

Candidate 2

Section 1

Question 1(a)

The candidate was awarded **4 marks**.

- ◆ 'ABS is suitable...user may put their weight on the footrest when sitting'
- ◆ 'Nylon is...stretchable which is useful as it'll fit to the user body weight/shape'
- ◆ 'Carbon fibre...may get crashed into a lot (depending on sport)'
- ◆ 'Aluminium...it doesn't rust'

Question 1(b)

The candidate was awarded **6 marks**.

- ◆ 'Weaving was used in the making of making of the seat'
- ◆ 'suitable because Nylon is a fabric'
- ◆ 'Injection moulding was used in the making of...foot rests.'
- ◆ 'complex shapes/patterns'
- ◆ 'Extrusion was used in the making of the Aluminium frame'
- ◆ 'consistent radius.'

Additional marks could have also been awarded for:

- ◆ 'bending also would've been used to shape the frame.'

Question 1(c)

The candidate was awarded **2 marks**.

- ◆ 'paralympic sports wheelchair ...steady so it won't fall.'
- ◆ 'bumpers and wings ...without too much injury.'

Question 1(d)

The candidate was awarded **0 marks** because they do not answer the question.

Question 1(e)

The candidate was awarded **1 mark**.

- ◆ 'length of the foot rest ...foot would need to fit on it'

Section 2

Question 2(a)

The candidate was awarded **0 marks** because they do not answer the question.

Question 2(b)

The candidate was awarded **2 marks**.

- ◆ 'non-toxic material so will not contaminate food.'
- ◆ 'cleans easily'

Question 2(c)

The candidate was awarded **1 mark**.

- ◆ 'cost of machinery and tooling would be considered'

Question 3(a)

The candidate was awarded **3 marks**.

- ◆ 'allows people to see the product with correct colours and materials'
- ◆ 'easily modified if needed'
- ◆ 'Stress analysis can be performed to test materials'

Question 3(b)

The candidate was awarded **2 marks**.

- ◆ 'Customer loyalty...high quality'
- ◆ 'If someone who...that brand'

Question 3(c)

The candidate was awarded **2 marks**.

- ◆ 'Trademark'
- ◆ 'protect their name and logo.'

Question 3(d)

The candidate was awarded **3 marks**.

- ◆ 'Stage A...trying to grow the product'
- ◆ 'Stage B...buy them'
- ◆ 'Stage C...life of the product'

Additional marks could have also been awarded for:

- ◆ 'Stage D...it's not profitable'

Question 4(a)

The candidate was awarded **1 mark**.

- ◆ 'The shape is aesthetically pleasing as it fits the shape of a hand perfectly' (aesthetics for function).

Question 4(b)

The candidate was awarded **3 marks**.

- ◆ 'prototypes'
- ◆ 'help show any weak points in the design they could improve.'
- ◆ 'Sketch models'

Question 5(a) (i)

The candidate was awarded **0 marks** because they do not answer the question.

Question 5(a) (ii)

The candidate was awarded **0 marks** because they do not answer the question. The candidate's response is based on a plan for manufacture, not a technical specification.

Question 5(b)

The candidate was awarded **0 marks** because they do not answer the question.

Question 5(c)

The candidate was awarded **3 marks**.

- ◆ 'cut down on the amount of waste material'
- ◆ 'Use a less harmful production system.'
- ◆ 'Recycle the waste'

Question 6(a)

The candidate was awarded **2 marks**.

- ◆ 'marked with a triangle and a number to make it easy to recycle.'
- ◆ 'Use magnet to check if it's a ferrous or non-ferrous metal'

Question 6(b)

The candidate was awarded **2 marks**.

- ◆ 'ribs/webs is to add strength to the design'
- ◆ 'bosses are used to absorb and spread out the pressure placed on it by nuts/bolts'

Question 6(c)

The candidate was awarded **0 marks** because they did not give enough detail to gain a mark.

Question 7

The candidate was awarded **3 marks** because they displayed adequate knowledge and understanding of how graphics can be used during the design process. Some reference was made about different types of graphics and how they are used to support designing.

Total – 40 marks out of 80