

Candidate 5

ENTER NUMBER OF QUESTION	DO NOT WRITE IN THIS MARGIN
1.	<p>a) • The collapsible manual wheelchair frame has been made from mild steel as this material is has a good strength to weight ratio meaning it will be secure when holding the weight of an an adult user.</p> <p>• The stainless paralympic sports wheelchair has bumper and wings made from stainless steel as it is scratch scratch resistant the meaning it will be able to withstand and bumps and crashes it may have.</p> <p>the paralympic sports wheelchair</p> <p>• the paralympic sports wheelchair has been made with nylon front wheels this is suitable as Nylon is self lubricating meaning the wheels will oper operate smoothly no matter the condition.</p>

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	<ul style="list-style-type: none">• The ABS used to make the adjustable footrests of the collapsible wheelchair is useful as it is weather resistant there weather resistant meaning they are useful in all weather conditions.
	<ul style="list-style-type: none">• The The hard carbon fibre back wheels of the paralympic sports wheelchair are suitable as they are lightweight making the chair easy wheels easy to turn making the chair easy to move.
	<ul style="list-style-type: none">• The nylon a collapsible seat used on the collapsible manual wheelchair is useful suitable as its easy in production meaning it is easy to work with when putting into design shape that is needed to for to fulfill this design.

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1b)	
• Injection moulding of the ABS adjustable	
footrests is useful suitable for design as	
^{with} injection moulding patterns and textures	
can be achieved making it easy to	
add grip to the footrests.	
• Extrusion press of the tubular	
aluminium frame is useful as suitable	
as consistent cross section can be,	
achieved easily.	
• Piercing and blanking of bumper and	
wings made from stainless steel is	
suitable as the is achieved accuracy	
can be achieved the throughout and	
if process is being repeated the	
same level of accuracy can be	
achieved.	

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1c)	• Function has influenced the collapsible
	manual wheelchair as the design
	must be easy to collapse with
	minimum strength required from user
	• Function has influenced the paralympic
	sports wheelchair as desio design must
	be lightweight to ensure that user
	can get from A to B quickly
	• Function has influenced the paralympic
	sport sports wheelchair as design must
	be strong and tough to protect
	user in case of any collisions during
	its use
	• Function has influenced the s paralympic
	sports wheelchair as the wheelchair
	must be strong enough to be bashed
	about without breaking due to how its
	used.
	• Function has influenced the collapsible

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1d)	<u>benefits</u>	
	• Makes it easy for for the can user	
	manufacturer or the user to assemble	
	easily	
	• No the expensive tools are needed	
	all tools ^{that needed are} ↑ are ↑ easy to use and easy	
	to find for a relatively low costs.	
	<u>drawbacks</u>	
	• Sometimes this can lead to having to	
	trust other companies such as a	
	subcontractor to provide necessary equipment.	
	• As they are so small can easily	
	be lost or misplaced. if if if if	

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1e)	
<p>influenced Anthropometrics have affected design as manufacturing would need to find out the average (50th percentile) of human weight to make sure both chairs could support the weight of there user.</p>	
<p>Anthropometrics have influenced design as manufacturing a manufacturer would need to know over 50th percentile strength of adults to make sure user could spin wheels and manoeuvre them self comfortably</p>	
<p>Anthropometrics have also influenced design ^{as} manufacture would need to know and research the average at adult height to make sure user could get out and in both chairs comfortably.</p>	
<p>Physiology has influenced design</p>	

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	as both wheel chairs would need	
	to be designed so that with any	
	users can has the strenght to	
	turn the wheels comfortably so	
	they can manover themselves	
	around.	
	• An thropometrics have also influenced	
	the design as average 5th percentile	
	strength of at adults would need	
	to be reasearched when designing	
	the collapsible ^{manual} design so that any	
	user could collapse design without a	
	struggle.	

ENTER NUMBER OF QUESTION	<u>section 2</u>	DO NOT WRITE IN THIS MARGIN
2a)	<p>Vacuum forming is a suitable process as once once huge set up costs are done it is very cheap to do especially if repeating often.</p> <ul style="list-style-type: none">• Vacuum forming is also also a suitable process as it is easily repeated meaning many can be made to the same standard with the same amount of accuracy.	
2b)	<ul style="list-style-type: none">• Polypropylene• Polypropylene is a suitable material as its self by lubricating meaning it will keep food as fresh as possible while its stored inside.• Polypropylene is also ^a suitable material as its its strenght means it can be made really thin thin but still have a huge	

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3a)	

3a) • CAD is useful as it gives designer an opportunity to see design and what it would look like.

• CAD is also useful as it is cost efficient compared to making a scale model where the cost of materials would need to be ~~considered~~ considered.

• CAD is also useful as it gives designer a design that they can easily make changes to without having to start model all over again.

3b) • Strong brand image ~~has~~ has the benefit of reliable ~~cost~~ customers customers will buy an ~~ex~~ item on pre-order before it has even been released as they trust the brand.

• Strong brand image has the

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3c)	
3d)	

benefit of getting new customers as people will see a big brand and ~~then~~ know it must ~~then~~ be good as it has so many customers.

• Saving the date, identify the date the design was designed on and keep a record as if copyrighted you have a date of when you designed design.


• Stage A is the growth stage product is released ~~at target market~~ to ~~target market~~ select view such as celebrities and influencers to promote ready for release

• Stage B is when the product is released to the public loyal customers may have already pre-

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4a)	<ul style="list-style-type: none"> • the gillette razor contrasts the old colours of black and orange making it ^{it} appealing to ^{user as} it ^{stands} out old colour scheme. • The solid blue colour of the second razor razor shows simple straightforward making it an look appealing. • The symmetrical shape of the ^{blue} gillette razor makes design look out dated and traditional. • The silver detail on the gillette razor makes it look modern gives it a modern day twist making it suitable for the target market.
4b)	<p>Block ^{Block} models, the ^{Block} scaler model can give designer an idea of how user interacts with design i.e. does it fit securely in ^{users} the hand</p>

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	<ul style="list-style-type: none">• Block models also give designer a chance to let users target mark market test design and see aesthetically how it looks and how well it performs.
	<ul style="list-style-type: none">• Block models also give designer a seen sense of dimension and if the size of design is okay and suitable for its purpose and see what changes may be needed <p><u>CAD models</u></p>
	<ul style="list-style-type: none">• CAD models let designer see design and how it will look look and what changes that that may need to be made can be made easily made easily
	<ul style="list-style-type: none">• CAD models let designer make any changes or or adjustments that need to be made easily.
	<ul style="list-style-type: none">• CAD models let designer test ^{how} design will look in a range of different materials at the click of a button.

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5a)	
i) Specification product design	
specification is has the purpose of	
showing designer what target market	
wants and is looking for, includes [*]	
ii) technical specification has the	
purpose of showing to manufacturer	
how design will be manufactured	
and put together, including things	
like sizes and dimensions	
* includes needs and wants of target	
market.	
5b)	
Questionnaires and surveys of , gives	
target market chance to to tell	
reader the likes and dislikes and their	
needs and wants.	
5c)	
• Introduce less packaging on products	
meaning less ^{less} waste.	
• Design products for disassembly mean	

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meaning if a product breaks parts that still work can be removed and reused causing less waste.	
• Use recyclable materials meaning if product breaks it can be recycled rather than going straight to the bin.	
• Reuse old parts that still	
work work from an the old designs on new ones to stop parts from going to waste.	
(6a) •	
	

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6b)	• One purpose of the location pins, bosses and webs/ and ribs is to add to
	the strength and stability of design.
	• One purpose of the location of
	pins, bosses and webs/ribs is to
	decrease chance of product snapping
	when being moved from processes in
	machine such as injection moulding or
	drop forming.
	•

- 6c) • ~~Identify~~ identify what company brand have made product:
- If product turns out to be good

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and useful may make user return to that brand and use them again, stickers help them remember or indicate what brand.

- 7) • In early stages of design quick sketches and small 3D drawings to give rough ideas and examples of what designer is thinking
- In the development stages of design ~~3~~ detailed 3D drawings and scale models can be used when proposing design to target market or manufacturer to show professionalism.
 - When presenting ideas to target market or other design team members ~~Block~~ Block and ~~3D~~ CAD models will be used to show accuracy and ~~professionalism~~ professionalism

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	<ul style="list-style-type: none">• When presenting the design to many manufacturer a scale model and orthographic drawings will be used along with exploded the views to make sure design trans manufacturer knows just how to put designers together.