



## General Certificate of Secondary Education

# Design and Technology (Textiles Technology) 3547

*Full Course Higher Tier*

## Mark Scheme

*2006 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.

- 1 (a) **The store has been selling a range of bags for a long time.**  
(i) **How might information about recent sales figures be useful when planning new products?**

e.g. shows which designs (e.g. styles / colours / components) / price ranges have sold well, shows unpopular designs, designer can develop popular designs, analyse why some did not sell so as to avoid same mistake.

**Any three appropriate points, 1 mark each.**

An expansion of a point may count.

*(3 marks)*

- (ii) **Explain three other things the designer will need to know before starting to design a new bag.**

e.g. season when bag is to be sold, target age group / price range, store style, current styles in shape, materials, colour, size, use / function, time frame.

Must not include anything already in specification.

**Any three appropriate points, 1 mark each.**

*(3 marks)*

- (b) **Designers have to think about the effects of the products they design.**

- (i) **Explain two ways that a design could affect the health and safety of workers when they are making a bag.**

e.g. dangerous or toxic materials or techniques such as dyestuffs, finishes, cutting appliqué, applying components, breaking needles on thick fabric, press / ironing on transfers

1 mark for each of two acceptable points; 1 mark for general explanation, for 2 marks has to be clear

**plus** 1 mark for explanation / expansion of each point

NOT allergies, trailing wires, environment, e.g. light, chair position

*(4 marks)*

- (ii) **The bag must also be environmentally friendly.**  
**Explain two ways that a bag design could affect the environment.**

e.g. use of materials which are not biodegradable / recyclable, use of dyestuffs which pollute waterways, movement of goods causes pollution / burns fuel, toxic fumes, economical with fabric (less wastage), renewable resources.

1 mark for each of 2 acceptable points

**plus** 1 mark for explanation / expansion of each point

NOT animal skins

*(4 marks)*

**(14 marks)**

- 2 (a) **You have been asked to show your design ideas.**  
**Use the information given in the design brief on page 3.**  
 (i) **Draw and label two different design ideas for your product.**

**Marks will be given for:**

- **quality of two different design ideas**
- **quality of notes and sketches.**

2 sketches to show **different** initial ideas for product.

**Marks awarded as follows:**

**Quality of ideas**

Weak unimaginative idea presented. Little detail shown, or may be for decoration or product only. Poor quality. 1 mark each

A quality design which will appeal to target market. Some attempt to be imaginative. May be a ‘tried and tested’ design with attempt to give it a new twist. Reasonable quality. 2 marks each

A quality design with strong appeal to target market. Evidence of originality. It will be clear what is intended. Good quality. Looking for different shapes or same shape with different ideas. 3 marks each

Design should be neat and clear for full marks.  
 If both ideas are similar, mark first as it stands;  
 alter second (1 or 2 marks instead of 3).

**(6 marks)**

**Quality of notes and sketches**

Work presented lacks clarity and may lack care in presentation. Notes add little extra information, may be simple labelling. 1 mark each

Work presented with care, notes will add clarity to sketches. Include ‘use of bag’ as part of annotation. 2 marks each

**(4 marks)**  
**(10 marks)**

- (b) **Who is the target market for your bag?**  
**Explain how the design idea you have chosen will appeal to your target market.**

Target group, e.g. young people for clubbing, families for shopping / beach use, children to carry things to school, workers for everyday use. Accept shop, e.g. TopShop. 1 mark

Reasons for its appeal might make reference to size, shape, materials used, method of carrying, subdivisions of space. Simple statements, e.g. ‘There’s lots of space’, ‘I like it’, ‘I would use it’. 1 mark

More detailed statements with example, e.g. ‘suncare products can be stored in outside pocket so they are easy to reach’. 2 marks

**(3 marks)**

- (c) Use sketches, labelling and notes to present a final design for your bag. You have this page and the next to present your design. You must show a front and a back view.

Marks will be given for:

- use of Pop Art theme;
- originality and quality of the design including the appliqué, different sections and method of carrying or hanging the bag;
- use of colour;
- use of fabrics and components;
- presentation of the final idea.

Final design for product to include:

**Use of theme**

- Level 1:** Little relevance to theme or it is used inappropriately. An existing design may have been copied. 1 mark
- Level 2:** Clear use of theme but may not be most interesting or appropriate for product. An existing design may have been modified slightly. 2 marks
- Level 3:** Thoughtful and / or imaginative use of theme which is totally appropriate for product. Little evidence that an existing design has been copied. 3-4 marks

F = Fabrics and Components, A = Appliqué

**(4 marks)**

**Originality and Quality of design**

The following should be considered:

modern, original and imaginative design, balanced composition/effective use of space, effective proportions, appropriate for intended use, will design work, use of appliqué, appropriate method of carrying or hanging bag which is an integral part of design, ability of product to be manufactured, marketability, sections and sub-sections in bag.

**Marks awarded as follows:**

- Level 1:** Lack of detail, unimaginative design which may not be appropriate for intended market, may not clearly relate to spec, poor use of space. 1-2 marks
- Level 1/2:** Unimaginative design with some thought given to intended end use or target market. Relates to spec but may not be clear; overall balance weak. May not be easy to manufacture in quantity. 3-4 marks
- Level 2:** Sound design related to spec with clear detail about product and end-use – this may be inappropriate in places. Design lacks some imagination but it likely to be popular with target market. Overall composition may be weak. Product may not be easy to manufacture in quantity and may have some weaknesses. 5-7 marks
- Level 2/3:** Product will have strong appeal to target market, will be modern and likely to sell well. Design clearly related to spec. Good quality and imaginative design for product, suitable for end use. Space used effectively. Products will be able to be manufactured in quantity. 8-10 marks

**(10 marks)**

**Use of colour**

Level 1:	colour is immature and not used to effect.	1 mark
Level 2:	choice is pedantic, does not make product exciting.	2 marks
Level 3:	used effectively / imaginatively, mature and sensitive choice	3 marks
		<b>(3 marks)</b>

**Fabrics and components**

Level 1:	poor choice of fabric / components, little detail or few items inappropriate for product, do not reflect theme.	1 mark
Level 2:	sound choice of fabric / components but will not be used to advantage/may lack clear indication of what they are.	2 marks
Level 3:	good choice of fabric / components, may not be a wide choice but used effectively across the product. Must include fabric for appliqué. For 4 marks, must include main fabric. NOT full marks if used calico for main fabric	3-4 marks
		<b>(4 marks)</b>

**Presentation**

Level 1:	Lack of care in presenting work, candidate will not communicate detailed information about product.	1 mark
Level 2:	Candidate has taken care with presentation and labelling and most information about product is clear.	2 marks
Level 3:	Well presented showing detail of product which will include extra information, e.g. about back view or other, labelling is clear and there is clear communicated what is intended. <b>Do not award full marks if no back view.</b>	3 marks
		<b>(3 marks)</b>
		<b>(24 marks)</b>
		<b>(37 marks)</b>

- 3 (a) **Describe the qualities you need in the main fabrics of your product. Explain why you think these qualities are important.**

e.g. hardwearing, appropriate weight, strong, washable, stain resistant, water resistant, non-stretch, able to be decorated in various ways, light resistant, aesthetically pleasing, e.g. colour, stiff or soft according to style, reflect light.  
Comfort – if qualified – 1 not 2 marks.  
Reasons should be related to the need for property in candidate's product.  
NOT cost

**Marks awarded as follows:**

- Level 1:** Very few qualities considered, candidate will typically suggest fibres, e.g. cotton, explanation will be confused and unrelated to product / end use. This candidate displays little knowledge and is unable to explain needs. 1-2 marks
- Level 2:** Range of qualities considered, some may be inappropriate. Candidate may suggest some fibres and give an explanation for the choice. This candidate has a good grasp of the qualities needed but response lacks detail. 3-4 marks
- Level 3:** Detailed range of appropriate qualities considered. Explanation shows clear understanding of needs of end user and nature of product. 5-6 marks  
**(6 marks)**

- (b) **A manufacturer may use an interfacing like 'Bondaweb' when making the appliqué.**

- (i) **Explain why this may be used.**

e.g. to ensure high quality, prevent fraying of fabric, easier to handle / use, improves accuracy, strength, stability to fabrics, long lasting, saves time.

**Any 3 appropriate reasons**, 1 mark each

An expansion of a point may count.

**(3 marks)**

- (ii) **Give two reasons why a non-woven fabric is used.**

e.g. no grain – less waste, cheap to manufacture, firm handle, non-stretch.

**Any 2 appropriate reasons**, 1 mark each

**(2 marks)**

- (iii) **Using the interfacing will add to the costs of manufacture.**

**Explain why a manufacturer might consider these costs worthwhile.**

e.g. less time spent on sewing / re-sewing, fewer rejects, improved reputation / profit margin, better finish, better quality.

**Any 4 appropriate reasons**, 1 mark each

An expansion of a point may count.

**(4 marks)**

**(15 marks)**

**4**                    **You have been asked to include a method of carrying or hanging the bag. Use notes and diagrams to describe two different ways of constructing and attaching the method of hanging or carrying the bag.**

- (a)(i)**            Candidate should describe **two** methods of carrying or hanging the bag as part of the product development, e.g. one strap, two straps, ‘backpack’ style, drawstring, detachable strap, adjustable strap.  
**&**  
**(b)(i)**            NOT across the body, NOT held in the hand

**Marks awarded as follows:**

- Simple ideas with little detail shown, idea will lack clarity. 1 mark  
 More developed ideas with some detail and / or explanation of use. 2 marks  
 May not be most appropriate method for bag. 3 marks  
 Ideas show some originality and are appropriate for purpose. 3 marks  
 They are clearly presented. (6 marks)  
 2 methods, up to 3 marks each

- (a)(ii)**           **Evaluate the suitability of this method for your bag.**  
**&**  
**(b)(ii)**

Explanation of suitability of method or design in relation to style, intended use, target market. May make comparisons between two methods shown.

**Marks awarded as follows:**

- Simple statements, e.g. ‘It is strong’ 1 mark  
 More detailed statements with example, e.g. ‘It is strong because there are several rows of stitching holding the strap in place’ 2 marks  
 Reference to style acceptable. (4 marks)  
 2 evaluations, 2 marks each

**(10 marks)**

- 5            **A manufacturer is making the shorts shown on the insert sheet as part of a new range of casual wear.**
- (a)        **Look carefully at the shorts.**
- (i) and (ii) **Explain how two different features make the shorts suitable for casual wear.**

Candidate should select two different features which make the shorts suited to sportswear, e.g. elastic waist, adjustable elastic at waist, cargo style pockets, drawstring waist, looser fit.  
NOT fabric

**Marks awarded as follows:**

Simple statements, e.g. ‘There is an elastic waistband’. 1 mark

More detailed statements with example,  
e.g. ‘The looser fit allows free movement for sport activity’.  
2 features, 2 marks each 2 marks  
(4 marks)

- (b)        **Complete the manufacturing specification below for one pair of shorts.**

Description of 3 components needed:

Any 3 components from:

elastic, popper fastenings, thread, toggle, bead, Velcro. **1 mark each plus** some detail of each, e.g. polyester thread, hammer-in-poppers, eyelets, drawstring, adjustable toggle, sew-on Velcro. **1 mark each**

Component quantity only, zips – not acceptable. Colour accepted. (6 marks)

**Diagram to show how outside leg seam will be constructed:**

Clear details of how to make a seam appropriate for the outside leg of the shorts. Can be in note form. Show seam stitched and neatening.

Notes and/or diagrams may be used. Any suitable seam except French.

**Marks awarded as follows:**

**Level 1:** Very basic detail with little explanation of process. Explanation is confused. This candidate displays little knowledge and is unable to explain method. 1 mark

**Level 2:** Basic detail, explanation of process adequate and would mostly achieve desired effect. This candidate has a good grasp of the method. 2 marks

**Level 3:** Detailed explanation of process which would achieve desired result. Candidate understands and can clearly explain method. 3-4 marks  
(4 marks)

**Diagram to show how hem will be made:**

Clear details of how to make a hem appropriate for the leg of the shorts.  
Notes and/or diagrams may be used

**Marks awarded as follows:**

<b>Level 1:</b>	Very basic detail with little explanation of process. Explanation is confused. This candidate displays little knowledge and is unable to explain method.	1 mark
<b>Level 2:</b>	Basic detail, explanation of process adequate and would mostly achieve desired effect. This candidate has a good grasp of the method.	2 marks
<b>Level 3:</b>	Detailed explanation of process which would achieve desired result. Candidate understands and can clearly explain method. For maximum marks, hems should be machine neatened.	3-4 marks <b>(4 marks)</b>

**3 QC checks of front pockets for finished product, beyond the designing / cutting out stage:**

e.g. shape and size accurate, correct placement, straight and regular stitching, accurate placement of poppers, accurate placement of flap.

**1 mark for each of 3** acceptable checks

**plus 1 mark** for explanation / expansion of each check.

**(6 marks)**

(c)

**(i) Suggest one finish that could be used on the shorts fabric.**

E.g. Stain resistant / Teflon, crease resistant, 'smart' finish, waterproof.  
NOT flame retardant, decorative finishes, or 'smart' fabrics.

**(1 mark)**

**(ii) Explain why you think it would be useful.**

Reason for choice related to fabric qualities or intended use / activity.

**Either 2 points, 1 mark each**

**Or fewer points with detail / expansion**

Award marks for correct explanation if flame retardant finish named in (i).

**(2 marks)**

**(d) Use notes and diagrams to explain how to make the pocket on the back of the shorts.**

Clear details of how to make the pocket and sew it to the shorts should be given. Notes and diagrams should be used. Do not penalise if Velcro not mentioned.

**Marks awarded as follows:**

<b>Level 1:</b>	Very basic detail with few notes / diagrams to explain what is intended, explanation confused. This candidate displays little knowledge and is unable to explain method.	1-2 marks
<b>Level 2:</b>	Basic detail with supporting notes / diagrams, explanation is adequate and would mostly achieve desired effect. This candidate has a good grasp of the method.	3-4 marks
<b>Level 3:</b>	Detailed explanation with supporting notes / diagrams. Explanation would achieve desired result. Detailed information about method. Candidate understands and can clearly explain method.	5-6 marks

**(6 marks)**

**(33 marks)**

**6 An efficient manufacturing system for the shorts in Question 5 is important. Study the two manufacturing systems shown below.**

**(a) Which system do you think is the more efficient for a manufacturer?**

The candidate may choose either system.

1 mark

**Reasons for System A**

e.g. because workers become less bored, can respond quickly to make different products, work can progress even if one member of team missing, may be able to specialise in certain operations, greater pride in work so better quality.

**Reasons for System B**

e.g. workers become very skilled at their job, will therefore work faster and make fewer errors. Having more workers on the longer processes helps prevent hold ups in the flow

**Marks awarded as follows:**

**Level 1:** Very simple detail with little explanation of process. Candidate displays little knowledge and reasoning is confused.

1 mark

**Level 2:** Basic explanation of process showing a good grasp of the system selected. May be some misunderstandings.

2-3 marks

**Level 3:** Detailed reasons for choice showing thorough understanding of the system selected.

4-5 marks  
**(6 marks)**

**(b) Give specific ways in which computerised manufacture can reduce labour costs in three different ways;**

e.g. computer controlled machines can do various processes such as buttonholes (1 mark), reduce need for operatives (1 mark), automatic final pressing (1 mark), reduces time taken (1 mark), various design packages (1 mark), reduce need to re-draw from scratch (1 mark), JIT automated ordering (1 mark), saves warehouse cost (1 mark).

**1 mark for each of 3 acceptable points**

**(6 marks)**

**plus 1 mark for explanation / expansion of each point.**

**(ii) make the workplace safer in two different ways.**

e.g. automated cutting out reduces risk of cuts from knives, automated pressing of final garment reduces risk of burns, systems which deliver work in progress to work station reduce risks of back problems, robotic control of hazardous operations reduces health risks, less overcrowding.  
NOT about needle injuries.

**1 mark for each of 2 acceptable points**

**(4 marks)**

**plus 1 mark for explanation / expansion of each point.**

**(16 marks)**

**Total for paper 125**