



## **General Certificate of Education**

# **AS Design and Technology: Product Design 5551**

## **PD3T Design and Market Influences**

# **Mark Scheme**

*2007 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-linked 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

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.

<b>(low mark range)</b>
The candidate has a basic but possibly confused grasp of the issues. Few correct examples are given to illustrate points made. This candidate does not have a clear idea of what s/he is writing about.
<b>(mid mark range)</b>
The candidate has some knowledge but there will be less clarity of understanding. Some correct examples given to illustrate points made. This candidate knows what s/he is writing about but is confused in part.
<b>(high mark range)</b>
The candidate has a thorough understanding of the issues and has provided relevant examples to support the knowledge shown. This candidate knows what s/he is writing about and provides clear evidence of understanding.

**Question 1**

- (a) eg different colour effects including fabrics which react to heat/light, fabrics with electronic components which can produce a range of different effects, use of metallic fibres, fabrics which give off a smell.

**Marks awarded as follows:**

- Little knowledge shown, candidate will tend to concentrate on one particular effect and much of the response will be confused and disjointed. Few examples given with points not explained. 1-2 marks
- Candidate shows knowledge of some modern fabrics which give special effects and gives examples to illustrate points made. There will be some lack of clarity of understanding. 3-4 marks
- Candidate shows sound knowledge of a range of special effects and provides clear examples to illustrate points made. Information will be coherent and logical. 5-6 marks (6 marks)

- (b) (i) eg use of various media such as paint, tissue paper, fabric swatches. Use of ICT. Inclusion of different colourways.

**Marks awarded as follows:**

- Some understanding shown, candidate will tend to concentrate on limited range of techniques. Few examples given and points not explained. 1-2 marks
- Candidate shows sound understanding of a number of methods and provides clear examples. 3-4marks (4 marks)

(ii)

<b>Method</b>	<b>Advantages</b>	<b>Disadvantages</b>
Fabric prototype/toile	Allows for assessment of practicality of fabrics and components. Manufacturing plans can be developed. Product can be tried and tested. Can be used as manufacturing sample.	Can be costly in terms of materials, time and labour. May not be easy to make changes. Often made in calico/cheaper fabric so may not get full effect of fabric selected for final product.
Virtual catwalk	Cheap to use once set up. Changes can be made quickly. Shows product in use.	Cannot feel fabrics. Does not allow for manufacturing plans. Initial costs can be very expensive.

**Marks awarded as follows:**

Any 5 points about each, 1 mark each

There must be at least one advantage and one disadvantage.

An expansion of a point can be counted for one mark.

2 methods, up to 5 marks each

*(2 × 5 marks)*

**(20 marks)**

## Question 2

### (a) Range of initial ideas

The candidate should show a range of initial ideas for products using the specification given. The range may include many different ideas for a similar product, or many ideas for different products, but not variations on one or two products.

Look for variety of colour, shape, decoration, use of fabrics and components, originality and interest, appropriateness for end use. There should be annotation to explain thinking.

#### Marks awarded as follows:

- Limited range of ideas which are very similar. Little annotation to indicate potential for development. Design theme has not been explored fully with the result that the ideas are immature and limited. These ideas will generally be worthy of 1 mark per drawing. 1-4 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. Designs will tend to be predictable and some will possibly be variations of other ideas. Although small in number, there will be some variety in ideas with alternative design features. The work is sound but 'safe'. Ideas will generally be worth up to 2 marks per drawing. 5-8 marks
  - Range of good quality ideas with theme used appropriately. There will be a variety of alternative design features, fabrics and components. The work is sound with evidence that the candidate has explored the theme but designs lack the 'wow' factor. 9-12 marks
  - Wide range of good quality ideas with thoughts for development. High quality and original designs will be for different products and have a 'wow' factor. There is evidence that the design theme has been explored fully and applied in the widest sense. Ideas will generally be worth 3-4 marks per drawing. Candidates with fewer ideas but ones that are of very good quality should be able to access this mark band. 13-15 marks
- (15 marks)*

**(b)(i) Quality of communication**

Assessed across both initial and final ideas.

This is about quality of graphical skills and the use of annotation.

Are style details shown? Is the work clean and tidy?

Have colour and shading been used to enhance the quality of the work?

Has the candidate enlarged some sections to show detail more clearly?

Do notes add to the detail and possibly compensate for weaknesses in graphical skills?

**Marks awarded as follows:**

- Weak, untidy work, mainly 2D, 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 and presentation is immature. 1-3 marks
- Weak but tidy work, annotation explains some of what is intended for initial and final ideas, Work is limited but reasonably clear with 2D and some 3D drawings. The work is pedantic and lacks detail. A range of techniques may have been attempted, eg pencil drawing, shading, colour. 4-5 marks
- Neat and tidy work using a range of techniques including 2D and 3D, it is clear what the candidate intends. Annotation explains much of what is intended and style details are clear. There are sound attempts to explain thinking and ideas for development. The candidate shows confidence but lacks some flair in presenting work. 6-8 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. 9-10 marks

*(10 marks)*



(ii) **Originality/innovation of product.**

This is based on the final product.

Consider the shape and style of the product. Are there original and interesting features or is it very similar to an existing product?

Have fabrics and components been used innovatively?

Does the design have a 'wow' factor?

Will it appeal to the target market?

**Marks awarded as follows:**

- Limited and uninspiring design which may be inappropriate for intended end-use and will have little appeal to target market. Design may be a copy of existing product with little modification. 1-3 marks
- The design is weak and immature; lacks interest and flair but would probably be appropriate for intended end-use. Design has limited appeal to target market and may be a copy of existing design with minor modification. 4-6 marks
- Candidate has attempted to produce imaginative designs but product lacks interest and design is not wholly relevant to the situation given. Fabrics and components have not been explored fully with the result that the final design lacks flair although there will probably be 2/3 examples of innovative features/use of materials. Work is sound, probably based on an existing product with some modification to add interest. 7-9 marks
- Sound idea with several examples of originality in product shape and/or use of fabrics and components. Design is relevant and there has been a strong attempt to be creative; product will have a lot of appeal to target market. Design moves away from safety of existing products. 10-12 marks
- Highly original ideas which exploit use of fabrics and components and theme. There will be numerous occasions where the candidate has shown innovative design features and use of fabrics and components. Design is very relevant to situation and will have strong appeal to target market. 13-15 marks

*(15 marks)*

(iii) **Appropriateness of fabrics and components.** (F)

Assess across both initial and final designs.  
Should include some modern fabrics to give special effects.  
Includes main fabrics, trimmings, fastenings, interfacings, threads, linings.  
There should be some reference to weight, colour, fabric finish, fibre content and fabric type.

**Marks awarded as follows:**

- Limited range of fabrics and components across designs with little clear detail, eg 'cotton'. May not be most appropriate for product.  
Little indication of how they are to be used. May not show clear use of a modern fabric to achieve a special effect. 1-3 marks
- Range of mainly appropriate fabrics and components with some indication of how they will be used in both initial and final designs.  
Basic detail given of a limited range of materials, eg 'lightweight cotton'  
Use of modern fabric but this may not have been clearly thought through and there will be a lack of clear detail, eg 'fabric changes colour'  
There will be some repetitive use of fabrics 4-6 marks
- Good range of appropriate fabrics and components with clear indication of how they will be used. Modern fabric is used appropriately and there is clear detail, eg 'fabric changes from blue to green in the presence of heat'. Fibre content and indication of fabric type, eg 'lightweight woven cotton'.  
Use of trimmings and other components sound but there will typically be a lack of detail and/or variety. 7-9 marks
- Wide range of appropriate fabrics and components used in initial and final designs with sound detail and clear explanation of how they will be used. eg 'lightweight knitted cotton fabric gives flexibility and drape'  
Clear and detailed explanation of how modern fabric will be used to achieve special effects 10-12 marks

*(12 marks)*

(iv) **Sizing and dimensioning** (S)

**Marks awarded as follows:**

1 mark for overall size, eg 'standard 12'.

Up to 3 marks for appropriate dimensions of individual sub components/sections.

*(4 marks)*

(v) **Methods used to construct the product** (C)

Methods of making the product, not the fabric.  
eg seam type, shaping, edge finish, decorative techniques used as part of the **product** construction, eg appliqué, beading, specialized embroidery effects, padding and quilting.  
This does **not** include decoration which forms part of the fabric manufacture, eg printing, dyeing, all-over embroidery.  
Candidate may include shapes of pattern pieces.

**Marks awarded as follows:**

- Limited information about how the **product(s)** will be constructed. This will typically be limited to one or two basic methods given as simple labels, eg seam type 1-3 marks
- Minimal information about **product** construction methods, (two to three). These may not always be most appropriate for product and may not take batch manufacture into consideration. At least one construction/manufacturing method sketched and explained. 4-5 marks
- Some information about **product** construction methods. These will generally be appropriate for product and will take batch manufacture into consideration. Some large scale diagrams to show what is intended. At least one construction/manufacturing method explained in some detail with brief notes on at least one other. 6-8 marks
- Clear information about appropriate construction techniques to be employed in at least two areas. These techniques will be suitable for batch production and for the **product(s)** shown. 9-10 marks

*(10 marks)*

**(vi) Specification criteria met**

- eg has the food/drink theme been fully explored and developed?  
 Is there evidence of ideas being developed throughout the paper?  
 Is the work exciting and vibrant?  
 Has a range of fabrics and components been used to enhance the design work?  
 Has a modern fabric been used to give special effects?  
 Is this modern fabric used tastefully and effectively?  
 Is the product appropriate for small scale manufacture?  
 Has the method of manufacture been explained?

**Marks awarded as follows:**

<b>Specification point</b>	<b>Hardly or not met</b>	<b>Just met (basic)</b>	<b>Met very well</b>
Uses the theme of food/drink	0 mark	1 mark	2 marks
Uses a range of fabrics and colours	0 mark	1 mark	2 marks
Includes some modern fabrics to give special effects	0 mark	1 mark	2 marks
Uses an appropriate range of components	0 mark	1 mark	2 marks
Clear indication of small scale production method, eg batch, reference to use of CAM manufacture of product.	0 mark	1 mark	2 marks

*(10 marks)***(76 marks)**

Question 1:	20 marks
Question 2:	76 marks
Quality of written communication	4 marks
Paper total:	100 marks