



General Certificate of Secondary Education
2018

Centre Number

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Candidate Number

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Manufacturing

Paper 2
Assessment Unit 3
assessing
Manufacturing Technology



GMA32

[GMA32]

FRIDAY 22 JUNE, 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 part question.

Quality of written communication is assessed in (f).

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

Total Marks	
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Answer **all** parts of the question

There is **one** question in this paper which relates to the pre-release materials.

1 (a) The frame and legs of the work bench are manufactured using aluminium alloy.

(i) List **two** reasons why aluminium alloy is a suitable material for the work bench frame and legs.

1. _____ [1]

2. _____ [1]

(ii) Name **one** alternative material that could be used instead of aluminium alloy and give **two** reasons for your choice of material.

Material: _____ [1]

Reason 1: _____

_____ [1]

Reason 2: _____

_____ [1]

(b) The work surface of the work bench is manufactured from bamboo.

(i) Identify **two** alternative materials that could have been used for the work surface of the work bench.

1. _____ [1]

2. _____ [1]

(ii) Identify **one** mechanical property for one of the materials named in part (b)(i) which could be used for the work surface of the work bench. State a reason for your answer.

Name of material: _____

Property: _____ [1]

Reason: _____

_____ [1]

Examiner Only	
Marks	Remark

(c) Fig. 1 shows the work surface of the work bench.

Extract removed due to copyright issues.

Fig. 1

Suggest how the work surface may be attached to the rest of the work bench.

[2]

(d) (i) Vice handles are a good example of 'bought-in' components.

Explain what is meant by the term 'bought-in' components.

[2]

(ii) Identify **two** reasons why a manufacturing company would not use 'bought-in' components.

1. _____ [1]
2. _____ [1]

Examiner Only	
Marks	Remark

(iii) Explain **one** benefit for the manufacturing company of using 'bought-in' components.

_____ [2]

(e) (i) Identify a possible method of surface finishing for the aluminium alloy legs and frame.

_____ [1]

(ii) Name **two** machines that could be used to create the branding/lettering on the BOSCH PWB 600 folding work bench.

1. _____ [1]

2. _____ [1]

(f) Some of the main production stages used during the manufacture of the work bench are listed below.

Describe the manufacturing and production process for each of the following:

- The frame/legs
- The folding mechanism
- The work surface.

You should make reference to the use of modern technology in your answer.

Quality of written communication will be assessed in this question.

Examiner Only	
Marks	Remark

(g) The work bench can hold a range of differently shaped materials.

In the space provided, using annotated sketches and correct terminology, show how the vice mechanism allows the work bench work surface to open and close.

Marks will be awarded for:

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

Examiner Only	
Marks	Remark

Examiner Only	
Marks	Remark

[10]

THIS IS THE END OF THE QUESTION PAPER

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2018

Manufacturing
Pre-Release Material
EXAMINATION COPY

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Manufacturing Technology



GMA32

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FRIDAY 22 JUNE, AFTERNOON

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

Manufacturing Technology Pre-Release Material

The images below show a folding work bench.

Extracts removed due to copyright issues.

Extract removed due to copyright issues.

The work bench is designed to be portable and incorporates a folding mechanism to enable it to be folded flat. The bench can be assembled and folded flat in seconds without the need for additional tools. The work top is made from bamboo and is equipped with an integrated storage compartment. The work bench can secure round or bulky pieces of material.

The red plastic handles can be turned to open and close the work surface.

The aluminium alloy stand is equipped with support struts to ensure that the work bench remains stable, even under heavy loads.

Features include:

- Folding aluminium alloy stand that locks when folded or in use. The work bench folds flat.
- Ability to support up to 200 kg.
- Vice dogs supplied to assist with holding awkward shaped materials.
- Lightweight for ease of carrying.
- A storage tray for screws and small components.
- A measurement strip on the work surface.
- Bamboo work top.
- Double acting screw thread clamping/vice mechanism.

Dimensions:

- Dimensions:
 - height = 834 mm
 - length = 680 mm
 - width = 680 mm
- Load bearing capacity: 200 kg
- Weight = 11.6 kg

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