



Rewarding Learning

General Certificate of Secondary Education
2013

Centre Number

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Candidate Number

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StudentBounty.com

Technology and Design

Unit 3: Product Design



[GTD31]

FRIDAY 7 JUNE, AFTERNOON

GTD31

TIME

1 hour.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Complete in blue or black ink only. **Do not write in pencil or with a gel pen.**

Answer **all eight** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 80.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.



Answer **all** questions

1 **Table 1** lists a number of materials and their properties.

(a) For each material listed, place a tick (✓) in the box that relates to the property of that material.

Table 1

Property Material	Ferrous Metal	Non-ferrous Metal	Hardwood	Softwood	Thermosetting Plastic	Thermoplastic
Cedar						
Aluminium						
Epoxy Resin						
Nylon						
Copper						
Ash						
High Carbon Steel						

[7]

(b) Which of the above materials is an alloy?

_____ [1]

Examiner Only	
Marks	Remark
Total Question 1	



2 A company engaged in the soft drinks industry plans to develop and manufacture a new container for a new soft drink that they hope to launch.

As part of the product analysis for the new container the drinks company sub-contracts the task of developing a product specification to a product designer.

(a) Outline what sub-contracting means.

_____ [1]

(b) Give **one** reason why the company may wish to sub-contract the development of the product specification.

_____ [1]

(c) Produce a design specification that clearly outlines **six** key specification points to be considered in the design of the container.

1. _____ [1]

2. _____ [1]

3. _____ [1]

4. _____ [1]

5. _____ [1]

6. _____ [1]

Examiner Only

Marks Remark

Total Question 2

[Turn over



3 The picture below shows a handrail on the steps outside a building.



© The Handrail People

(a) Name **two** anthropometric factors that should be considered for the handrail to function satisfactorily.

1. _____

2. _____ [2]

(b) The handrail was manufactured using galvanised steel.

Give **two** appropriate reasons why galvanised steel was used for the handrail.

1. _____

_____ [1]

2. _____

_____ [1]

Examiner Only

Marks

Remark



4 Many modern windows have plastic uPVC frames and double glazing.

(a) Give **one** advantage of:

uPVC Plastic frames compared to wooden frames _____

Double glazing compared to single glazing _____

_____ [2]

(b) A company engaged in the manufacture of plastic window frames places great importance on quality assurance.

Outline **two** main characteristics of quality assurance.

1. _____

2. _____

_____ [2]

(c) The window frames are manufactured to certain dimensional tolerances.

Explain what is meant by a tolerance.

_____ [2]

(d) In advertising the windows the company follows the Trades Description Act.

Explain briefly the purpose of the Trades Description Act in consumer protection.

_____ [2]

Examiner Only

Marks

Remark

Total Question 4

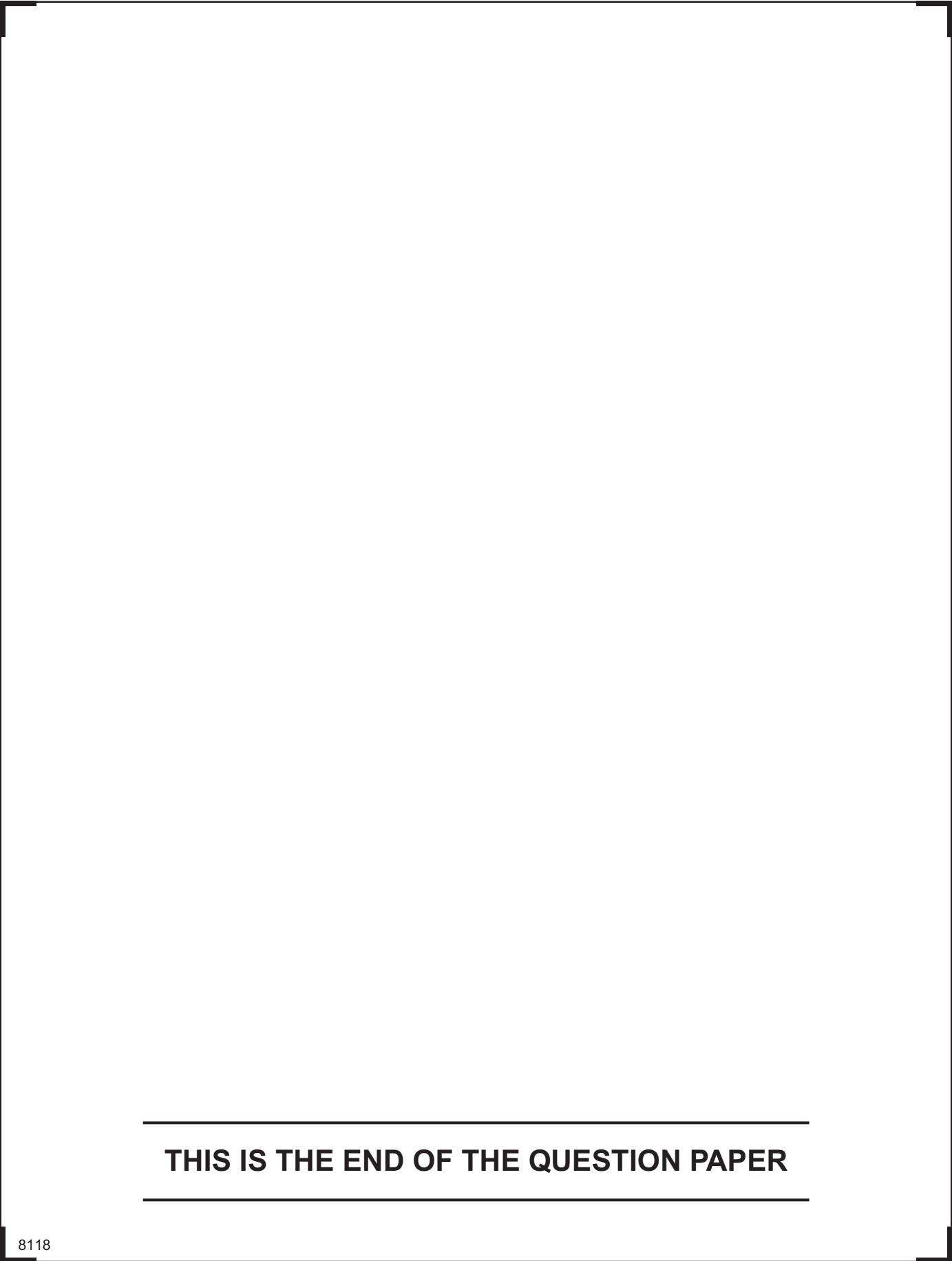




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(Questions continue overleaf)







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Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	

Total Marks	
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Examiner Number

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