



Rewarding Learning

# Manufacturing

Paper 2 Assessment Unit 3 assessing Manufacturing Technology

### [GMA32] MONDAY 27 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.

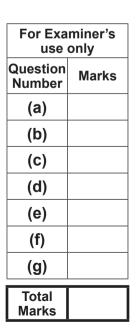
Write your answers in the spaces provided in this question paper. Answer **all** parts of the one question in this paper.

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 **(g)**.









aspects of this workbench that are different to the workbench used in Marks Remark your school manufacturing workshop. 1. \_\_\_\_\_ [1] 2. \_\_\_\_\_ [1] (b) Fig. 1 is a drawing of the end frame of the workbench shown in the pre-release material. Base Piece 🔔 ~ Recess Fig. 1 (i) Outline, giving **two** reasons, why the end frame of this workbench uses a base piece as shown in Fig. 1. 1. \_\_\_\_\_ [1] 2.\_\_\_\_\_ \_\_\_\_\_ [1]

(a) The pre-release material shows a wooden workbench. Identify two

Examiner Only

1

	(ii)	Each base piece is recessed as shown in <b>Fig. 1</b> . Using <b>two</b> discussion points describe why this recess has been included i the design of the base pieces.		niner Only Remark
			[4]	
(c)	In tl	ne assembly of the workbench an adhesive was used.		
	(i)	Name <b>one</b> suitable adhesive that could be used.		
			[1]	
	(ii)	In addition to the adhesive what other joining method could be used?		
			[1]	
(d)		D is used in the design of the workbench and CAM is used in its duction.		
	(i)	Identify two benefits of using CAD in the design of the workber	nch.	
		1		
			[1]	
		2		
			[1]	
	(ii)	Prior to the use of CAM, the workbench was manufactured by traditional methods. Identify <b>two</b> possible challenges that the company may have experienced when introducing CAM.		
		1		
			[1]	
		2		
			[1]	

(e)	(i)	The surface of the workbench has a varnish applied to it. Why would varnish be more suitable than an oil finish for the workbench?	Examine Marks	er Only Remark
		[2]		
	(ii)	The manufacturer applies the varnish using an automated spraying facility. Discuss <b>one</b> reason why a manufacturer might use an automated spraying facility to apply the varnish.		
		[2]		
	(iii)	It is important that manufacturing companies comply with Health and Safety legislation to ensure that their employees are safe. The production of the workbench requires the use of a computer controlled router.		
		List <b>two</b> Health and Safety rules that operators should follow when using this machine.		
		1[1]		
		2		
		[1]		

DIY enthusiasts. Marks Remark In the box below, using annotated sketches and appropriate terminology, show and describe how: the drawer is fitted to the workbench • it will close flush with the work top • it will remain attached to the bench when opened. • Marks will be awarded for: detail contained in sketches [4] • quality of sketches [3] • detailed notes [3] • [10] [Turn over 5

(f) The workbench is a durable piece of equipment for woodworkers and

Examiner Only

(g)	Identify and discuss <b>five</b> key areas of the design, development and			
	manufacture of the workbench shown in the pre-release material.			

Examiner Only Marks Remark

Quality of written communication will be assessed in this

estion.		
	[40]	
	[10]	

### THIS IS THE END OF THE QUESTION PAPER

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### Manufacturing Pre-Release Material EXAMINATION COPY

Paper 2 Assessment Unit 3 assessing Manufacturing Technology



## [GMA32] MONDAY 27 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

Answer all parts of the question

The image below shows a wooden workbench.



© Steve Gorton / Thinkstock

#### Description

A robust wooden workbench designed for use by carpenters/joiners or woodworkers and DIY enthusiasts. The surface finish is a hard-wearing varnish that protects the hardwood surface from damage and wear and tear.

#### Features include:

- Manufactured using a hardwood.
- Heavy duty vice.
- Sunken trough allowing the storage of tools and easy disposal of shavings and chippings.
- Peg holes to enable variable work positioning.
- A large shelf underneath the worktop.
- Large tool and accessory storage drawer.
- Worktop dimensions (LWH)  $1400 \text{ mm} \times 500 \text{ mm} \times 86 \text{ mm}$ .
- Overall dimensions including vice (LWH) 1520 mm × 620 mm × 855 mm.

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