



2014 Fashion and Textile Technology

Higher – Technological Project

Finalised Marking Instructions

© Scottish Qualifications Authority 2014

The information in this publication may be reproduced to support SQA qualifications only on a non-commercial basis. If it is to be used for any other purposes written permission must be obtained from SQA's NQ Assessment Team.

Where the publication includes materials from sources other than SQA (secondary copyright), this material should only be reproduced for the purposes of examination or assessment. If it needs to be reproduced for any other purpose it is the centre's responsibility to obtain the necessary copyright clearance. SQA's NQ Assessment Team may be able to direct you to the secondary sources.

These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments. This publication must not be reproduced for commercial or trade purposes.

STEP 1 Total mark allocation – 22 marks

1 : 1 Identification of the key points with explanation – 6 marks available

The candidate should identify the 'core' key points – these are all the main key words of the Technological Project brief.

The number of 'core' key points which can be identified will depend on the wording of the Technological Project brief.

Candidates should number each key point identified.

Identify the key points – 3 marks

Candidates who record all the 'core' key points.	2 marks
Candidates who record ½ or more, but not all the 'core' key points.	1 mark
Candidates who record less than ½ the 'core' key points.	0 marks

Candidates who provide an additional key point, other than those identified as 'core' will be awarded an additional **1 mark**.

Basic and accurate explanation of key points – 2 marks

Marks are determined by the number of key points which have a basic and accurate explanation.

If all key points have a basic and accurate explanation.	2 marks
If ½ or more but not all of the key points have a basic and accurate explanation.	1 mark
If less than ½ the key points have a basic and accurate explanation.	0 marks

Detailed and accurate explanation – 1 mark

Candidates who provide further accurate detail within the explanations will be awarded an additional mark. Extra detail means one additional point of explanation is provided for any one of the key or additional points.

Brief 1

Develop a textile item which promotes a sports event.

Brief 2

Develop a textile item for a teenager which includes embellishment.

Brief 1

Key points

1. develop
2. (a) textile
3. item
4. (which) promotes
5. (a) sports
6. event

Brief 2

Key points

1. develop
2. (a) textile
3. item
4. (for a) teenager
5. (which) includes
6. embellishment

Example of basic accurate explanation of key points

Develop • create or devise ideas for a new item

Example of further accurate detail in explanation of key points

Develop • create or devise ideas for a new item
• make an item which is original or different to what is available at present

Brief 1 – Item to promote a sports event

Additional Key Points

7. Facilities/resources/time available
8. Aesthetic appeal
9. Skills/abilities
10. Hygiene/ease of care
11. Safety
12. Likes/dislikes/appeal to target group
13. Money available/budget of target group
14. Current market trends/fashion
15. Quality/standard required for sale
16. Gender of target group
17. Age range of target group
18. Suitable for mass production
19. Allergies
20. Season of year

Brief 2 – Item for teenager including embellishment

Additional Key Points

7. Facilities/resources/time available
8. Aesthetic appeal
9. Skills/abilities
10. Hygiene/ease of care
11. Safety
12. Likes/dislikes/appeal to target group
13. Money available/budget of target group
14. Current market trends/fashion
15. Quality/standard required for sale
16. Gender of target group
17. Age range of target group
18. Suitable for mass production
19. Allergies

1 : 2 Draw up appropriate criteria for a specification – 10 marks available

Candidate's specification allows for a range of possible solutions 1 mark

Specification allows for a range of possible solutions which are relevant to the brief	1 mark
If a range of solutions is not possible – 0 marks	0 marks

Candidate provides five specification points, each containing more detail than the brief 2 marks

Note: Candidates are expected to provide a **minimum of five** specification points. However due to constraints of the time allocated for the Technological Project the candidates should not identify more than seven specification points as this would involve the candidate in unnecessary work.

Specification points must be **valid** (derived from the brief) to gain marks in this section. When drawing up the criteria for the specification candidates should not just rewrite the key points – greater detail is required.

Five valid specification points contain more detail than the brief.	2 marks
Three or four valid specification points contain more detail than the brief.	1 mark
Less than three valid specification points contain more detail than the brief.	0 marks

Candidate has written all specification points in measurable/able to be tested terms 2 marks

Candidates must indicate how each specification point should be able to be measured/tested by a valid method.

All specification points are measurable/tested.	2 marks
½ or more, but not all specification points are measurable/tested.	1 mark
Less than ½ the specification points are measurable/tested.	0 marks

Candidate has linked each specification point to the key points and additional key point(s)

2 marks

Candidates must show that each specification point is linked to the key points and additional key points identified in Step 1 : 1. All key points should be covered.

Specification points are linked to all key points and additional key points.	2 marks
Specification points are linked to ½ or more, but not all key points and additional key points.	1 mark
Specification points are linked to less than ½ the key points and additional key points.	0 marks

Candidate provides basic explanations

2 marks

Basic explanations of the specification points, relevant to the project brief, should be provided by the candidate.

Basic explanations are provided for all specification points.	2 marks
Basic explanations are provided for ½ or more, but not all specification points.	1 mark
Basic explanations are provided for less than ½ the specification points.	0 marks

Candidate provides detailed explanation

1 mark

If further detail, relevant to the project brief, is provided within the explanation then an additional mark will be awarded. Extra detail means one additional point if explanation is provided for any one of the specification points.

Step 1.2 Specification			
Brief 1 – promote sports event			
Item must:		Measured by: Technique	Identified expert:
1	<ul style="list-style-type: none"> be made of fabric 	<ul style="list-style-type: none"> Interview Resources/component checklist 	<ul style="list-style-type: none"> Textile technologist/Trading Standards Officer/textile retailer/designer
2	<ul style="list-style-type: none"> be made using suitable fabrics 	<ul style="list-style-type: none"> User/wearer trial of prototype Interview 	<ul style="list-style-type: none"> Textile technologist/textile retailer/designer/appropriate expert
3	<ul style="list-style-type: none"> be promotional/promote sport/sporting event 	<ul style="list-style-type: none"> Interview Internet search 	<ul style="list-style-type: none"> Textile technologist/appropriate teacher/retailer/designer/appropriate expert
4	<ul style="list-style-type: none"> be associated with sport/sports event 	<ul style="list-style-type: none"> Interview survey of retail outlets 	<ul style="list-style-type: none"> Textile technologist/designer/retailer confirmed by expert
5	<ul style="list-style-type: none"> be suitable for a sports event 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Sports event organiser/promoter
6	<ul style="list-style-type: none"> be different to other products/be original 	<ul style="list-style-type: none"> Internet search Interview 	<ul style="list-style-type: none"> Retailer/textile technologist/designer/sports promoter
7	<ul style="list-style-type: none"> be a single item/product 	<ul style="list-style-type: none"> Questionnaire Interview 	<ul style="list-style-type: none"> Retailer Textile technologist/retailer
8	<ul style="list-style-type: none"> take account of current fashion trends/be fashionable 	<ul style="list-style-type: none"> Interview Internet/literary search Interview/questionnaire 	<ul style="list-style-type: none"> Textile technologist/retailer/designer/manufacture Target group
9	<ul style="list-style-type: none"> be comparable in cost to other similar items 	<ul style="list-style-type: none"> Costing exercise/price check/comparison & interview Interview 	<ul style="list-style-type: none"> Textile technologist/retailer/sports promoter
10	<ul style="list-style-type: none"> be cost effective to produce/be good value for money 	<ul style="list-style-type: none"> Costing exercise & interview Costing exercise & interview/questionnaire 	<ul style="list-style-type: none"> Textile technologist/retailer Target group
11	<ul style="list-style-type: none"> be within the budget of the target group 	<ul style="list-style-type: none"> Costing exercise & questionnaire Costing exercise & interview 	<ul style="list-style-type: none"> Target group Textile technologist/retailer/promoter target group
12	<ul style="list-style-type: none"> be suitable for the target group 	<ul style="list-style-type: none"> Questionnaire/interview 	<ul style="list-style-type: none"> Textile technologist/target group/retailer/designer/appropriate expert
13	<ul style="list-style-type: none"> be aesthetically pleasing to target group 	<ul style="list-style-type: none"> Interview/questionnaire Interview Sensory testing User/wearer trial of prototype 	<ul style="list-style-type: none"> Target group Textile technologist/retailer Target group
14	<ul style="list-style-type: none"> take account of likes/dislikes of target group 	<ul style="list-style-type: none"> Questionnaire/survey Interview Sensory testing 	<ul style="list-style-type: none"> Target group Textile technologist/retailer Target group
15	<ul style="list-style-type: none"> be of an acceptable/satisfactory standard 	<ul style="list-style-type: none"> Interview Sensory testing Quality checklist & interview 	<ul style="list-style-type: none"> Textile technologist/Trading Standards Officer/retailer/target group Target group/textile technologist/retailer Textile technologist/retailer/sports promoter
16	<ul style="list-style-type: none"> be made using the time/facilities/resources available to the candidate 	<ul style="list-style-type: none"> Interview Checklist of facilities/component checklist Timed trial of prototype & interview 	<ul style="list-style-type: none"> Textile technologist Verified by expert Textile technologist

Step 1.2 Specification (continued)		
Brief 1 – Sports event		
Item must:	Measured by: Technique	Identified expert:
17	<ul style="list-style-type: none"> • be within the capabilities/skills of the candidate to produce 	<ul style="list-style-type: none"> • Trial of prototype • Quality checklist • Interview • Skills analysis
18	<ul style="list-style-type: none"> • be made using the time/facilities/resources available to the manufacturer/designer 	<ul style="list-style-type: none"> • Timed trial of prototype & interview • Interview • Checklist of facilities/component/checklist
19	<ul style="list-style-type: none"> • be within the capabilities/skills of the designer/manufacturer to produce 	<ul style="list-style-type: none"> • Trial of prototype • Quality checklist • Interview
20	<ul style="list-style-type: none"> • be made under hygienic/safe conditions 	<ul style="list-style-type: none"> • Interview • Quality checklist & interview
21	<ul style="list-style-type: none"> • be safe in use/wear 	<ul style="list-style-type: none"> • Interview • Literary/Internet search and quality checklist
22	<ul style="list-style-type: none"> • be suitable for mass production 	<ul style="list-style-type: none"> • Interview
23	<ul style="list-style-type: none"> • be able to be laundered/be easy to care for 	<ul style="list-style-type: none"> • Interview • User/wearer trials of prototype
24	<ul style="list-style-type: none"> • be durable 	<ul style="list-style-type: none"> • Interview • wearer trial
25	<ul style="list-style-type: none"> • influencing factors on final products 	<ul style="list-style-type: none"> • Interview

Note:

- A textile technologist could include a person working in textile product development or a Home Economics teacher.

NB

- **Specification Points** – It must be checked that the specification points are different.
– A candidate may use different wording to state the same thing.

- **Measured by** – The candidate must specify the term ‘expert’ if used.

Method of measuring must be able to check/assess whether the specification point has been met.

Basic explanation of specification point

- be colourful/attractive/appealing to target group
- so the target group will like them

Detailed explanation of specification point

- be colourful/attractive/appealing to target group
- to encourage the target group or consumer to try the product again

Step 1.2 Specification			
Brief 2 – Item for teenager			
Item must:	Measured by: Technique	Identified expert:	
1	<ul style="list-style-type: none"> be made of fabric 	<ul style="list-style-type: none"> Interview Resources/component checklist 	<ul style="list-style-type: none"> Textile technologist/Trading Standards Officer/textile retailer
2	<ul style="list-style-type: none"> be made using suitable fabrics 	<ul style="list-style-type: none"> User/wearer trial of prototype & interview Interview 	<ul style="list-style-type: none"> Textile technologist Textile retailer
3	<ul style="list-style-type: none"> be suitable for teenagers 	<ul style="list-style-type: none"> Interview/survey/questionnaire 	<ul style="list-style-type: none"> Textile technologist/manufacturer/target group
4	<ul style="list-style-type: none"> be different to other products on the market/be original 	<ul style="list-style-type: none"> Literary/Internet search Interview 	<ul style="list-style-type: none"> Textile technologist/retailer/designer
5	<ul style="list-style-type: none"> be a single item/product 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Retailer/textile technologist
6	<ul style="list-style-type: none"> incorporate/include embellishment 	<ul style="list-style-type: none"> Interview/Questionnaire 	<ul style="list-style-type: none"> Retailer/target group/textile technologist
7	<ul style="list-style-type: none"> be made using suitable embellishments 	<ul style="list-style-type: none"> Interview wearer trial of prototype & interview 	<ul style="list-style-type: none"> Textile technologist/retailer/target group/designer
8	<ul style="list-style-type: none"> be suitable for the current season fashion/trends 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Textile technologist/retailer/target group/designer
9	<ul style="list-style-type: none"> be fashionable/take account of current fashion trends 	<ul style="list-style-type: none"> Interview Internet/literary search Interview/questionnaire 	<ul style="list-style-type: none"> Textile technologist/retailer/manufacturer/designer Target group
10	<ul style="list-style-type: none"> be comparable in cost to other similar items 	<ul style="list-style-type: none"> Costing exercise & price check/comparison Interview 	<ul style="list-style-type: none"> Textile technologist/retailer/target group
11	<ul style="list-style-type: none"> be cost effective to produce/good value for money 	<ul style="list-style-type: none"> Costing exercise & interview Costing exercise & questionnaire 	<ul style="list-style-type: none"> Textile technologist/retailer/designer/target group Target group/textile technologist/designer
12	<ul style="list-style-type: none"> be within the budget of target group 	<ul style="list-style-type: none"> Costing exercise & questionnaire Costing exercise & interview 	<ul style="list-style-type: none"> Target group Textile technologist/retailer/target group
13	<ul style="list-style-type: none"> be aesthetically pleasing/appeal to target group 	<ul style="list-style-type: none"> Interview/questionnaire Interview Sensory testing User/wearer trial of prototype 	<ul style="list-style-type: none"> To target group Textile technologists/retailer/designer With target group
14	<ul style="list-style-type: none"> take account of likes/dislikes of target group 	<ul style="list-style-type: none"> Questionnaire/survey Interview Sensory testing 	<ul style="list-style-type: none"> To target group Textile technologist/retailer/designer Target group/textile technologist/retailer
15	<ul style="list-style-type: none"> be of an acceptable standard 	<ul style="list-style-type: none"> Interview Sensory testing Quality checklist & interview 	<ul style="list-style-type: none"> Textile technologist/Trading Standards Officer/retailer/target group Target group/textile technologist/retailer/designer Textile technologist/retailer/target group
16	<ul style="list-style-type: none"> be durable 	<ul style="list-style-type: none"> User/wearer trial & prototype Interview 	<ul style="list-style-type: none"> Target group/textile technologist Trading Standards Officer/textile technologist/retailer/manufacturer/designer

Step 1.2 Specification (continued)			
Brief 2 – Item for a teenager			
Item must:	Measured by: Technique	Identified expert:	
17	<ul style="list-style-type: none"> be made using the time/facilities/resources available to the candidate 	<ul style="list-style-type: none"> Timed trial of prototype & interview Interview Checklist of facilities/component checklist 	<ul style="list-style-type: none"> Textile technologist Textile technologist
18	<ul style="list-style-type: none"> be within the capabilities of the candidate 	<ul style="list-style-type: none"> Trial of prototype Quality checklist Skills analysis Interview 	<ul style="list-style-type: none"> Verified by expert Textile technologist
19	<ul style="list-style-type: none"> be made using the time/facilities/resources available to the manufacturer/designer 	<ul style="list-style-type: none"> Timed trial of prototype & interview Interview Checklist of facilities/component checklist 	<ul style="list-style-type: none"> Textile technologist/designer/manufacturer Textile technologist/designer/manufacturer
20	<ul style="list-style-type: none"> be within the capabilities/skills of the designer/manufacturer to produce 	<ul style="list-style-type: none"> Timed trial of prototype Quality checklist Interview 	<ul style="list-style-type: none"> Textile technologist/designer
21	<ul style="list-style-type: none"> be prepared under hygienic/safe conditions 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Textile technologist/Authorised Officer
22	<ul style="list-style-type: none"> be safe in use/wear 	<ul style="list-style-type: none"> Interview Literary/Internet search Quality checklist 	<ul style="list-style-type: none"> Textile technologist/retailer/manufacturer/Trading Standards Officer/designer
23	<ul style="list-style-type: none"> be suitable for mass production 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Textile technologist/manufacturer/designer
24	<ul style="list-style-type: none"> be able to be laundered/be easy to care for 	<ul style="list-style-type: none"> Interview User/wearer trials of prototype 	<ul style="list-style-type: none"> Textile technologist/manufacturer/designer
25	<ul style="list-style-type: none"> Influencing factors on final product 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Textile technologist/appropriate expert

Note:

- A textile technologist could include a person working in textile product development or a Home Economics teacher.

NB

- Specification Points** – It must be checked that the specification points are different.
- A candidate may use different wording to state the same thing.

- Measured by** – The candidate must specify the term ‘expert’ if used.

Method of measuring must be able to check/assess whether the specification point has been met.

Basic explanation of specification point

- be colourful/attractive/appealing to target group
- so the target group will like them

Detailed explanation of specification point

- be colourful/attractive/appealing to target group
- to encourage the target group or consumer to try the product again

1 : 3 Devise an overall plan for investigations – 6 marks available

Candidate presents a list of investigations (minimum five)

2 marks

Candidates who provide a list of possible investigations which focus clearly on

- the core key points of the project brief
- the candidates specification points
- have a clear aim/purpose

will be awarded **2 marks**.

Candidates who provide a list of investigations which do not focus clearly on the key points and the specification will be awarded **1 mark**.

Obvious omissions from the list of investigations will result in marks being deducted.

Candidate identifies techniques to be used

2 marks

All techniques must be appropriate for the investigations and so allow the candidate the possibility of collecting relevant data/information.

Where techniques are not consistently appropriate, candidates will be awarded **1 mark**.

Candidate justifies the need for the investigation

2 marks

All justifications must be

- well thought out
- linked to the investigation.

Lack of clarity within the justification will result in candidates being unable to gain the full mark allocation available.

From the proposed list of investigations drawn up in 1 : 3 above, candidates should form a prioritised list of those investigations which they propose to undertake.

No marks are awarded at this stage but candidates are expected to focus on those investigations most relevant to the needs of the project brief. A number of investigations may be combined by using one technique.

No more than 3 investigations depending on their nature, could be realistically carried out in the time available. The three investigations identified should ensure that all specification points are investigated. Candidates will be disadvantaged if they do less than 3 as they will not have collected sufficient data to create a valid solution.

Candidates who intend to use a questionnaire as an investigation must issue a minimum of 20 in order to gain valid results. If, however, too many questionnaires are distributed, collecting the data may become problematic for candidates.

A minimum of 3 website/literary sources should be evident in a **literary/internet search**.

Candidates should complete this work on pages 9 – 11 of the pro forma.

Step 1.3			
Brief 1 – promote sports event			
Investigation – to establish/find out/investigate		Technique:	Specified expert:
1	<ul style="list-style-type: none"> • current range of textile items 	<ul style="list-style-type: none"> • Interview/questionnaire • Survey of retail outlets • Literary/Internet search 	<ul style="list-style-type: none"> • Textile technologist/retailer/designer
2	<ul style="list-style-type: none"> • current range of fashion (sports) items 	<ul style="list-style-type: none"> • Literary/Internet search • Interview • Survey of retail outlets 	<ul style="list-style-type: none"> • Textile technologist/retailer/designer
3	<ul style="list-style-type: none"> • suitable fabrics/range of fabrics available 	<ul style="list-style-type: none"> • Interview/questionnaire • Survey of retail outlets • Literary/Internet search 	<ul style="list-style-type: none"> • textile technologist/retailer
4	<ul style="list-style-type: none"> • range of textile items 	<ul style="list-style-type: none"> • Interview • Literary/Internet search • Survey of retail outlets 	<ul style="list-style-type: none"> • Retailer/textile technologist/manufacturer/designer
5	<ul style="list-style-type: none"> • current trends/fashion 	<ul style="list-style-type: none"> • Interview • Literary/Internet search 	<ul style="list-style-type: none"> • Retailer/designer
6	<ul style="list-style-type: none"> • Possible inspiration from fashion trends 	<ul style="list-style-type: none"> • Interview • Literary/Internet search • Survey of retail outlets 	<ul style="list-style-type: none"> • Textile technologist/retailer/manufacturer/designer
7	<ul style="list-style-type: none"> • current sport events 	<ul style="list-style-type: none"> • Interview • Internet search 	<ul style="list-style-type: none"> • Retailer/sports promoter/expert/sports staff
8	<ul style="list-style-type: none"> • current promotional items 	<ul style="list-style-type: none"> • Internet search • Interview 	<ul style="list-style-type: none"> • Event's organiser/retailer/textile technologist
9	<ul style="list-style-type: none"> • current promotional items for sports events 	<ul style="list-style-type: none"> • Internet search • Interview 	<ul style="list-style-type: none"> • Retailers/manufacture/designer
10	<ul style="list-style-type: none"> • Possible target market 	<ul style="list-style-type: none"> • Interview • Literary/Internet search 	<ul style="list-style-type: none"> • Textile technologist/retailer/manufacturer/designer
11	<ul style="list-style-type: none"> • Range of trimmings/fastenings available 	<ul style="list-style-type: none"> • Survey of retail outlets • Literary/Internet search 	<ul style="list-style-type: none"> • Textile technologist/retailer/manufacturer/designer
12	<ul style="list-style-type: none"> • Ideas for potential solutions 	<ul style="list-style-type: none"> • Survey of retail outlets • Literary/Internet search • Sensory testing/survey/interview • Manufacture of prototype(s) and check • Interview 	<ul style="list-style-type: none"> • Target market • With expert • Textile technologist/manufacturer/retailer/designer/target group
13	<ul style="list-style-type: none"> • Choice of fabrics/trimmings/fastenings for potential solutions 	<ul style="list-style-type: none"> • Survey of retail outlets • Sensory testing/survey/interview • Interview • Manufacture of prototype(s) and check 	<ul style="list-style-type: none"> • Target group • Textile technologist/manufacturer/retailer/designer • With expert
14	<ul style="list-style-type: none"> • Suitability for the target group/end use 	<ul style="list-style-type: none"> • Interview • Interview/questionnaire/survey/sensory testing 	<ul style="list-style-type: none"> • Textile technologist/retailer/manufacturer/designer • With target group
15	<ul style="list-style-type: none"> • Price range of similar products/potential solutions 	<ul style="list-style-type: none"> • Interview • Survey of current product range 	<ul style="list-style-type: none"> • Target group/textile technologist

Step 1.3 (continued)			
Brief 1 – promote sports event			
Investigation – to establish/find out/investigate		Technique:	Specified expert:
16	<ul style="list-style-type: none"> • Cost of potential components/solutions 	<ul style="list-style-type: none"> • Costing exercise & interview • Survey of retail outlets 	<ul style="list-style-type: none"> • Textile technologist/appropriate expert
17	<ul style="list-style-type: none"> • Cost effective/good value for money 	<ul style="list-style-type: none"> • Costing exercise & interview • Survey of retail outlets & interview 	<ul style="list-style-type: none"> • Retailer/textile technologist • Retailer/textile technologist
18	<ul style="list-style-type: none"> • Budget of target group/ amount target group is prepared to pay 	<ul style="list-style-type: none"> • Interview/questionnaire 	<ul style="list-style-type: none"> • Target group/textile technologist
19	<ul style="list-style-type: none"> • Range of materials/ components available 	<ul style="list-style-type: none"> • Interview 	<ul style="list-style-type: none"> • Textile technologist/retailer
20	<ul style="list-style-type: none"> • Likes and dislikes of target group 	<ul style="list-style-type: none"> • Interview/questionnaire • Sensory testing 	<ul style="list-style-type: none"> • Target group/retailer/textile technologist/manufacturer • Target group
21	<ul style="list-style-type: none"> • Aesthetic appeal of potential solutions 	<ul style="list-style-type: none"> • Sensory testing/interview/questionnaire 	<ul style="list-style-type: none"> • Target group/retailer/textile technologist/designer
22	<ul style="list-style-type: none"> • Time/facilities/ resources available to the candidate 	<ul style="list-style-type: none"> • Timed trial of prototype & interview • Interview • Resource/equipment checklist & interview 	<ul style="list-style-type: none"> • Textile technologist • Textile technologist
23	<ul style="list-style-type: none"> • Skills necessary for manufacturing of the potential solution by the candidate 	<ul style="list-style-type: none"> • Interview • Skills audit & interview 	<ul style="list-style-type: none"> • Textile technologist/ manufacturer • Textile technologist/ manufacturer
24	<ul style="list-style-type: none"> • Time/facilities/ resources available to the manufacturer 	<ul style="list-style-type: none"> • Timed trial of prototype & interview • Interview • Resource/equipment checklist 	<ul style="list-style-type: none"> • Textile technologist/ manufacturer • Textile technologist/ manufacturer
25	<ul style="list-style-type: none"> • Skills necessary for manufacturing of the potential solution by the manufacturer 	<ul style="list-style-type: none"> • Interview • Skills audit & check 	<ul style="list-style-type: none"> • With textile technologist/ manufacturer • With textile technologist/ manufacturer
26	<ul style="list-style-type: none"> • Hygiene/safety requirements for production 	<ul style="list-style-type: none"> • Interview 	<ul style="list-style-type: none"> • Textile technologist/authorised officer
27	<ul style="list-style-type: none"> • Quality requirements of potential solutions 	<ul style="list-style-type: none"> • Interview • Manufacture prototype(s) & trial • Sensory testing/questionnaire/interview 	<ul style="list-style-type: none"> • Textile technologist • Target group/textile technologist
28	<ul style="list-style-type: none"> • Suitability for mass production 	<ul style="list-style-type: none"> • Interview 	<ul style="list-style-type: none"> • Textile technologist/ manufacturer/designer
29	<ul style="list-style-type: none"> • Influencing factors on final product 	<ul style="list-style-type: none"> • Interview • Interview questionnaire 	<ul style="list-style-type: none"> • Textile technologists • Target group
30	<ul style="list-style-type: none"> • Durability of potential solutions 	<ul style="list-style-type: none"> • Interview • Literary/Internet search • User/wearer trial 	<ul style="list-style-type: none"> • Trading Standards Officer
31	<ul style="list-style-type: none"> • Safety in use/wear 	<ul style="list-style-type: none"> • Interview • Literary/Internet search 	<ul style="list-style-type: none"> • Trading Standards Officer/ textile technologist
32	<ul style="list-style-type: none"> • Care requirements of materials/resources used 	<ul style="list-style-type: none"> • Interview • Literary/Internet search • Trial of prototype(s) 	<ul style="list-style-type: none"> • Textile Technologist

Step 1.3 (continued)

Brief 1 – promote sports event

Note:

- The candidate **must** specify the term 'expert' if used
- A textile technologist could include a person working in textile product development or a Home Economics teacher
- Retailer outlet must be relevant to investigation and be specified

Step 1.3			
Brief 2 – Item for teenager			
Investigation – to establish/find out/investigate		Technique:	Specified expert:
1	<ul style="list-style-type: none"> Items suitable for embellishment 	<ul style="list-style-type: none"> Interview Survey of retail outlets Literary/Internet search 	<ul style="list-style-type: none"> Textile technologist/retailer/manufacturer/designer
2	<ul style="list-style-type: none"> Current range of embellished items 	<ul style="list-style-type: none"> Interview Literary/Internet search Survey of retail outlets 	<ul style="list-style-type: none"> Textile technologist/retailer/manufacturer
3	<ul style="list-style-type: none"> Suitable embellishments 	<ul style="list-style-type: none"> Internet search/Literary Interview/questionnaire 	<ul style="list-style-type: none"> Target group/textile technologist/retailer/designer/manufacturer
4	<ul style="list-style-type: none"> Suitable textile/fabrics 	<ul style="list-style-type: none"> Literary/Internet search Survey of retail outlets Interview 	<ul style="list-style-type: none"> Textile technologist/fabric store manager/manufacturer/designer
5	<ul style="list-style-type: none"> Current trends for teenagers 	<ul style="list-style-type: none"> Internet search Questionnaire Interview 	<ul style="list-style-type: none"> Target group/teenagers Target group/teenagers/designer/retailer/expert
6	<ul style="list-style-type: none"> Suitability of potential solutions/items for target group/teenagers 	<ul style="list-style-type: none"> Interview 	<ul style="list-style-type: none"> Textile technologist/retailer/designer/target group
7	<ul style="list-style-type: none"> Range of trimmings/fastenings available 	<ul style="list-style-type: none"> Survey of retail outlets Literary/Internet search Interview 	<ul style="list-style-type: none"> Textile technologist/retailer/manufacturer/designer
8	<ul style="list-style-type: none"> Range of retail outlets offering suitable fabrics/trimmings/fastenings/embellishments 	<ul style="list-style-type: none"> Survey of retail outlets Literary/Internet search 	
9	<ul style="list-style-type: none"> Ideas for potential solutions/potential solutions on the market 	<ul style="list-style-type: none"> Survey of retail outlets Literary/Internet search Sensory testing/survey/interview Interview Manufacture of prototype(s) & interview 	<ul style="list-style-type: none"> Target group Textile technologist/manufacturer/retailer/designer Textile technologist/manufacturer/retailer/designer
10	<ul style="list-style-type: none"> Choice of fabrics/decorations/trimmings for potential solutions 	<ul style="list-style-type: none"> Survey of retail outlets Sensory testing/survey/interview Interview Manufacture of prototype(s) & interview 	<ul style="list-style-type: none"> Textile technologist/manufacturer/retailer/target group Textile technologist/manufacturer/retailer/target group Textile technologist/manufacturer/retailer/target group
11	<ul style="list-style-type: none"> Price range of similar textile products 	<ul style="list-style-type: none"> Interview Survey of current product range 	<ul style="list-style-type: none"> Target group/retailer/designer/textile technologist
12	<ul style="list-style-type: none"> Cost of potential components/solutions 	<ul style="list-style-type: none"> Costing exercise & interview Survey of retail outlets 	<ul style="list-style-type: none"> Textile technologist/designer/manufacturer
13	<ul style="list-style-type: none"> Budget of target group/amount target group are prepared to pay 	<ul style="list-style-type: none"> Interview/questionnaire 	<ul style="list-style-type: none"> Target group/retailer/textile technologist

Step 1.3 (continued)			
Brief 2 – Item for teenager			
Investigation – to establish/find out/investigate		Technique:	Specified expert:
14	<ul style="list-style-type: none"> • Aesthetic appeal of potential solutions 	<ul style="list-style-type: none"> • Sensory testing/interview/questionnaire 	<ul style="list-style-type: none"> • Target group/textile technologist/retailer/designer
15	<ul style="list-style-type: none"> • Likes and dislikes of target group 	<ul style="list-style-type: none"> • Interview/questionnaire 	<ul style="list-style-type: none"> • Target group/designer/retailer
16	<ul style="list-style-type: none"> • Current trends/fashion 	<ul style="list-style-type: none"> • Interview/questionnaire • Survey of retail outlets • Literary/Internet search 	<ul style="list-style-type: none"> • Target group/retailer/textile technologist/designer
17	<ul style="list-style-type: none"> • Time/facilities/resources available to the candidate 	<ul style="list-style-type: none"> • Interview • Timed trial of prototype & check • Resources/equipment checklist 	<ul style="list-style-type: none"> • Textile technologist • Textile technologist
18	<ul style="list-style-type: none"> • Skills necessary for manufacturing the potential solution by the candidate 	<ul style="list-style-type: none"> • Interview • Skills audit & check 	<ul style="list-style-type: none"> • Textile technologist • Textile technologist
19	<ul style="list-style-type: none"> • Time/facilities/resources available to the manufacturer 	<ul style="list-style-type: none"> • Interview • Timed trial of prototype & interview • Resource/equipment checklist & interview 	<ul style="list-style-type: none"> • Textile technologist/manufacturer • Textile technologist/manufacturer • Textile technologist/manufacturer
20	<ul style="list-style-type: none"> • Skills necessary for manufacturing of the potential solution by the manufacturer 	<ul style="list-style-type: none"> • Interview • Skills audit & interview 	<ul style="list-style-type: none"> • Textile technologist/manufacturer • Textile technologist/manufacturer
21	<ul style="list-style-type: none"> • Hygiene/safety requirements for potential solution 	<ul style="list-style-type: none"> • Interview 	<ul style="list-style-type: none"> • Textile technologist/Trading Standards Officer
22	<ul style="list-style-type: none"> • Quality requirements of potential solutions 	<ul style="list-style-type: none"> • Interview • Skills audit & interview 	<ul style="list-style-type: none"> • Textile technologist/manufacturer/retailer • Target group
23	<ul style="list-style-type: none"> • Suitability for mass production 	<ul style="list-style-type: none"> • Interview 	<ul style="list-style-type: none"> • Textile technologist/manufacturer
24	<ul style="list-style-type: none"> • Influencing factors on final product 	<ul style="list-style-type: none"> • Interview 	<ul style="list-style-type: none"> • Textile technologist
25	<ul style="list-style-type: none"> • Durability of potential solutions 	<ul style="list-style-type: none"> • Interview • Literary/Internet search • User/wearer trial 	<ul style="list-style-type: none"> • Trading Standards Officer/textile technologist
26	<ul style="list-style-type: none"> • Safety in use/wear 	<ul style="list-style-type: none"> • Interview • Literary/Internet search 	<ul style="list-style-type: none"> • Trading Standards Officer/textile technologist
27	<ul style="list-style-type: none"> • Care requirements of materials/resources used 	<ul style="list-style-type: none"> • Interview • Literary/Internet search • Trial of prototype(s) 	<ul style="list-style-type: none"> • Textile technologist

Note:

- The candidate **must** specify the term 'expert' if used
- A textile technologist could include a person working in textile product development or a Home Economics teacher
- Retailer outlet must be relevant to investigation and be specified

STEP 2 (Investigating) Total mark allocation

15 marks

2 : 1 Implement the overall plan for investigations – 12 marks available

The mark allocation for this area will be based on candidates' performance in a series of investigations.

Candidates will be assessed on the results and conclusions from each investigation – see the marking criteria breakdown listed on the next page.

Teachers/lecturers must ensure candidates present the results and conclusions of each investigation on pages 9 – 11 of the pro forma only.

Candidates using computer software to produce results eg bar charts or graphs must ensure that these are presented only on the pages allocated for this work ie pages 9 – 11 of the proforma.

Candidates who present the results and conclusions of each investigation on more than one A4 sheet of paper will be penalised.

See Appendix 1 for guidance on carrying out investigations/tests.

Implement the overall plan for investigations

- Results must be brief, concise and easy to interpret
- Results must show a clear link to the aim/purpose of the investigation
- Results must be derived from the investigations and based on facts and evidence
- Conclusions must be based on the results obtained

All investigations candidates have fulfilled the aims on page 8 of the pro forma	3 marks
½ or more investigations candidates have fulfilled the aims on page 8 of the pro forma	2 marks
Less than ½ investigations candidates have fulfilled the aims on page 8 of the pro forma	1 mark
In no investigations candidates fulfilled the aims on page 8 of the pro forma	0 marks

All investigations contain brief/concise/easy to interpret results	3 marks
½ or more investigations contain brief/concise/easy to interpret results	2 marks
Less than ½ investigations contain brief/concise/easy to interpret results	1 mark
No investigations contain brief/concise/easy to interpret results	0 marks

All results are based on fact/valid evidence/relevant to design brief	3 marks
½ or more of the results are based on fact/valid evidence/relevant to design brief	2 marks
Less than ½ of the results are based on fact/valid evidence/relevant to design brief	1 mark
No results are based on fact/valid evidence/relevant to design brief	0 marks

All conclusions are based on the results of investigations and/or show progression	3 marks
½ or more conclusions are based on the results of investigations and/or show progression	2 marks
Less than ½ conclusions are based on the results of investigations and/or show progression	1 mark
No conclusions are based on results of investigations and/or does not show progression	0 marks

2 : 2 Derive a solution from the investigations – 3 marks available

Generate one solution – 2 marks (ie ONE item) NB it is extremely important that centres strictly adhere to this rule. No marks will be allocated for STEP 3 or STEP 4 if candidates generate more than one solution.

Candidates derive **one solution** which must

Be relevant to the needs of the project brief	1 mark
Be based on the results and conclusions reached in the investigations	1 mark
Describes the solution in detail	1 mark

The solution should be described in detail so it is able to be **visualised**.

Various methods may be used eg– written details, recipes, sketches, diagrams, labelled diagrams, storyboards – to ensure clarity.

**Brief 1: promote sports event
Possible solutions**

Any textile which promotes a sports event.

**Brief 2: item for teenager
Possible solutions**

Any textile item suitable for a teenager which includes embellishment.

NB Stop marking if more than one solution is given and refer technological project to the Principal Assessor.

STEP 3 (Manufacturing and Testing) Total mark allocation**21 marks****3 : 1 Manufacture the chosen solution – 10 marks available****Candidate completes the planned sequence of work****5 marks**

Candidates must complete the plan **before** starting to manufacture the solution.

Candidates will be penalised if the plan is written **retrospectively**.

Candidates who draw up a sequence of work which consistently demonstrates effective deployment of time	5 marks
Candidates who draw up a sequence of work with minor lapses in the deployment of time	4 marks
Candidates who draw up a sequence of work with occasional lapses in the deployment of time	3 marks
Candidates who draw up a sequence of work with regular lapses in the deployment of time	2 marks
Candidates who draw up a sequence of work with frequent lapses in the deployment of time	1 mark
Candidate who submits a retrospective sequence of work	0 marks

Candidates may choose to present their sequence of work in an appropriate form eg table, chart, written details, flow chart. An indication of dates, times and details of the proposed work to be undertaken must demonstrate effective use of time by the candidate.

The sequence of work must show logical progression and allow the solution to be manufactured

Candidates' work must be completed on page 13 of the pro forma.

Candidate identifies and requisitions equipment and resources**3 marks**

Candidates who identify and requisition all resources and equipment	3 marks
Candidates who identify and requisition most resources and equipment	2 marks
Candidates who omit any obvious resources and/or equipment	1 mark

Resources will depend on the chosen solution and may relate to textiles, equipment.

Note: all resources and equipment required for manufacture must be listed and take into account

- exact types and colours of textiles and trimmings including sizes/dimensions.

Candidate consistently justifies effective deployment of equipment and resources

2 marks

Justification should relate to all the identified equipment and resources to gain full marks.

After completing the **plan** for manufacture, candidates should start to manufacture the solution.

Candidates should be encouraged to make notes on page 15 as they are carrying out the manufacturing process. Notes may be made on how manufacture is proceeding, any problems encountered and any changes/modifications made to the plan.

Photographic evidence of the candidates' work must be attached to page 16 of the proforma.

Two photographs are required:

- one should provide evidence of the solution **during manufacture**.
- the other should provide evidence of the **completed** solution.

Although the quality of the photographs is not important, they **must** give an indication of the type of work being carried out and completed by the candidate.

Although no marks are awarded here, **photographic evidence must be provided** of the candidates' solution.

If photographic evidence is not provided, no further marking of the Technological Project will be carried out as no evidence has been provided on which to base the marking of the next stages of work.

If problems occur with photographic evidence, then the teacher/lecturer should contact Graeme Findlay, Qualifications Manager (0845 213 5492) immediately.

Please note:

Page 16 of the electronic version of the pro forma has been set up to allow the electronic insertion of digital photographs.

Such photographs **should not** be cut and then pasted into the spaces provided. Photographs should be inserted in the spaces provided by using the '*insert picture from file*' facility in Microsoft Word.

3 : 2 Devise two tests for the manufactured solution – 3 marks available

Candidate presents two tests **1 mark**

Candidates should present **two** appropriate tests – failure to do this will result in no marks being awarded.

Candidate identifies techniques to be used **1 mark**

Two different techniques should be identified.

Techniques must be **appropriate** to the tests, allowing candidates to collect relevant data/information.

Candidate justifies the two tests **1 mark**

Justifications should be

- clear and well thought out
- linked to the test.

NB Candidates are expected to include any literary titles/authors, web addresses and the title of any person/expert interviewed. Candidates are expected to identify the target group which is used during testing.

Briefs 1 & 2

Test	Technique	Justification
1. Examination by a specified expert eg manufacturer/retailer/textile technologist/designer	Interview/questionnaire with specified expert Sensory test with specified expert	<ul style="list-style-type: none">• To check aesthetic qualities• To check if item is marketable• To check cost effectiveness/profitability of item
2. Examination by target group	Interview/questionnaire/with target group Sensory testing with target group Observational checklist Wearer/user trial with target group	<ul style="list-style-type: none">• To find out if item is acceptable/appropriate to teenagers• To establish marketability
3. Costing exercise	Costing exercise confirmed by interview with an expert, eg textile technologist/retailer	<ul style="list-style-type: none">• To establish whether item is cost effective to produce• To establish a selling price for the finished item

3 : 3 Implement the tests for the manufactured solution – 8 marks available (revised)

Implement the overall plan for investigations

Marking Criteria

- Results must be brief, concise and easy to interpret
- Results must show a link to the aim/purpose of the test
- Results must be derived from the tests and based on facts and evidence
- Conclusions must be based on results obtained

For both tests – candidates have done as they intended from page 15	2 marks
For 1 test – candidates have done as they intended from page 15	1 mark
No test – candidates have done as they intended from page 15	0 marks

Both tests contain brief/concise/easy to interpret results.	2 marks
One test contains brief/concise/easy to interpret results.	1 mark
No test contains brief/concise/easy to interpret results.	0 marks

All results of tests are based on fact/valid evidence/relevant to specification points/design brief.	2 marks
One result of tests is based on fact/valid evidence/relevant to specification points/design brief.	1 mark
No results of tests are based on fact/valid evidence/relevant to specification points/design brief.	0 marks

Conclusions for two tests are based on the results of tests and/or show progression	2 marks
Conclusions for one test are based on the results of tests and/or show progression	1 mark
No conclusions for the tests are based on results of tests and/or show no progression	0 marks

STEP 4 Total mark allocation**12 marks****4 : 1 Evaluate the chosen solution – 6 marks available****Candidate provides accurate evaluation some of which is detailed against the specification****5 marks**

Candidates must rewrite (or copy and paste) the specification points in the appropriate column. Candidates must evaluate the solution against each specification point. Candidates should use the results of the investigations, manufacture and/or testing where appropriate.

Candidates who evaluate all or five specification points	5 marks
Candidates who evaluate four specification points	4 marks
Candidates who evaluate three specification points	3 marks
Candidates who evaluate two specification points	2 marks
Candidates who evaluate one specification point	1 mark

Candidate provides detailed accurate evaluation against specification**1 mark**

If further detail is provided within the evaluations then an additional mark will be awarded.

Extra detail means that one additional point of evaluation is provided for **any one** of the specification points.

4 : 2 Evaluate the Technological Project – 6 marks available

Candidates evaluate the Technological Project: Step 1 Analysing, Step 2 Investigating and Step 3 Manufacturing and Testing

All of the following criteria must be used in the evaluation

- time
- resources
- skills and abilities.

Marks will not be awarded to candidates who do not use these criteria in their evaluation.

The evaluation, which may include adaptations/modifications, **must be based on evidence** which can be found within the candidates' Technological Project pro forma eg from investigations, manufacture and/or testing.

In the evaluation the candidates should give an opinion based on facts from their Technological Project and then explain the consequences for the final solution.

Candidates should provide **two** points of evaluation for **each** step of the Technological Project.

One mark should be awarded for each point of evaluation. A minimum of one mark must come from each step evaluated.

Step 1	Analysing	2 marks
Step 2	Investigating	2 marks
Step 3	Manufacturing and Testing	2 marks

Pages 23 to 24 of the pro forma should be used for the evaluation.

**Appendix 1
Higher Technological Project
Guidance on Carrying out Investigations/Tests**

Three investigations and two tests must be carried out.

The aim, which should be linked to the candidates' specification, should be rewritten or cut and pasted from page 8 of the pro forma onto the top of the investigation page.

Questionnaire

- Minimum of 20 respondents.
- Minimum 5/8 relevant/valid questions linked to aim/specification to allow relevant data to be collected.
- Questions and all possible answers must be displayed.
- All responses must be displayed including nil responses.
- Given constraints of space, it is not necessary to display results as pie charts/graphs.
- Table format for displaying results of questionnaires can be space saving.

Survey

- Must identify the source(s) of information.
- Source of information must be relevant to investigation.
- The following sources could be used including the Internet, literary, shop, restaurant/café as a source of information.
- The source of information should be identified.
- The place selected should be related to the quality and quantity of the data available rather than the number of sources however more than one source should be used.
- Information should be displayed using appropriate headings, sub-divisions etc.

Interviews

- Carefully consider the suitability of the person interviewed. Must clearly identify their position in establishment/job title.
- Minimum 5/8 relevant questions linked to aim/specification to allow relevant data to be collected.
- Open-ended questions should be used to allow more data to be collected from the interviewee.
- Questions should be carefully formatted to extract useful facts and avoid one word responses such as Yes/No.
- All questions and responses must be displayed.

Internet/Literary search

- All sources must be clearly identified – minimum of three websites/literary sources.
- Should be related to the quality/quantity/relevance of the data available rather than the number of sources.
- Graphics may be included where relevant.
- Data collected should be organised using appropriate headings/sub-divisions etc.
- Information should not be lifted 'en bloc' from websites. It is appropriate to summarise key points which are relevant to the aim/specification.

Costing

- Breakdown cost of all ingredients/components must be included.
- Details of quantities and unit costs must be included.
- Sources should be included where appropriate.
- Comparative costing should measure 'like for like'.

NB Costing only proves cost of items/components. On its own it does not provide low/high cost, value for money, acceptability of price to target group.

Nutritional Analysis

- Sources must be shown.
- All nutrients relevant to the aim should be shown.
- Nutritional analysis of all ingredients must be included. (A 'total' for a dish is not acceptable).
- Sufficient data must be accessed in order to draw relevant conclusions.
- When used as a test the suitability of the results should be assessed by a suitable expert eg community dietician, food technologist etc.

Fabric Analysis

- There is no need to repeat fabric tests where information is already easily available in textbooks/websites.
- Fabrics used for testing must be clearly identified ie construction/fibre composition.
- Only fabrics being considered for potential solution should be tested/sampled/ investigated towards final solution.
- Details of method testing must be given.

Sensory Testing

- All potential solutions must be clearly described.
- Breakdown of results must be shown. Summary of results is not acceptable.
- Key must be provided.
- It is appropriate to ask questions to elicit potential improvements/modifications.
- It is suggested for sensory testing that a minimum of five people are used to assess the products.

Technological Project Higher

Summary Mark Allocation

Total 70 marks available

Step	Mark Breakdown	Allocation
1 . 1	Identification of the key points with explanation Identify the key points Additional key points Key points plus basic and accurate explanation Key points plus detailed and accurate explanation	2 marks 1 mark 2 marks 1 mark Total mark allocation 6
1 . 2	Draw up appropriate criteria for a specification Allow for a range of possible solutions Contain more detail than the brief Be written in measurable/able to be tested terms Link each specification point to the key points Provide basic explanations Provide detailed explanations	1 mark 2 marks 2 marks 2 marks 2 marks 1 mark Total mark allocation 10
1 . 3	Devise an overall plan for investigations Present a list of investigations Identify techniques to be used Justify the need for the investigations	2 marks 2 marks 2 marks Total mark allocation 6
Total mark allocation for Step 1		22 marks
2 . 1	Implement the overall plan for investigations Aims fulfilled Brief, concise, easy to interpret Relevant and valid results Conclusions	3 marks 3 marks 3 marks 3 marks Total mark allocation 12
2 . 2	Derive a solution from the investigations Generate one solution – based on evidence Relevant to brief Describe the solution in detail	1 mark 1 mark 1 mark Total mark allocation 3
Total mark allocation for Step 2		15 marks

Step	Mark Breakdown	Allocation
3 . 1	Manufacture the chosen solution Step by step sequence of work showing effective deployment of time Requisition of resources Justification of resources/equipment	5 marks 3 marks 2 marks Total mark allocation 10
3 . 2	Devise two tests for the manufactured solution Present two tests Identify techniques to be used Justify the two tests	1 mark 1 mark 1 mark Total mark allocation 3
3 . 3	Implement the tests for manufactured solution Aims fulfilled Brief, concise and easy to interpret Relevant and valid reasons Conclusions	2 marks 2 marks 2 marks 2 marks Total mark allocation 8
Total mark allocation for Step 3		21 marks
4 . 1	Evaluate the chosen solution Accurate explanation some of which is detailed against each specification point (to include results of investigations and/or tests where appropriate) Valid evaluations Provide detailed accurate explanation	5 marks 1 mark Total mark allocation 6
4 . 2	Evaluate the Technological Project Candidate can evaluate Steps 1-3 of the Technological Project with detailed reference to the following criteria: Time Resources Skills/abilities Step 1 Analysing Step 2 Investigating Step 3 Manufacturing and Testing	2 marks 2 marks 2 marks Total mark allocation 6
Total mark allocation for Step 4		12 marks

[END OF MARKING INSTRUCTIONS]