

Design & Technology

User Centred Design

Materials required for questions

- Pencil
- Rubber
- Calculator

Instructions

- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary
- For the multiple choice questions, circle your answer

Advice

- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don't spend too much time on one question

Good luck!

Q1. What is iterative design?

- A** A product is never change throughout the design process
- B** A product is continually analysed, tested And revisited throughout the design process
- C** A product is developed once throughout The design process

Q2. What is an advantage of user-centred design?

- A** The user is put at the centre of design
- B** The user is consulted at the end of the design
- C** The user is not consulted during the Design process

Q3. Which of these is not an advantage of collaboration when designing?

- A** It can help overcomes design fixation
- B** it is a way to take ideas from others
- C** it is an excellent way of gaining feedback

Q4. Why is an analysis of a design context so important?

- A** So the designer can gain a clear
Understanding of the design problem
- B** so the designer can test the models that
Have been produced
- C** so the best ideas can be sketched

Q5. Which of the following statements is representative of iterative design?

- A** A system approach
- B** A process of continual improvement, of
a concept, prototype, design or product,
with model making, sketching, client
feedback applied when required
- C** A linear design process, whereby by
One stage follows another

Q6. The application of user centred can lead to innovative products being created. Explain the concept of user centred design **(4 marks)**

Q7. Designers must prioritise form or function when designing products.
Discuss how the designer of the PS5 controller has balanced form and function
in the design **(6 marks)**



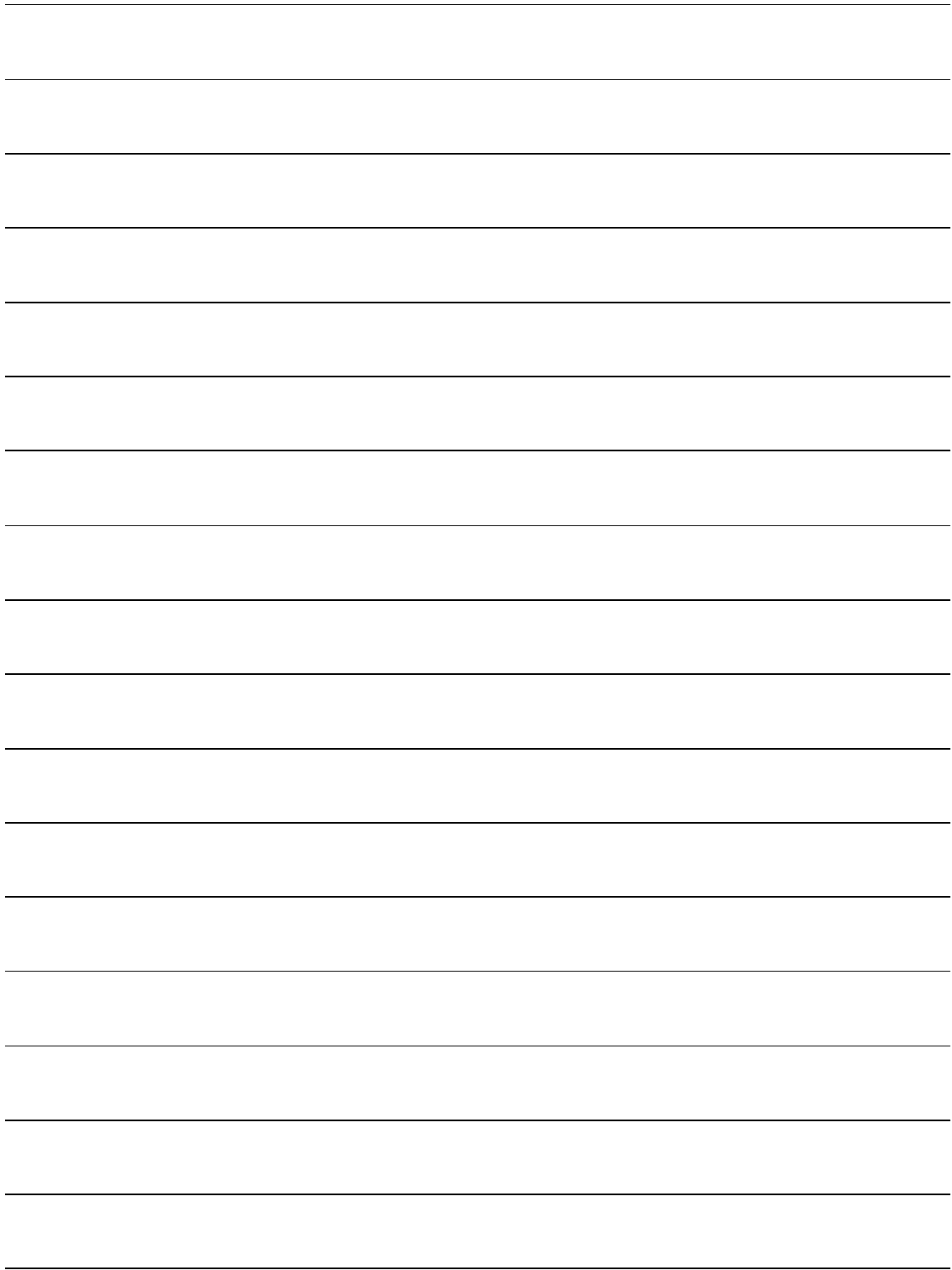
Q8. The image below shows a picture of a multi-purpose chair that can be used from birth to four years of age.



Key design features of the multi-purpose chair include:

- Folding frame with four lockable wheels
- Removable tray and removable activity centre
- Padded reducer to suit different ages / sizes of children
- 8 adjustable height positions
- Adjustable footrest positions
- Reversible padded seating
- Security harness.

Discuss how user centred design may have been used to ensure that the multi-purpose chair is fit-for-purpose for the target market group **(9 marks)**



Answers

Q1. B

Q2. A

Q3. C

Q4. A

Q5. B

Q6.

- Designers recognize that they do not fully understand how users will instinctively interact with a product (1) so observing consumers use a design is essential. (1)
- It is a reiterative process (1) in order to achieve the optimum outcome. (1)
- The design is adapted to suit the user (1) rather than the user adapting to suit the design. (1)

Q7.

Candidates might refer to the following in their responses:

- Form follows function
- Function follows form
- Shape/form
- Key functions
- Ergonomics and anthropometrics
- Demographics of the user group
- Proximity of key controls to fingers and thumbs
- Range of hand movement
- Shape of handles
- Comfort in use
- Ease of use
- Aesthetics

Q8.

Candidates might refer to the following in their responses:

- Focus on users and their needs
- Framework process
- Two users – the baby and the adult
- Anthropometrics and ergonomics of both users
- Use of investigative methods
- Use of generative methods
- Iterative process
- User feedback throughout
- Understanding the context of use
- Specifying user requirements
- Production of design solutions
- Evaluation/testing against requirements
- Use of consumer panels
- Real life prototype testing
- More likely to meet expectations and requirements
- Helps designers understand the diversity of cultures
- Key design features of the chair and how USD may have influenced these features.