



Rewarding Learning

General Certificate of Secondary Education
2014

Engineering

Paper 1

Assessment Unit 3

assessing

Engineering Technology

[GEE31]

FRIDAY 23 MAY, AFTERNOON



GEE31

Centre Number

71

Candidate Number

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 question or 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 mechanical fabrication 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]

Examiner Only	
Marks	Remark

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

Circle **two** products shown below that belong to the engineering fabrication 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]

Examiner Only	
Marks	Remark

2 Answer all parts of this question in the spaces provided.

Question	Answer
<p>(a) Name the tool shown. Give a use for it in an engineering workshop.</p>  <p><i>Source: Supplied by author</i></p>	<p>Name of tool</p> <p>_____</p> <p>Use</p> <p>_____</p>
<p>(b) Identify the engineering component shown. Give a use for it in an engineering workshop.</p>  <p><i>Source: Supplied by author</i></p>	<p>Name _____</p> <p>Use</p> <p>_____</p> <p>_____</p>
<p>(c) Name the drill bit shown. Give a reason for its use.</p>  <p><i>Source: Supplied by author</i></p>	<p>Name _____</p> <p>Reason</p> <p>_____</p> <p>_____</p>

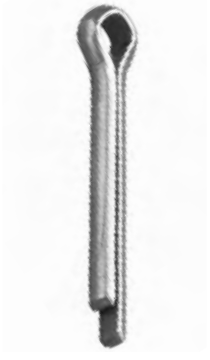
[2]

[2]

[2]

Examiner Only	
Marks	Remark

(d) Identify the component shown. Give a use for it in an engineering workshop.




Source: Supplied by author

Name _____

Use _____

[2]

(e) Identify the tool shown. Give a use for it in an engineering workshop.



Source: Supplied by author

Name _____

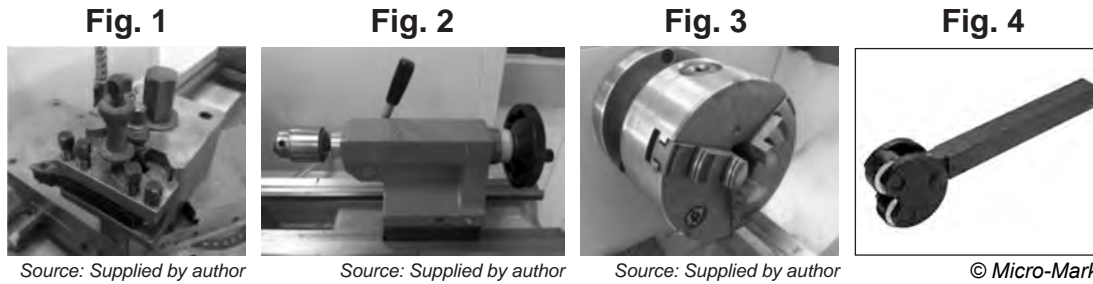
Use _____

[2]

Examiner Only	
Marks	Remark

4 The pictures below show parts of a metal working lathe.

(a) Identify any **three** of the four lathe parts shown in the figures below. Show clearly which three figures you have chosen.



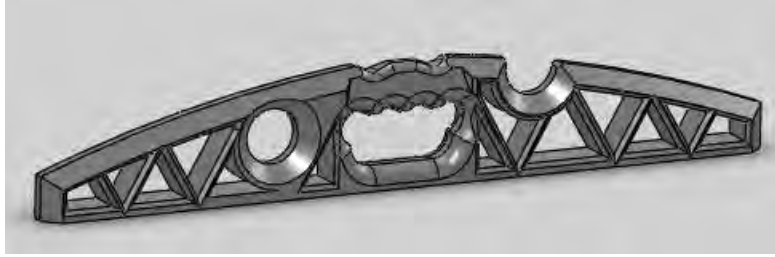
1. _____ [1]
2. _____ [1]
3. _____ [1]

(b) Explain any **two** of the following in relation to machining. Show clearly which two you have chosen.

- | | | | |
|------------------|--------------|-------------|------------------------|
| Chuck key | Swarf | Feed | Clearance angle |
|------------------|--------------|-------------|------------------------|
1. _____
_____ [2]
 2. _____
_____ [2]

Examiner Only	
Marks	Remark

- 5 The picture below shows a CAD drawing of a spirit level. CAM is used to manufacture the product using this drawing.



(a) What does the abbreviation CAM stand for?

_____ [1]

(b) Outline **two** advantages of using CAD for the designer.

1. _____ [2]

2. _____ [2]

Examiner Only	
Marks	Remark

6 The picture below shows a hinge made using a 3D printer.



Source: Supplied by author

The majority of engineering companies will produce prototypes to ensure that the quality of final products meets certain criteria.

(a) How do Quality Control and Quality Assurance differ?

[2]

(b) Outline **one** reason why it is important for an engineering company to ensure that quality assurance is carried out on their products.

[2]

(c) Identify **one** engineering product and describe how quality assurance has impacted on this product for the customer.

Product

Impact of Quality Assurance

[2]

Examiner Only

Marks Remark

(ii) Explain **one** method to prevent damage to the point of a centre punch.

[2]

(iii) State **one** safety precaution which should be observed when using water for cooling during heat treatment.

[2]

Examiner Only	
Marks	Remark

10 Health and safety issues are considered throughout the engineering sector in a variety of different ways.

(a) Explain, giving **two** examples, how health and safety issues have impacted on the manufacture of engineered products.

1. _____
_____ [2]

2. _____
_____ [2]

(b) Explain, giving **two** examples, how health and safety issues have impacted within an engineering firm, with specific reference to the workforce.

1. _____
_____ [2]

2. _____
_____ [2]

THIS IS THE END OF THE QUESTION PAPER

Examiner Only	
Marks	Remark

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