

Centre No.							Paper Reference	Surname	Initial(s)
Candidate No.						<b>E</b> <b>G</b> <b>2</b> <b>0</b> <b>8</b> / <b>0</b> <b>1</b>	Signature		

Paper Reference(s)

**EG208/01**

**Edexcel**

**Principal Learning**

**Engineering**

**Level 2**

**Unit 8: Exploring Engineering Innovation,  
Enterprise and Technological  
Advancements**

**Sample Assessment Material**

**Time: 1 hour 30 minutes**

Examiner's use only

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Team Leader's use only

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Question Number

Leave Blank

1

2

3

4

5

6

Total

**Materials required for examination**

Nil

**Items included with question papers**

Nil

**Instructions to Candidates**

In the boxes above, write your centre number, candidate number, your surname, initials and signature. Check that you have the correct question paper.

Answer **ALL** the questions. Write your answers in the spaces provided in this question paper.

Do not use pencil. Use blue or black ink.

**Information for Candidates**

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2).

There are 6 questions in this question paper. The total mark for this paper is 60.

There are 8 pages in this question paper. Any blank pages are indicated.

**Advice to Candidates**

You are reminded of the importance of clear and careful presentation in your answers. You are advised to read the questions carefully.

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**Turn over**

**Answer ALL questions.**

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The assessment focuses on the Case Study *RoboMop*.

1. Lucy has a good idea for a product that will automatically mop and polish the floor nicknamed *RoboMop*. A friend has warned her that she must register *RoboMop* with the UK Patent office to stop anybody stealing her intellectual property. As Lucy is not familiar with the process, advise Lucy on what she should do next.

(a) On the left are the four main types of Intellectual Property. On the right is an explanation of how each offers protection (as identified by the UK Patent Office). Connect each type of intellectual property to the correct description.

Type	Description
Patents	legally protects a new idea, innovation, product or process
Trade mark	legally protects the appearance of a product
Copyright	used for the identification of a brand and is used to identify companies and products
Registration	used to protect the creative skill or item of work and is not required to be registered

(4)



<p>(b) Explain how Lucy may benefit from registering her intellectual property for her product <i>RoboMop</i>.</p> <p>..... ..... ..... ..... ..... ..... ..... .....</p> <p style="text-align: right;">(3)</p> <p>(c) Explain why the other three types of intellectual property; patents, trade mark and copyright are not appropriate for Lucy's product at this time.</p> <p>Patents .....</p> <p>.....</p> <p>Trade mark .....</p> <p>.....</p> <p>Copyright .....</p> <p>.....</p> <p style="text-align: right;">(3)</p>	<p>Leave blank</p> <p><b>(Total 10 marks)</b></p> <p><b>Q1</b></p>
<p><b>2.</b> Before Lucy can launch her product she must research and develop her idea.</p> <p>(a) List areas of research Lucy must undertake before she can reach the development stage of her project.</p> <p>..... ..... ..... ..... ..... .....</p> <p style="text-align: right;">(3)</p>	



<p>(b) Briefly explain why this research is essential to the success of <i>RoboMop</i>.</p> <p>..... ..... ..... ..... ..... .....</p> <p style="text-align: right;">(3)</p> <p>(c) Describe <b>two</b> appropriate primary and <b>two</b> secondary sources Lucy could use for her research.</p> <p>Primary .....</p> <p>.....</p> <p>Secondary .....</p> <p>.....</p> <p style="text-align: right;">(4)</p> <p style="text-align: right;"><b>(Total 10 marks)</b></p>	<p>Leave blank</p> <p><b>Q2</b></p>
<p>3. As this is Lucy's first invention she has neglected to produce a financial plan for her proposal.</p> <p>(a) Describe <b>four</b> reasons why Lucy will need to receive financial backing for her product to succeed.</p> <p>1 .....</p> <p>2 .....</p> <p>3 .....</p> <p>4 .....</p> <p style="text-align: right;">(4)</p>	



<p>(b) Give <b>three</b> ways Lucy could raise funds for her product.</p> <p>1 .....  2 .....  3 ..... (3)</p> <p>(c) Suggest <b>three</b> suitable organisations that could be interested in helping Lucy raise funds and give the reasons for your answer.</p> <p>1 .....  .....  2 .....  .....  3 .....  ..... (3)</p> <p><b>(Total 10 marks)</b></p>		<p>Leave blank</p> <p><b>Q3</b></p>



4. Suggest a suitable material for the manufacture of the outer casing of *RoboMop* to meet the requirements outlined in the case study. Why you have selected this material and determine the specific properties of this material that would benefit *RoboMop*.

Leave  
blank

Q4

(Total 10 marks)



5. Lucy's invention was initially intended for use in her home to make cleaning floors in hard to reach places more accessible. Describe how else this invention could impact on life in the home, workplace and built environment and evaluate the potential impact of this product.

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**Q5**

**(Total 10 marks)**



M 3 5 1 9 3 A 0 7 0 8

6. Lucy is very conscious that the manufacture of *RoboMop* is environmentally friendly and that it operates as a green product.

(a) Describe how Lucy can increase energy efficiency, reduce waste and the use of raw materials in the manufacture of *RoboMop*.

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(4)

(b) Identify design features that Lucy could include to ensure the operation of *RoboMop* is more environmentally friendly.

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.....  
.....

(3)

(c) Lucy is insisting that *RoboMop* will need to obtain its power from a natural sustainable source. Describe a method how Lucy could achieve this.

.....  
.....  
.....

(3)

**(Total 10 marks)**

**Q6**

**TOTAL FOR PAPER: 60 MARKS**

**END**

