

Candidate 7

The candidate was awarded a total of **71 marks**.

Section 1

Question 1(a)

The candidate was awarded **6 marks** for the following responses:

- ◆ 'Nylon bearings ... self lubricating'
- ◆ 'Rubber handles ... non slip, meaning it will provide excellent grip'
- ◆ 'Mild steel frame is strong meaning it can hold the weight of the user without breaking.'
- ◆ 'ABS seat is chemical resistant meaning it can be cleaned easily.'
- ◆ 'Stainless steel frame is corrosion resistant'
- ◆ 'Polypropylene seat is durable meaning it will be long lasting'

Question 1(b)

The candidate was awarded **6 marks** for the following responses:

- ◆ 'Extrusion can be used for the stainless steel frame'
- ◆ 'continuous cross section is created.'
- ◆ 'Injection moulding could be used for the ABS seat'
- ◆ 'it is repeatable'
- ◆ 'piercing and blanking could be used on both diggers'
- ◆ 'to create accurate holes for the fittings'

Additional marks could have also been awarded for:

- ◆ 'the material is in thin sections.'

Question 1(c)

The candidate was awarded **4 marks** for the following responses:

- ◆ 'The diameter of the handle ... comfortably around it.'
- ◆ 'The seat width ... without it being too small.'
- ◆ 'The height of the seats ... hard to get on and off.'
- ◆ 'The amount of strength ... won't be able to use it.'

Additional marks could have also been awarded for:

- ◆ 'The distance of handles ... reach handles easily'
- ◆ 'The weight of the product ... move it places.'

Question 1(d)

The candidate was awarded **5 marks** for the following responses:

- ◆ 'built into ground, meaning it is stable and won't fall making it safe.'
- ◆ 'There is a grip on the handle ... not let their hands slip making it safe.'
- ◆ 'Move 360°, allowing child to obtain sand from different areas.'
- ◆ 'The claw part ... ease of storage.'
- ◆ 'wheels on the garden digger allowing the child to ride it'

Question 1(e)

The candidate was awarded **4 marks** for the following responses:

- ◆ 'Just in time ... as soon as they arrive.'
- ◆ 'Gantt charts can be used ... improving efficiency.'
- ◆ 'They also tell you when supplies need to be ordered.'
- ◆ 'Batch production ... quality checks at every stage in production.'

Section 2**Question 2(a)**

The candidate was awarded **2 marks** for the following responses:

- ◆ 'they are heat resistant'
- ◆ 'they are chemical resistant which allows them to be cleaned without harming material.'

Question 2(b)

The candidate was awarded **2 marks** for the following responses:

- ◆ 'it is accurate'
- ◆ 'the product can be produced the same every time. And it is repeatable'

Question 2(c)

The candidate was awarded **4 marks** for the following responses:

- ◆ 'Moodboards can be used ... collage on paper.'
- ◆ 'They can pick out different aspects of each picture to include in design.'
- ◆ 'Biomimicry could have been ... used as inspiration.'
- ◆ 'For example a leaf ... incorporate it into design.'

Additional marks could have also been awarded for:

- ◆ 'Brainstorming could be used ... periods of mind blank.' (found on the additional answer sheet at the end of the evidence)

Question 3(a)

The candidate was awarded **0 marks** because they did not answer the question. (No marks could be awarded for statements that refer to the manufacturer rather than the consumer).

Question 3(b)

The candidate was awarded **3 marks** for the following responses:

- ◆ 'the design can be rotated, so it can be viewed at different angles when designing.'
- ◆ 'It also allows changes to be made as it can be edited easily'
- ◆ 'allows orthographic ... during the manufacturing process.'

Question 3(c)

The candidate was awarded **2 marks** for the following responses:

- ◆ 'means there is a less need for skilled employees'
- ◆ 'means there will be less job availability which can affect people's financial situation.'

Question 4(a)

The candidate was awarded **2 marks** for the following responses:

- ◆ 'it is customisable, meaning it can create a leg with the persons anthropometric data in consideration.'
- ◆ 'not a need for multiple employees to be present for this process'

Question 4(b)

The candidate was awarded **4 marks** for the following responses:

- ◆ 'questionnaire could be ... provide feedback.'
- ◆ 'This can help identify their wants and needs for the product.'
- ◆ 'Comparison of existing products ... into their design.'
- ◆ 'A focus group ... to be improved.'

Additional marks could have also been awarded for:

- ◆ 'This information can be used ... satisfy their needs.'

Question 4(c)(i)

The candidate was awarded **2 marks** for the following responses:

- ◆ 'what the design should include and gives specific details.'

- ◆ 'The cost of the product could be found in this specification.'

Question 4(c)(ii)

The candidate was awarded **1 mark** for the following response:

- ◆ 'it could tell you what manufacturing processes to use'

Question 5(a)

The candidate was awarded **3 marks** for the following responses:

- ◆ 'bright in colour which makes it eye catching to the user.'
- ◆ 'There is contrast created between the bright coloured body and dark, dull base'
- ◆ 'shape of kettle ... pleasing to the eye.'

Question 5(b)

The candidate was awarded **2 marks** for the following responses:

- ◆ 'Trade marks'
- ◆ 'cannot be used by another business and it remains unique to one brand.'

Question 6

The candidate was awarded **6 marks** for the following responses:

- ◆ 'Ergonomists provide ... and physiology.'
- ◆ 'For physiology ... to use the product.'
- ◆ 'Market researchers conduct market research to identify consumers wants and needs.'
- ◆ 'questionnaire which is ... so a suitable product is produced.'
- ◆ 'Product managers over see the whole of the production process.'
- ◆ 'the design team ... economically viable.'

Question 7(a)(i)

The candidate was awarded **2 marks** for the following responses:

- ◆ 'A flame test ... specific to each one.'
- ◆ 'Comparison of other materials ... lighter in colour.'

Question 7(a)(ii)

The candidate was awarded **1 mark** for the following response:

- ◆ 'Bosses provide a space for bolts to fit into ensuring efficient assembly.'

Question 7(b)

The candidate was awarded **4 marks** for the following responses:

- ◆ 'reduce the production methods that are used in production'
- ◆ 'produce products out of materials that can be recycled'
- ◆ 'improve the products lifespan, meaning it won't break easily and have to get replaced frequently.'
- ◆ 'They could limit the packaging used on products'

Additional marks could have also been awarded for:

- ◆ 'manufacture products close to customers, limiting transportation.'

Question 8

The candidate was awarded **6 marks** because they displayed secure knowledge and understanding of the types of models used at certain stages of the design process and the information that can be gained.

The candidate has made clear reference to several different modelling types. Several points are made clear with examples used to support them.