

71
Candidate Num

General Certificate of Secondary Education January 2013

Engineering

Paper 2

Assessment Unit 3

assessing

Engineering Technology

[GEE32]

THURSDAY 31 JANUARY, AFTERNOON



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. Answer **all** parts of the one question in this paper.

The paper should be answered in relation to the Pre-Release Material. You will be provided with a new copy of the Pre-Release Material. You should **not** bring any of the material previously issued, or any notes made into this examination.

INFORMATION FOR CANDIDATES

The total mark for this paper is 40.

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

Quality of written communication is assessed in 1(h) and 1(i).

For Examiner's use only		
Question Number 1	Marks	
(a)		
(b)		
(c)		
(d)		
(e)		
(f)		
(g)		
(h)		
(i)		

Total	
Marks	

8160

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Answer	all	parts	of the	question

Examiner Only

Marks Remark

(a)	(i)	Outline an appropriate surface finish to the steel wire frame which could be applied to a shopping trolley.	ch
			[1]
	(ii)	Give one reason why this is an appropriate finish to apply to a shopping trolley.	
			[1]
b)	(i)	Computer Aided Manufacture (CAM) is used throughout the manufacture of a shopping trolley.	
		Explain giving one example of where CAM is used in the manufacture of a shopping trolley.	
			[2]
	(ii)	Explain how CAM is a benefit in the manufacture of this product	
			[2]
c)		mputer Aided Design (CAD) plays a large part in the manufacture shopping trolley.	
		e one reason why CAD is more useful to a designer compared to litional methods.)
			[2]

1

(d)	Mai co r	Examiner Only Marks Remark	
	(i)	Give one reason why a manufacturer of a shopping trolley would buy in standard components from other suppliers.	
		[2]	
	(ii)	Give one example of a standard component used in the manufacture of a shopping trolley.	
		[1]	
(e)	Rea	ad the following paragraph and answer the questions that follow.	
	oth gui to i and the pro	blished document that contains a technical specification or ear precise criteria designed to be used consistently as a rule, ideline, or definition. Standards help to make life simpler and increase the reliability and the effectiveness of many goods diservices we use. Standards are created by bringing together experience and expertise of all interested parties such as the oducers, sellers, buyers, users and regulators of a particular terial, product, process or service.	
	The shopping trolley shown in the Pre-Release Material is tested to BSI standards.		
	(i)	Give one reason why it is important for a manufacturer of a shopping trolley to ensure that quality standards are met. (Your answer should be different from those stated in the paragraph).	
		[2]	
	(ii)	Give one example of a quality indicator that a manufacturer might look for in a finished shopping trolley.	
		[1]	

(f)	(i)	Outline an appropriate material used to manufacture the main basket of the shopping trolley. Examiner Only Marks Remain
		[1]
	(ii)	Give one advantage to the manufacturer of using this material to make the basket of the shopping trolley.
		[2]
(g)	(i)	The chassis of the shopping trolley shown in the Pre-Release Material is manufactured predominantly from steel.
		Outline one advantage of using steel to manufacture this part of the shopping trolley.
		[2]
		e diagram below shows a collapsible baby seat incorporated in a opping trolley.
		© Hemera / Thinkstock
	(ii)	State one appropriate plastic that could be used to manufacture the plastic part of the collapsible baby seat shown above.
		[1]

(h)	The castors for a shopping trolley are made of thick steel for extra strength and durability. A die machine punches out the castors which will hold the wheels.	Examin Marks	er Only Remark
	In the box below using annotated sketches and correct terminology describe how the die machine punches out the castors which will hold the wheels, and how the wheels are attached to the castors.		
	 Marks will be awarded for Detail contained in sketches [4] Quality of sketches [3] Detailed notes [3] 		
	[10]		

(i)	The red plastic parts of the shopping trolley shown below are
	manufactured by a process known as injection moulding.

Examiner Only		
emark		



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In the box below using annotated sketches and correct terminology describe the injection moulding process.

Marks will be awarded for

- Detail contained in sketches [4]
- Quality of sketches [3]
- Detailed notes [3]

[1	0

THIS IS THE END OF THE QUESTION PAPER

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General Certificate of Secondary Education 2013

Engineering

Pre-Release Material

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[GEE32]

JANUARY 2013 AND SUMMER 2013



You must use **this** clean copy of the Pre-Release Material in the examination and **not** your own annotated copy.



Engineering Technology Pre-Release Material

The image below shows a "Shopping Trolley".



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Description

A shopping trolley is a trolley supplied by a shop, especially supermarkets, for use by customers inside the shop for transporting merchandise to the check-out counter during shopping. Customers can then use the trolley to transport their purchased goods to their cars. Most modern shopping trolleys are made of metal or a combination of metal and plastic, and have been designed to nest within each other in line to facilitate collecting many at one time and also to save on storage. The carts come in many sizes, with larger ones able to carry a child.

Features include:

- Swivel castors
- Available in different sizes
- Extruded steel bottom structure
- Frame material steel

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