

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

Q5. The application of user centred can lead to innovative products being created. Explain the concept of user centred design **(4 marks)**

Q6. 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)**



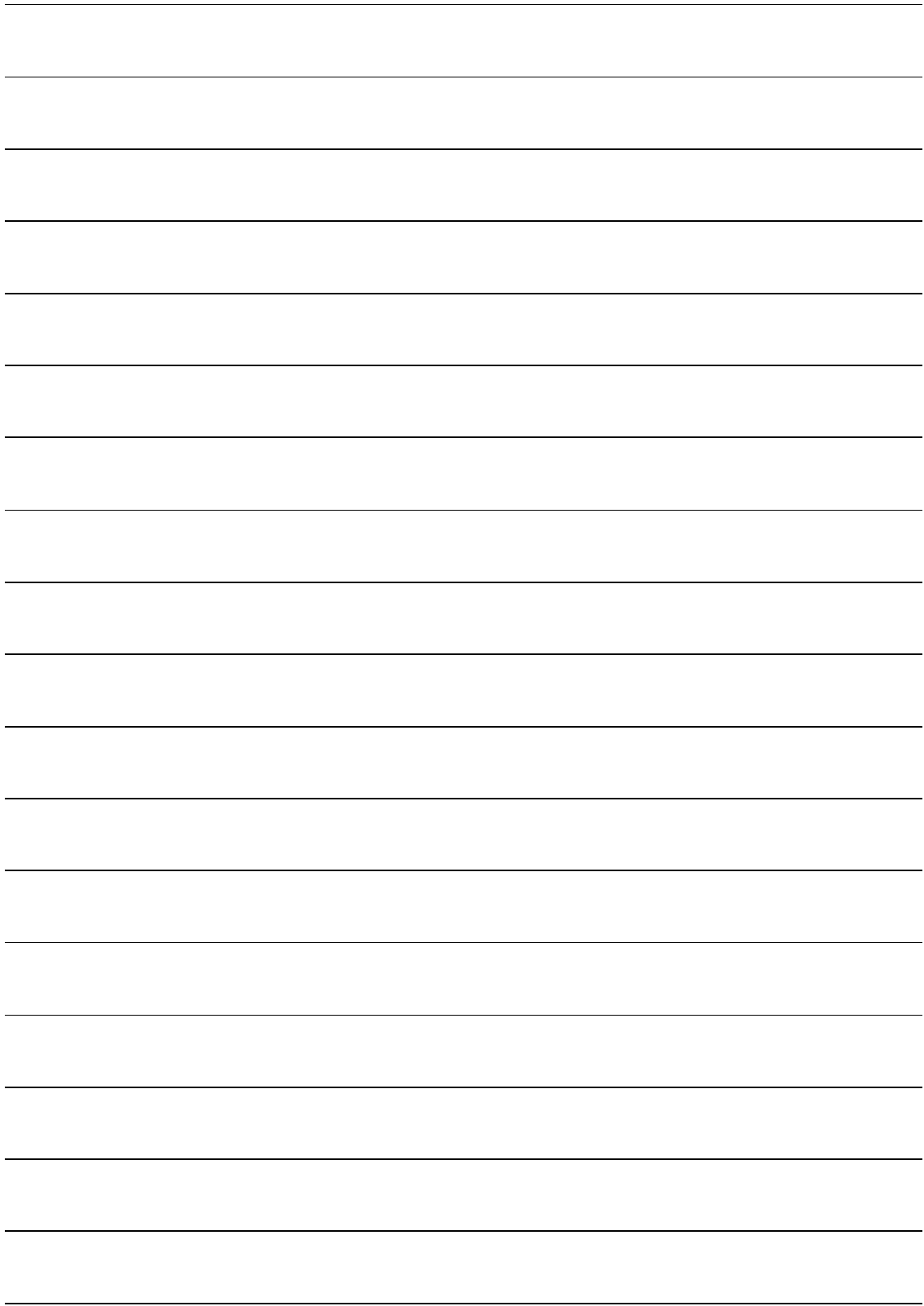
Q7. The image below shows a picture of a multi-purpose chair that can be used from birth to four years of age.



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.

1. 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)
2. It is a reiterative process (1) in order to achieve the optimum outcome. (1)
3. The design is adapted to suit the user (1) rather than the user adapting to suit the design. (1)

Q6.

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

Q7.

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.