

Centre Number			
71			
Cand	didate Number		

General Certificate of Secondary Education 2015

Manufacturing

Paper 1
Assessment Unit 3
assessing
Manufacturing Technology

[GMA31]





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 ten** 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 part question.

For Examiner's use only				
Question Number	Marks			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Total	
Marks	

Answer all questions

1 (a) All the products below belong to a manufacturing sector.

Circle **two** products shown below that belong to the printing and publishing sector.

You **must** only circle **two** products. If you make a mistake you must clearly show which two products you have chosen.







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[2]



(b) All the products below belong to a manufacturing sector.

Circle **two** products shown below that belong to the biological and chemical sector.

You **must** only circle **two** products. If you make a mistake you must clearly show which two products you have chosen.



[2]

2 Answer all pa	irts of this question.
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			-	Marks
	Question	Answer		
(a)	Name the tool shown below and state a use for it. © Thinkstock	Name	[2]	
(b)	Name the components shown below and state a use for them.	Name	[0]	
	⊕ Milhotoch		[2]	
(c)	Name the tool shown below and state a use for it. © Thinkstock	Name	[2]	
			,	
(d)	Name the tool shown below and state a use for it. © Thinkstock	Name	[2]	
(e)	Name the tool shown below and state a use for it.	Name		

[2]

9654 **4**

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3	(a)		re are many items from manufacturing industries that are duced using various metals.		Examiner Only Marks Remark
		(i)	Name the two main groups of metal.		
			1	_ [1]	
			2	_ [1]	
		(ii)	Explain the difference between these two groups of metals.		
				_ [2]	
		(iii)	Describe what is meant by the term alloy .		
				_ [2]	
		(iv)	Describe what is meant by the term composite .		
				[2]	

(b) The following image shows where pieces of a metal structure have been joined permanently.

[1]



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(i)	Name the method of joining these sections of metal.	
		[1]
(ii)	Name one alternative permanent method of joining metal.	[1
(iii)	Name one temporary method of joining metal.	— t·.

i)	Describe the difference between CAD and CAM.		
i)	State two advantages of using CAD in the manufacturing industry.		
	1.		
	2		
		[1]	
i)	Give one advantage and one disadvantage of CAM.		
	Advantage		
		[1]	
	Disadvantage		
	5		
		[1]	
		[1]	
		[1]	
		[1]	
		[1]	

List	examples of specific materials that are supplied in the following ns:	,
(i)	Granules	
		[1]
(ii)	Sheet	
		[1]
(iii)	Rod	
		[1]
(iv)	Box section	
(14)		[1]
(V)	Tube	[1]
		.,

(b) The image below is a dog bowl made from rigid polystyrene.

Examiner Only			
Marks	Remark		



		© Thinkstock
	(i)	Name one industrial manufacturing process that could be used to produce the dog bowl.
		Process [1]
	(ii)	Identify one advantage and one disadvantage associated with this type of industrial process.
		Advantage
		[11]
		[1]
		Disadvantage
		[1]
(c)		me one other example of a polymer and identify a typical dication for this material.
	Pol	ymer
		[1]
	App	blication
		[1]

(a) The tool shown below can be used to hold two pieces of material 6 together to help with nailing or gluing.

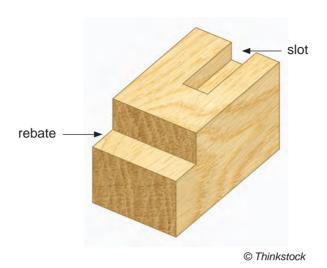


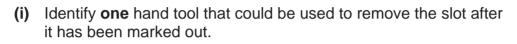


_ [2]

	© Thinkstock	
(i)	Name this tool	
		_ [1]
(ii)	Identify one other specific task that this tool could be used for other than the job mentioned above.	or
	Task	
		_ [1]
(iii)	When using this tool to hold two pieces of wood together, it is often necessary to use some scrap wood. Explain why this so wood might be required.	

(b) The image below shows a slot and rebate cut in a piece of wood.





Hand tool

_____ [1]

(ii) Identify one tool that could be used for marking out a rebate.

Tool

_____[1]

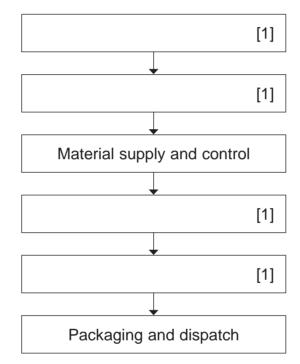
7 (a) The following tasks related to the design process are **not** in the correct order.

Using the spaces provided, insert the following four tasks in the correct order.

Production Assembly

Marketing Production Planning

Complete the correct sequence below.



(b) School workbenches, similar to those found in your workshops, are manufactured using a number of various stages.

Examiner Only					
Marks	Remark				



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Describe the following stages in the manufacture of a workbench.

(i) Production of steel frame

_____[2]

(ii)	Mater	rial supi	oly and	control.

(iii) Assembly and completion of the workbench.

(i) What do the initials CIM stand for? [1] (ii) List two reasons why CIM can increase the productivity and efficiency of a manufacturing company. 1	(a)	prod	is applied extensively in manufacturing systems and the duction processes adopted by companies. A company that proporates CIM can significantly increase efficiency and producti	Examiner O Marks Re
(ii) List two reasons why CIM can increase the productivity and efficiency of a manufacturing company. 1		(i)		
efficiency of a manufacturing company. 1				_ [1]
		(ii)	· · · · · · · · · · · · · · · · · · ·	
(b) Another important ICT resource that is available in industry is the internet. Identify three ways in which the internet can assist a manufacturing business. 1				
 (b) Another important ICT resource that is available in industry is the internet. Identify three ways in which the internet can assist a manufacturing business. 1			2	
internet. Identify three ways in which the internet can assist a manufacturing business. 1				_ [1]
2		mar	nufacturing business.	[4]
3				
(c) In the textiles and clothing industry, CAM is used extensively. Identify two examples of how CAM is used in this industry. 1 [1]				
Identify two examples of how CAM is used in this industry. 1 [1]		ა		_ [']
1[1]	(c)	In th	ne textiles and clothing industry, CAM is used extensively.	
		lder	ntify two examples of how CAM is used in this industry.	
2.		1		_ [1]
· [·]		2		_ [1]

9		ality control is crucial in the manufacture of products. It is inspected a ous stages of production. Stages of inspection include:	at	Examine Marks	er Only Remark
	•	Raw materials and parts brought into the factory Preparation of materials, processing and assembly Finished product and packaging.			
	(i)	Name a product and explain how two quality control checks could be carried out.	e e		
		Product			
			[1]		
		Quality control check 1			
			[2]		
		Quality control check 2			
			[2]		
	(ii)	Identify why it is important for a manufacturer to ensure that quality control takes place when manufacturing a product.			
			[2]		

ma	anufacturers have to consider the environmental impact of their anufacturing processes. With reference to specific materials and ssible advances in manufacturing technology, discuss the following	Exam Marks
(i)	How it is possible for a manufacturer to ensure that only the corre amount of materials are purchased.	ct
		_ [3]
(ii)	The problems associated with the increased use of plastics for manufacture of products.	
		[5]

