

Design and Technology

General Instructions

- Reading time – 5 minutes
- Working time – $1\frac{1}{2}$ hours
- Write using black or blue pen
Black pen is preferred
- Write your Centre Number and
Student Number at the top of
page 5

Total marks – 40

Section I Pages 2–4

10 marks

- Attempt Questions 1–10
- Allow about 15 minutes for this section

Section II Pages 5–8

15 marks

- Attempt Questions 11–12
- Allow about 35 minutes for this section

Section III Page 9

15 marks

- Attempt Question 13
- Allow about 40 minutes for this section

Section I

10 marks

Attempt Questions 1–10

Allow about 15 minutes for this section

Use the multiple-choice answer sheet for Questions 1–10.

- 1** Which of the following is a defining characteristic of an entrepreneur?

 - (A) Being resilient
 - (B) Being a risk-taker
 - (C) Being legally responsible
 - (D) Being environmentally proactive

- 2** Which of the following is most important to the success of a product?

 - (A) Meeting user needs
 - (B) Life-time warranty
 - (C) Built in obsolescence
 - (D) Conforming to international standards

- 3** A life cycle analysis of a product is conducted to determine

 - (A) how materials will be manufactured.
 - (B) the cost of distribution and transport.
 - (C) the impact of the product on society and the environment.
 - (D) how materials will be disposed of or recycled.

- 4** A client's brief to a designer mainly outlines

 - (A) a key design feature.
 - (B) a summary of all constraints to be considered in the design.
 - (C) a list of important social and environmental considerations.
 - (D) a list of consumer demands, legal requirements and budget targets.

- 5** Which work health and safety (WHS) consideration should be taken into account during the manufacturing stage of a product?
- (A) A survey of past employee injuries
 - (B) Periodic maintenance of machinery and tools
 - (C) Identification, assessment and control of risks and hazards
 - (D) Assessment of risks and hazards identified in the use of the final product
- 6** Why is it important for designers to protect their intellectual property?
- (A) It allows competing designers to share ideas.
 - (B) It enables their ideas to be marketed locally and internationally.
 - (C) It ensures that all future designs are successfully patented.
 - (D) It ensures that designer's ideas cannot be marketed and sold by other designers.
- 7** What is the main reason for developing a working prototype?
- (A) To evaluate operational and functional aspects of the product
 - (B) To produce a model suitable for advertising on social media
 - (C) To assist companies in developing a sustainable manufacturing process
 - (D) To determine aesthetic requirements necessary for production of the product
- 8** Which of the following contributes to environmental sustainability?
- (A) The acceptance of technology and its ease of use
 - (B) The use of low-cost energy during the manufacturing process
 - (C) The degradation of physical resources through manufacturing activities
 - (D) The use of materials and processes without having a significant impact on their surroundings

- 9** Which of the following is most important in determining the effectiveness of a design?
- (A) The values and beliefs of the designer
 - (B) The level of skill and resources available
 - (C) The design meeting the required end-use
 - (D) The use of integrated elements and principles of design
- 10** Which of the following describes a designer with an ethical approach to designing a product?
- (A) Designing products that meet a niche market
 - (B) Creating products that avoid excessive resource consumption
 - (C) Developing marketing campaigns to ensure the greatest number of sales
 - (D) Examining procedures that protect design ideas and promote creativity



2014 HIGHER SCHOOL CERTIFICATE EXAMINATION

Design and Technology

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Centre Number

Section II

15 marks

Attempt Questions 11–12

Allow about 35 minutes for this section

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Student Number

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 11 (9 marks)

Please turn over

Question 11 (9 marks)

The images show two different designs of tap turners that have been developed.



Figure 1

Figure 2

- (a) Identify and describe ONE similar and ONE different design feature of the two tap turners shown. **4**

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Question 11 continues on page 7

Question 11 (continued)

(b) Discuss how entrepreneurial activity can influence the success of a product like a tap turner.

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End of Question 11

Question 12 (6 marks)

Explain why new and emerging technologies will continue to be developed.

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Design and Technology

Section III

15 marks

Attempt Question 13

Allow about 40 minutes for this section

Answer the question in a writing booklet. Extra writing booklets are available.

Question 13 (15 marks)

- (a) In developing innovative and creative designs, designers receive inspiration from a variety of sources. **6**

Explain how these sources influence the designers.

- (b) Analyse how economic, historical and timing factors determine the success or failure of designs. **9**

End of paper

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