



General Certificate of Secondary Education

Design and Technology (Textiles Technology) 3547

Full Course Foundation 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) A designer needs to carry out research before starting to design a new bag.

Complete the table below. An example has been done for you.

Candidate should give a point to be considered when designing and two reasons why it is important,

e.g. colour or decoration to be appropriate for season,

the type of use for which it is intended so that the bag is appropriate size has suitable fastening,

the way in which the bag is carried will depend on intended use / target market

1 mark for each acceptable reason

a fashionable bag is more likely to sell, be in keeping with current colours / styles.

the cost of fabrics and components needs to be in line with price range, use of techniques which will be expensive to manufacture.

1 mark for each point to be considered

plus 1 mark for each acceptable reason

(6 marks)

(b) Designers must think about the manufacture of the bag.

(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, 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 fabrics (less wastage), renewable resources.

1 mark for each of two 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.

Use pencil to 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.**

Two 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 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 (mark 2 or 1 instead of 3).

2 ideas, 3 marks each **(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. 2 marks each

Include ‘use of bag’ as part of annotation.

2 sketches, 2 marks each **(4 marks)**

- (b)
 (i) **Who is the target market for this bag?**

e.g. used as a beach bag, evening bag, shopping bag, child’s school bag, group, client, teenagers, women.

(1 mark)

- (ii) **Explain why the target market would buy this bag.**

Reasons for its popularity with target market might make reference to size, shape, materials used, method of carrying, subdivisions of space, colour, design.

Simple statements, e.g. ‘It’s a fashionable shape’ / ‘like it’

1 mark

More detailed statements with example e.g. sun-care products can be stored in the outside pocket so they are easy to reach.

2 marks
(2 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 the Pop Art theme;
- originality and quality of the design including the appliqué 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. 3-4 marks
- Level 2:** 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. 5-6marks
- 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. 7-8 marks (8 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

(3 marks)

Fabrics and components

Level 1:	poor choice of fabric / components, very basic detail given, 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.	3-4 marks

(4 marks)

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.	3 marks

If no back view, omit 1 mark.

(3 marks)
(22 marks)

(35 marks)

- 3 (a) List three qualities that will be needed in the main fabric for your bag. Explain why each is important.**

e.g. hardwearing, appropriate weight, does not require special care, strong, able to be decorated in various ways, light resistant, aesthetically pleasing, stiff or soft according to product, reflect light, waterproof. Colour, comfort – if qualified.

Reasons should be related to need for property in candidate's product.

3 qualities, 1 mark each

3 reasons, 1 mark each

NOT fashionable, cost, good quality

(6 marks)

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

- (i) Give two reasons 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 2 appropriate reasons, 1 mark each

(2 marks)

- (ii) Using interfacing will make the bag more expensive to make. Give one reason why the manufacturer thinks it is worth the extra cost.**

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

1 reason, 1 mark

(1 mark)

(9 marks)

4

- (a) **You will need to develop parts of your bag.
Use notes and diagrams to show two different methods of hanging or carrying the bag. You will need to show how they are attached to the bag.**

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.

Marks awarded as follows:

Simple ideas with little detail shown, ideas will lack clarity 1 mark

More developed ideas with some detail and / or explanation of use.
May not be most appropriate method for bag. 2 marks

Ideas show some originality and are appropriate for purpose.
They are clearly presented, showing detailed method of attachment. 3 marks
2 methods, up to 3 marks each. **(6 marks)**

- (b) **Which method will be best for your bag?**

Clear indication of which method has been selected.

with explanation of suitability of method in relation to style, intended use, target market.

2 points, 1 mark each, **or** 1 point with detailed explanation. **(2 marks)**

- (c) **You will need to work out the size of your bag.
Explain one way you can do this.**

e.g. measure existing product of similar type, measure size of items likely to be carried in relation to stated use, study anthropometric data, make a prototype to check proposed size.

Marks awarded as follows

Simple statements, e.g. ‘measure a bag’ 1 mark

More detailed statements, e.g. ‘measure a beach bag’ 2 marks

Full explanation, e.g. ‘measure a beach bag and check that it will hold a number of items’ 3 marks
(3 marks)

(d)

- (i) **A pattern template will be needed for cutting the fabric.
Give two advantages of using a pattern template that has been used before.**

e.g. saves time/money developing new one, tried and tested design, standard patterns with manufacturing methods known.

Marks awarded as follows:

Simple statements, e.g. ‘it’s cheaper’ 1 mark

More detailed statements, e.g. ‘it saves time so it’s cheaper’ 2 marks

2 advantages, up to 2 marks each **(4 marks)**

- (ii) Explain one advantage of making a new pattern template.**
e.g. fresh design, can use more unique shape.

Marks awarded as follows:

simple statements, e.g. 'can have a new design'.

1 mark

More detailed statements, e.g. 'new design will give unique shape'.

2 marks
(2 marks)

(17 marks)

- 5
- (a) A manufacturer is making the shorts shown on the insert sheet.
A manufacturing specification will be needed.
Complete the specification by ticking the right answers for each of the following.**
- (i) Which two components will be needed?**
- elastic and popper fastenings **(2 marks)**
- (ii) Each pair of shorts needs 1 metre of fabric.
100 pairs will need**
- 100 metres. **(1 mark)**
- (iii) The thread for the seams will need to be
a matching colour.** **(1 mark)**
- (b) The shorts fabric is made from 100% cotton.
Explain how one special fabric finish could make the shorts easier to care for.**
- E.g. Stain resistant / Teflon, crease resistant, ‘smart’ finish. 1 mark
Reason for choice related to fabric qualities or intended use.
Either 2 points, 1 mark each
Or fewer points with detail / expansion **2 marks**
(3 marks)
- (c) There are different methods of making pockets.
This is one method.
Match the instructions given below to the drawings opposite. Write the instruction letter (A to E) in the space under the diagram. Each letter should be used.**
- (i)** (C) Make a turning at top of pocket
(ii) (B) Fold top hem under and stitch down
(iii) (D) Fold turnings under on the other 3 sides of pocket
(iv) (A) Place pocket on the shorts in marked position
(v) (E) Stitch pocket in place on all 3 edges
1 mark for each correctly placed statement **(5 marks)**
- (d) There is a pocket on the back of the shorts.
(i) Explain why a double layer of fabric has been used for the pocket.**
- To give strength for poppers to neaten top edge and prevent fraying.
Either 1 mark for each of 2 reasons
or 1 mark for one reason with 2nd mark for explanation / detail. **(2 marks)**

(ii) Give two reasons why two rows of stitching are used to sew the pocket to the shorts.

To add decoration, to give strength

2 reasons, 1 mark for each **(2 marks)**

**(e) Have another look at the pocket on the shorts.
Give two ways of making the pocket cheaper to manufacture.**

e.g. use only 1 row of stitching to save time and thread, leave off popper to save time and materials, do not use double turning on top hem to save time and materials.

NOT leave out pockets

Simple description, e.g. make smaller.

1 mark

More detailed description

2 marks

2 methods, 2 marks each **(4 marks)**

(20 marks)

- 6**
- (a) Look at the way these two factories organise the making of the shorts.**
- (i) Give two advantages of the Factory A system.**
- e.g. workers less bored, can respond quickly to change, work can progress even if one member of team missing, job satisfaction, pride in completion, take responsibility for product
NOT quicker
- 2 advantages, 1 mark each **(2 marks)**
- (ii) Give two advantages of Factory B system.**
- e.g. workers are specialised, high quality work, high speed / fast production, consistent results, easier to train, accuracy / fewer mistakes, promotes team work.
- 2 advantages, 1 mark each **(2 marks)**
- (b)**
- (i) Give two disadvantages of Factory A system.**
- e.g. may take longer, worker may not make all sections to high quality, inconsistent results, longer to train, may have to pay more because workers highly skilled.
- 2 disadvantages, 1 mark each **(2 marks)**
- (ii) Give two disadvantages of Factory B system.**
- e.g. worker can become bored and quality/output may suffer, difficult to respond quickly to change, work can be held up if any part of system has problems, work held up due to absence / difficulties in system, organisation of material flow.
- 2 disadvantages, 1 mark each **(2 marks)**
- (c) Computers can be used to help manufacturing.**
- (i) Give two advantages when using them to cut out fabric.**
- e.g. can produce layouts to avoid wastage, automated cutting, can easily store layout for future use, greater accuracy when laying patterned fabrics, efficient, less wastage, quicker, safer, accuracy of cutting, not dangerous to workforce.
- 2 points, 1 mark each **(2 marks)**
- (ii) Give two dangers for people working on the cutting out of fabric.**
- e.g. danger of laceration, heavy rolls of fabric could drop on to feet, textile dust could lead to breathing problems, not concentrating, insufficient training (dangerous work means people have to wear chain mail gloves, helmets and steel toecaps).
- 2 dangers, 1 mark each **(2 marks)**
- (d) Give two different ways which computers can be used to**

(i) keep a check on components in stock,

e.g. bar code labels to record stock in factory and order automatically, spreadsheets to record materials bought and used, bar code labels to record use of stock, easy access, database, quicker, records information for future use.

2 methods, 1 mark each **(2 marks)**

(ii) put colour and pattern on to fabric.

e.g. patterns developed on screen and transferred to automatic printer, use of computer controlled embroidery machines / stitching, controls mixing of dyes, laser, heat transfer, stamping, screen / rotary printing.

NOT CAD / CAM

2 methods, 1 mark each **(2 marks)**

(e)

(i) **The pockets for the shorts will be made separately on a sub-assembly line.**

Give one reason for doing this.

To ensure high quality, speed up process, efficient use of equipment / skills, allow pocket to be made elsewhere.

Any 1 appropriate reason.

(1 mark)

(ii) **The quality control checker has found two faults on the pockets.**

Fill in the table below for the quality control team.

e.g. problems and remedies as described below.

Fault	What problem will it cause? 1-2 marks	How can it be put right? 1-2 marks
1 The pockets are larger than the specification says they should be	They will not fit the product (1 mark), fastenings may not fit correctly (1 mark), proportions of product will be wrong (1 mark), overlap (1 mark), wasting fabric / cost more (1 mark)	Ensure correct turnings are used (1 mark), check that they are being cut to correct size (1 mark), make smaller and reapply (1 mark)
2 The pockets are sewn on crooked and not in the right place.	The product will not look right (1 mark), may cause problems at a later stage of manufacture (1 mark), costly on energy / workforce (1 mark), slows production (1 mark), wasteful of resources (1 mark)	Re-train machinists (1 mark), use computer controlled machines (1 mark), check on marking of pocket position (1 mark), take off and reapply (1 mark)

2 faults, up to 3 marks each

(6 marks)

(iii) **Give two things that quality control will need to look out for when checking the poppers on the shorts.**

e.g. correct position, securely attached, opposite sides of poppers match up correctly.

2 points, 1 mark each **(2 marks)**

(21 marks)

- 7 (a) **A textile product has an information label.
Give three things that might be on this label.**

e.g. care instructions, fibre content, country of manufacture, safety warnings,
size, brand name / logo, colour.

3 points, 1 mark each (3 marks)

- (b) **Bar codes like the one shown below are often put on textile products.
Give two advantages of these barcodes for the consumer / retailer.**

e.g. itemised till receipt, stock automatically re-ordered so items do not run
out, quicker to exchange items, recognise product, quicker to shop, easier for
retailer, provides information for market research for future trends.

2 points, 1 mark each (2 marks)

(5 marks)

Total for paper 125