

# Examiners' Report

## January 2010

Principal Learning

### Engineering EG208 Exploring Engineering Innovation, Enterprise and Technological Advancements

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January 2010

Publications Code DP022736

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## Level 2 Unit 8 Exploring Engineering Innovation, Enterprise and Technological Advancements

### General Comments

Overall, the paper produced a good range of responses. Lower ability candidates often gave generic responses to questions, such as 'test/stronger/lighter/get a loan' that gained limited marks. Some candidates often repeated answers or phrases which limited their access to some marks. The more demanding questions at the end of the paper provided candidates with an opportunity to expand and apply their knowledge and it was pleasing to see some good responses. Candidates would benefit from being taught examination skills and techniques as often they did not read the questions properly and questions were not answered using the 'state, describe, explain' method.

### Question 1

Question 1 is aimed at (a) identifying types of intellectual property, (b) identifying a specific intellectual property and explaining why it is used (c) identifying a UK organisation for registering intellectual property (d) explaining the advantages of registering intellectual property.

Part (a): the majority of candidates correctly associated the different types of intellectual property with their descriptors.  
Part (b): many candidates incorrectly identified which intellectual property should be chosen based on information in the pre-release.  
Part (c): many candidates were unable to identify the Patent Office.  
Part (d): many candidates were able to give valid advantages for registering intellectual property. Typical responses included 'stop it being stolen' and 'stop the product being copied'. Generally well answered but better candidates would score full marks with the weaker candidates referring to materials or manufacturing and marketing activities. Some candidates were also confused as to the concept of the idea being protected.

### Question 2

Question 2 is aimed at (a) market research, (b) raising finance, (c) testing the product.  
Part (a): this question was answered quite well with most candidates scoring at least half marks or better.  
Part (b): a significant number of candidates scored full marks for this question.  
Part (c): Borderline candidates would typically score 2 or 3 for their responses. Responses at this boundary would identify a test but not describe or expand.

### Question 3

Question 3 is aimed at testing knowledge of material identification. The questions were set in the context of the pre-release, in particular, the bike parts.  
Part (a): this was disappointing. Candidates had little, if any, knowledge of material forms.  
Part (b): Very few candidates were able to provide the correct answer of 'thermoplastic'.  
Part(c): most candidates were able to match the material to the description given.

#### **Question 4**

Question 4 is aimed at being able to explain the process of alloying as well as explaining the advantages and disadvantages.

Part (a): this was disappointing. Candidates were generally able to state that alloying consisted of mixing more than one material but were unable to explain the process.

Part (b): This proved to be very accessible to candidates. Candidates were able to give appropriate advantages and disadvantages.

#### **Question 5**

Question 5 is centred around an injection moulding process; identification of a suitable material and its properties as well as an explanation of the process.

This question was answered extremely well and significant numbers of candidates gained high marks. Good, well annotated diagrams were often provided.

#### **Question 6**

Question 6 is aimed at explaining the impact on the environment of (a) use of material, waste disposal and energy efficiency (b) positive social impacts and (c) end of life disposal of the pack-a-bike.

The majority of candidates sitting the examination paper attempted the final questions.

This is pleasing as it is good exam technique for candidates to attempt all questions. Many candidates were able to gain good marks for this question with responses which showed a good level of general knowledge about environmental issues.

## Statistics

### Level 2 Unit 8 Exploring Engineering Innovation, Enterprise and Technological Advancements

	Max. Mark	A*	A	B	C
<b>Raw boundary mark</b>	60	53	44	35	26
<b>Points Score</b>	10	8	6	4	2

#### Notes

**Maximum Mark (raw):** the mark corresponding to the sum total of the marks shown on the Mark Scheme or Marking Grids.

**Raw boundary mark:** the minimum mark required by a learner to qualify for a given grade.







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Order Code DP022736 January 2010

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