



EDEXCEL GCSE
RESISTANT MATERIALS
PAST PAPERS 2010 – 2013

QUESTION 13

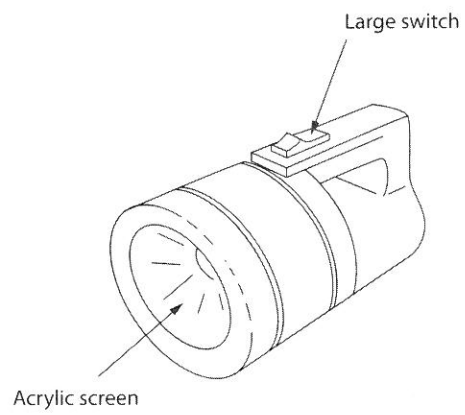
PRODUCT ANALYSIS AND EVALUATION

THE EXAM

- It is 90 minutes long.
- You will need a BLACK ball point pen for the exam.
- Do NOT use coloured pens, coloured pencils, or highlighters.
- Answer ALL the questions.
- There are 80 marks for the paper.
- Read each question carefully and think “What does the examiner want to read in my answer”, not “I’ll put some information down which may not be relevant”.
- If you find a question hard, leave it and come back to it later.
- Answer the questions you find easiest first (this will be your personal choice).
- Study the way each question is written. There are common themes and the way they are set out is the same each year. Therefore you can work out what the question is going to ask you. Obviously the content will be different (IE a different picture, but the questions will be very similar!)
- If you have time, check your answers and re-read them several times.

Questions 1-10	10 marks (12.5%)	Suggested timings 11 minutes
Question 11	19 marks (23.75%)	Suggested timings 21 minutes
Question 12	16 marks (20%)	Suggested timings 18 minutes
Question 13	16 marks (20%)	Suggested timings 18 minutes
Question 14	19 marks (23.75%)	Suggested timings 21 minutes

13 The drawing below shows a torch.



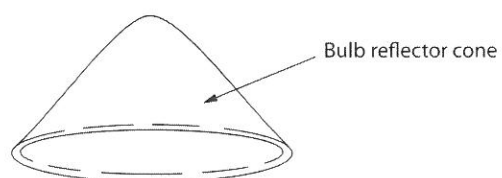
(a) Give **two** properties of acrylic which make it suitable for the torch screen.

(2)

- 1
- 2



(b) The bulb reflector cone of the torch is mass produced by vacuum forming.



Describe **two** reasons why vacuum forming is a suitable process to manufacture the bulb reflector cone.

(4)

1

2



(c) Explain why the torch is successful in meeting the following specification points:

(i) easy to switch on and off.

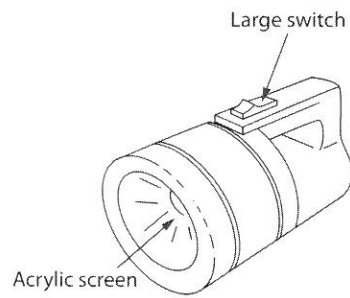
(2)

(ii) comfortable to carry.

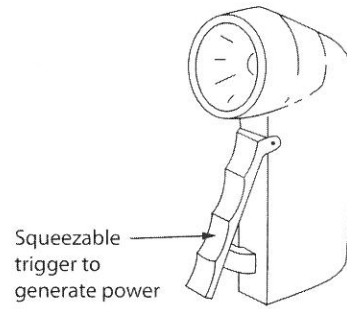
(2)



*(d) The drawings below show two different types of torch.



Torch A



Torch B

Evaluate torch A compared with torch B.

(6)

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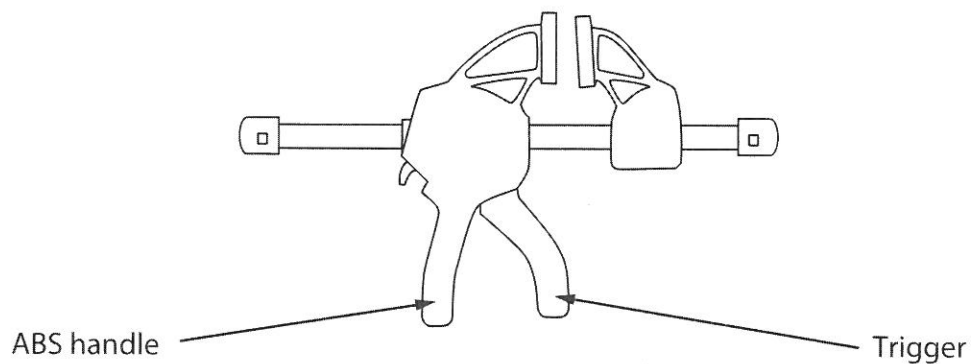
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(Total for Question 13 = 16 marks)



13 The drawing below shows a workshop cramp.



(a) Give **two** properties of ABS which make it suitable for the handle.

(2)

1

2

(b) The trigger of the workshop cramp is manufactured in ABS.

Describe **two** reasons why injection moulding is a suitable process to manufacture the trigger.

(4)

1

2



(c) Explain why the workshop clamp is successful in meeting the following specification points:

(i) can be used with one hand.

(2)

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(ii) easy to apply a large force.

(2)

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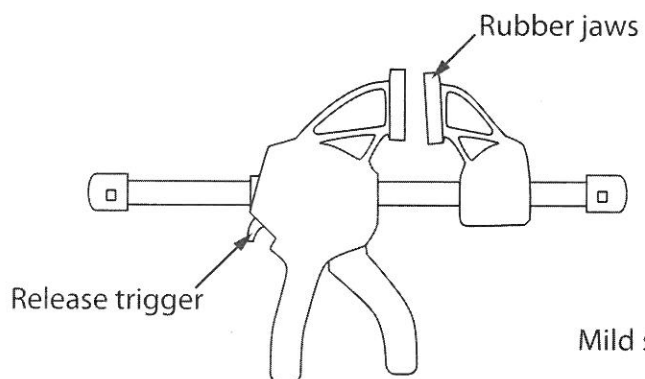
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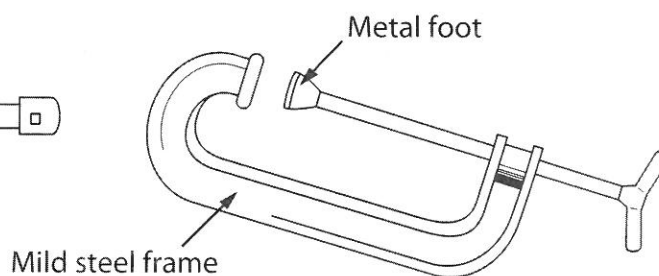
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* (d) The drawings below show two different types of workshop cramp.



Cramp A



Cramp B

Evaluate cramp A compared with cramp B in terms of the specification criteria 'material requirements' and 'performance requirements'.

(6)

Total for Question 13 = 16 marks)



13 The photograph below shows a mild steel dustbin.



(a) Give **two** properties of mild steel which make it suitable for the dustbin.

(2)

1

2

(b) The surface of the dustbin has been plated with zinc.

Describe **two** reasons why plating with zinc is a suitable surface finish for the dustbin.

(4)

1

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2

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(c) Explain how the dustbin is successful in meeting the following specification points:

(i) keeping the rubbish inside

(2)

(ii) being easy to move.

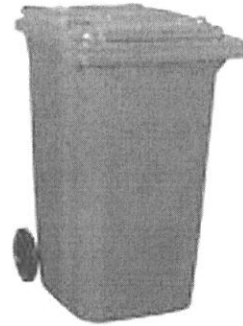
(2)



*(d) The photographs below show two different types of dustbin.



Dustbin A – mild steel



Dustbin B (Wheelie Bin) – ABS

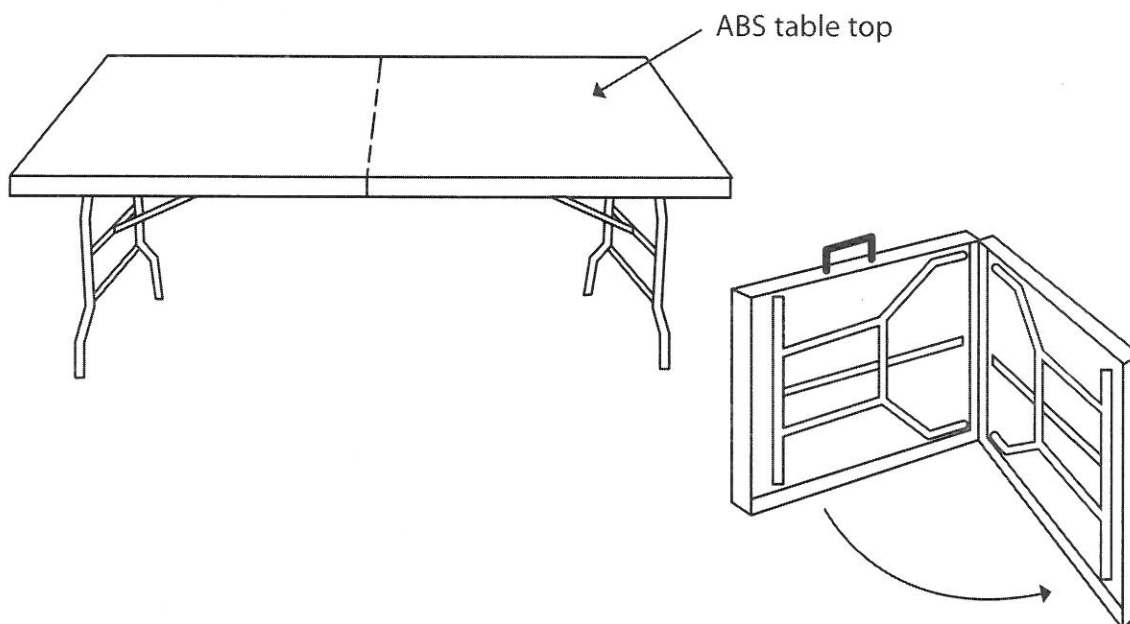
Evaluate dustbin A compared with dustbin B in terms of 'user requirements' and 'performance requirements' for the householder.

(6)

(Total for Question 13 = 16 marks)



13 The drawing below shows a garden table.



(a) Give **two** properties of ABS which make it suitable for the table top.

(2)

1

2

(b) The legs of the garden table are made from mild steel.

(i) Give **two** reasons for applying a surface finish to the mild steel table legs.

(2)

1

2

(ii) Name **two** finishes that could be applied to the mild steel table legs.

(2)

1

2



(c) Explain why the garden table is successful in meeting the following specification points:

(i) easy to keep clean

(2)

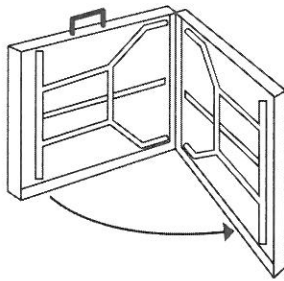
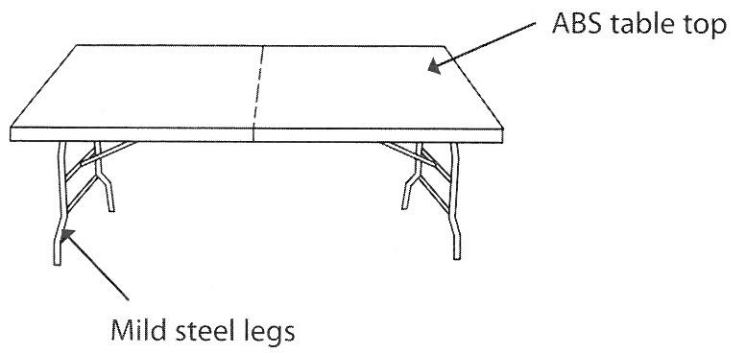
(ii) easy to store away in winter.

(2)

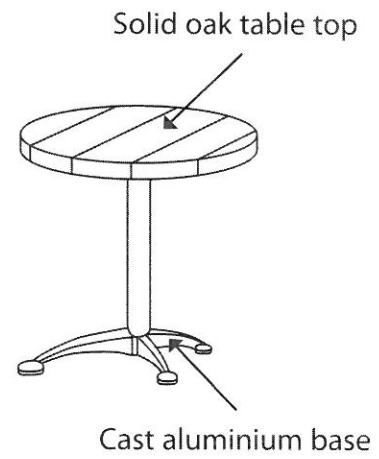


P 4 1 1 6 1 A 0 1 3 2 0

*(d) The drawing below shows two different types of garden table.



Garden Table A



Garden Table B



(6)

15

P 4 1 1 6 1 A 0 1 5 2 0