials and theme. Design is very relevant to situation. 13–15 marks
- (15 marks)

(d) Appropriateness of fabrics and components**Marks awarded as follows:**

- Limited range of fabrics and components across designs with little clear detail, e.g. 'cotton'. May not be most appropriate for product. Little indication of how they develop theme. 1–3 marks
 - Range of appropriate fabrics and components with some indication of how they will develop theme in both initial and final designs. Some detail given of a range of materials. 4–7 marks
 - Wide range of appropriate fabrics and components used in initial and final designs with sound detail and clear explanation of how they develop the theme. 8–10 marks
- (10 marks)

(e) Methods of construction**Marks awarded as follows:**

- Limited information about sizing/dimensions and how the product will be constructed. 1–3 marks
 - Some information about construction methods but these may not always be most appropriate. Some detail of dimensions and/or sizes. 4–7 marks
 - Clear information about appropriate construction techniques to be employed in a number of areas. Detail of a number of dimensions and overall sizing. 8–10 marks
- (10 marks)

(f) Development of the final solution**Marks awarded as follows:**

- Weak development, difficult to see how final design links with initial ideas, or may be exactly the same as an initial idea. 1–3 marks
 - Some evidence of development but this will be minimal with the result that the final idea is very similar to initial idea or it may be an uncoordinated mix of several. 4–7 marks
 - There is evidence of real development of the initial ideas to produce a final design which is based on, but not identical to, an initial idea. 8–10 marks
- (10 marks)

(g) Use of the theme**Marks awarded as follows:**

- Limited use of theme with lack of clarity of its interpretation. The candidate has not exploited the theme to produce exciting ideas. 1–3 marks
 - Theme has been interpreted in an original way and it is clear how it has been used in producing high quality ideas. 4–6 marks
- (6 marks)

Total 76 marks