



EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

DESIGN AND TECHNOLOGY

6902/01

Paper 1 Design

October/November 2023

1 hour 15 minutes

Candidates answer on the pre-printed A3 answer sheets.

Additional Materials: Standard drawing equipment and coloured pencils.

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name in the spaces on **both** printed Answer Sheets. Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do **not** use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **one** question.

Write/draw your answers in the spaces provided on the Answer Sheets.

You may use a calculator.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

The total of the marks for this paper is 50.

This document consists of 4 printed A4 pages and 2 A3 inserts.

Answer **one** question only on the A3 pre-printed sheet provided.

- 1 Many families enjoy picnics outside, but food can easily get spoilt and drinks knocked over as children move around.



Design a small portable table that would be suitable for picnics.

- (a) List **four** additional points about the function of such a table that you consider to be important. [4]
- (b) Use sketches and notes to show **two** types of construction method that might be suitable for such a table. [4]
- (c) Develop and sketch **three** ideas for the table. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your choice, a full solution to the problem, include construction details and major dimensions. [12]
- (f) Suggest suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution in the school workshop. [6]

- 2 School children are often reluctant to wash their hands after using the toilet.



Design a promotional artifact that will be placed in school toilets to remind young children to wash their hands for hygiene purposes. The artifact must be transportable.

- (a) List **four** additional points about the function of such an artifact that you consider to be important. [4]
- (b) Use sketches and notes to show **two** flexible joints that could be used on card and other lightweight materials. [4]
- (c) Develop and sketch **three** ideas for the artifact. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your choice, a full solution to the problem, include construction details and major dimensions. [12]
- (f) Suggest suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method of producing a prototype of your solution in the school graphics studio. [6]

- 3 Children do not like touching a soap dispenser which was previously touched by others.



Design a device that will dispense soap without children needing to touch the dispenser when using it.

- (a) List **four** additional points about the function of such a device that you consider to be important. [4]
- (b) Use sketches and notes to show **two** methods that could be used to dispense a liquid soap without touching the device. [4]
- (c) Develop and sketch **three** ideas for the device. [12]
- (d) Evaluate your ideas and justify why you have chosen **one** idea to develop more fully. [8]
- (e) Draw, using a method of your choice, a full solution to the problem, include construction details and major dimensions. [12]
- (f) Suggest suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Outline a method used to manufacture **one** part of your solution in the school workshop. [6]