



Rewarding Learning

Centre Number

71	
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Candidate Number

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General Certificate of Secondary Education
2013

Engineering
Paper 2
Assessment Unit 3
assessing
Engineering Technology
[GEE32]



WEDNESDAY 22 MAY, AFTERNOON

TIME

1 hour, plus your additional time allowance.

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 part question.

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

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

Total Marks	
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(d) Look at the table below. It shows the different stages in manufacturing a Shopping Trolley.

Design
Production Planning
Material Supply and Control
Processing production
Packaging and dispatch

(i) In the above table fill in the **two** missing stages in the manufacture of a Shopping Trolley. [2]

(ii) Write down the stage where swivel castors are made.

_____ [1]

(e) Read the paragraph below and answer the questions that follow.

The most commonly used robots are articulated robots. Most types of robots are programmed to carry out specific actions over and over again (repetitive actions) without variation and with a high degree of accuracy.

These actions are determined by programmed routines that specify the direction, acceleration, velocity, deceleration and distance of a series of coordinated motions.

(i) Write down **one** example of where robotics is used in the manufacture of a Shopping Trolley.

_____ [1]

Examiner Only	
Marks	Remark

(h) The main plastic handle of a Shopping Trolley is manufactured by a process known as extrusion.

Use annotated sketches and the correct terminology to describe the extrusion process.

Do this in the box below.

Marks will be awarded for

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



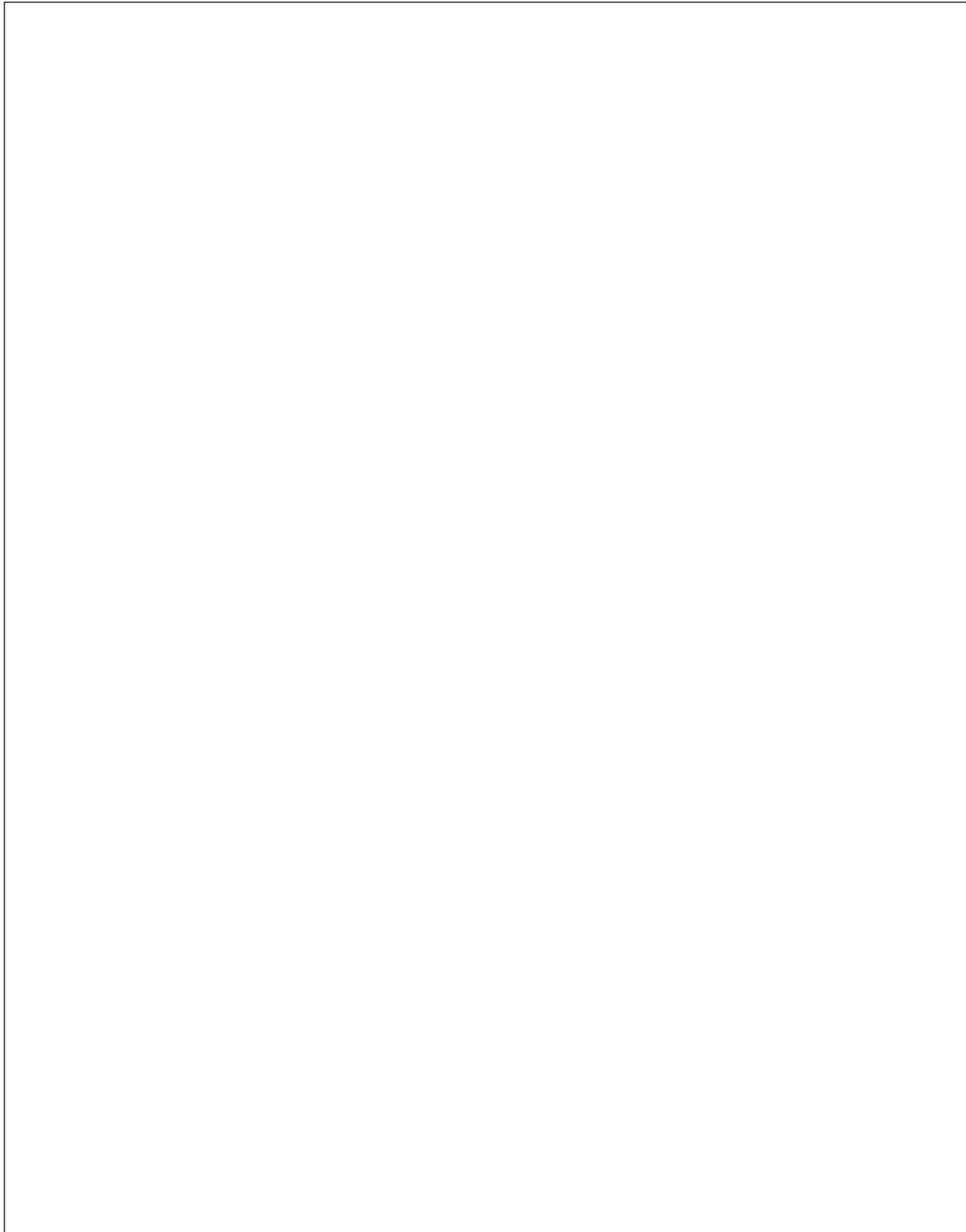
Examiner Only	
Marks	Remark

(i) In the box below show:

- how the baby seat can collapse, and
- how the plastic wheels are attached to the punched out castors.

Marks will be awarded for

- Suitability of chosen method [4]
- Quality of sketches [3]
- Detailed notes [3]



[10]

THIS IS THE END OF THE QUESTION PAPER

Examiner Only	
Marks	Remark

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**General Certificate of Secondary Education
2013**

Engineering

Pre-Release Material

Paper 2

Assessment Unit 3

assessing

Engineering Technology

[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”.



© Hemera / Thinkstock

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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