

# Commentary on candidate evidence

## Candidate 3

The candidate was awarded a total of **70 marks**.

### Section 1

#### Question 1(a)

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

- 'Stainless steel is suitable for the shelves...kept clean and sanitary for patients'
- 'Nylon...wheels...hardwearing...prevents the wheels from being scratched from the floor'
- 'Stainless steel is suitable for the shelves...corrosion resistant'
- 'ABS is suitable for the shelves...durable...handle misuse in a workshop from tools'
- 'Polypropylene has been used for the tool hooks...fatigue strength...repeatedly pulled up and down'
- 'Polypropylene is suitable for the tool hooks...comes in many colours'

#### Question 1(b)

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

- 'Extrusion has been used for tubular stainless steel frame'
- 'Creates long tubular shapes with a uniform cross section'
- 'Injection has been used on the tool trolley handles'
- 'create complex shapes'
- 'patterns such as the grip texture'

### Question 1(c)

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

- '360 swivel wheels...control the trolley in any direction''
- 'Standard components...allow the product to be disassembled for storage'
- 'wire has been used around the shelves...prevent large items from falling off'
- 'trays built in...allow the user to store smaller parts'
- 'hooks...provides alternative storage for tools'

### Question 1(d)

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

- 'cut down the potential cost...as you can buy them in bulk'
- 'rely on an outside source which may cause delays in assembly times'
- 'design must accommodate for the standardised standard components'

### Question 1(e)

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

- 'sketch models...used to generate ideas in the design process'
- 'scale models...help test out and communicate sizes'
- 'you can see the real size of the model in relation to a person'
- 'block models...test if...handles...comfortable to use and works with the anthropometrics of a person's hand'

## Section 2

### Question 2(a)

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

- 'Polypropylene'
- 'excellent fatigue strength...pulled back and forth by the adjustable side piece'

- 'lightweight...won't be too heavy on the users head...for long periods of time'

### Question 2(b)

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

- 'adjustable...children are constantly growing'
- 'bright colours which may appeal to children'
- 'Padding .... want the design to be comfortable...wear for long periods of time'
- 'Strap is adjustable .... wearer fit the helmet more securely'

### Question 2(c)

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

- 'using the helmet on a dummy and simulating a crash or fall'
- 'how the helmets materials and overall shape and design respond'

### Question 3(a)

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

- 'allows the designer to explore and use their creativity to create innovative ideas'

### Question 3(b)

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

- 'what the final design must contain and achieve' (purpose)
- 'ergonomics' (type of information)
- 'aesthetics' (type of information)

### Question 3(c)

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

- 'Brainstorming...getting people together in a room, sharing ideas' (stage)

- 'All ideas are accepted...and written down' (stage)
- 'Allows many creative ideas' (help ideas)

### Question 3(d)

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

- 'Sketch drawings...generate initial ideas...help visualise'
  - 'Sectional drawings...show detailed part of the design'
  - 'Show the inside part of the design...such as hidden joints'
- 'Exploded drawings...show assembly methods'

### Question 4(a)

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

- 'Celebrity endorsement...trust your product and purchase it'
- 'Sales or special offers such as coupons'
- 'Advertisements such as billboards, posters, TV adverts .... in public spaces where everyone sees them'
- 'In store stands...encourage those already in stores to add your product to their basket'

### Question 4(b)

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

- 'increase money and budget spent on advertisements'

### Question 5(a)

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

- 'temperature dial has red and green colours on it...helping to specify to the user how to increase or decrease the heat clearly'
- 'lightbulb symbol...is universal and will be understood by all languages'

- 'force needed to push and pull the door...should be the smallest amount of force by the weakest user'
- 'thickness of the handle...fit the grip diameter'

### Question 5(b)

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

- 'Lego friends set created in response to the market wanting a Lego set in colours for girls'

### Question 5(c)

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

- 'to prevent other companies from using it'

### Question 6(a)

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

- 'Flame test...metal will create a different colour flame'
- 'Magnet test...whether a metal contains iron'
- 'woods such as mahogany can be identified by its reddish colour'

### Question 6(b)

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

- 'hollow shape'
- 'mould split lines'

### Question 6(c)

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

- 'no stock is held in factories...materials ordered when needed'

- 'keep the workers ...on track...they are aware of what comes next'
- 'keep the manufacturing process on time and efficient as it communicates deadlines'

### Question 7

The candidate was awarded **8 marks**. This question is marked holistically and the marks awarded are for the overall response rather than individual points made. In terms of assessing knowledge of how consideration of the environment impacts products, this candidate has demonstrated extensive knowledge, covering a wide range of aspects.