



EXAMINATIONS COUNCIL OF ESWATINI
Eswatini General Certificate of Secondary Education

DESIGN AND TECHNOLOGY

6902/01

Paper 1 Design

October/November 2021

1 hour 15 minutes

Candidates answer on the pre-printed A3 answer sheets.

Additional Materials: Standard Drawing Equipment

To be taken together with the optional paper for which you have been entered in one session of 2 hours 15 minutes.

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and candidate name in the spaces on **both** printed answer sheets.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs, or rough working.

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

There are three questions in this paper.

Answer **one** question.

The total of marks for this paper is 50.

At the end of the examination, tie your answer sheets together.

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

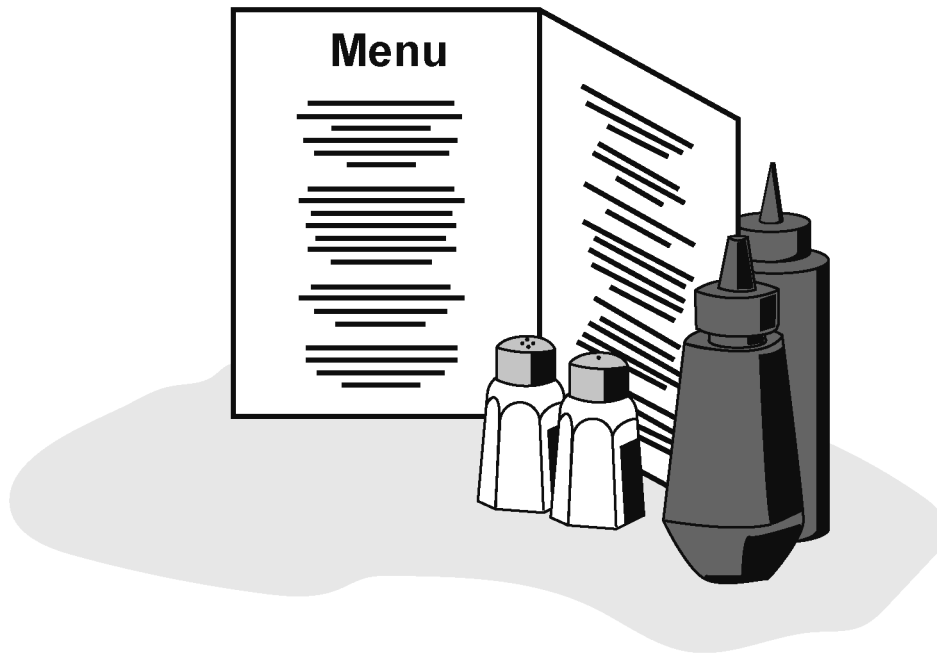
You may use a calculator.

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

Answer **one** question only on the pre-printed answer sheets provided.

- 1 Makhuluma Restaurant often provides a number of items on each table.

The illustration below shows salt and paper shakes, tomato and chilli sauce bottles and a menu card.



Design a device for holding all of these items.

- (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** ways by which the **Menu card** could be held in the unit so that it does not fall or fly off. [4]
- (c) Develop and sketch **three** ideas for the unit. [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 own choice, a full solution to the problem. Include Construction details and major dimensions. [12]
- (f) Suggest **two** 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. [6]

- 2 Met-com has released the latest brand in phone technology.

Their new release 'Deraa' is 150 mm long, 90 mm wide and 7 mm thick.



Design a counter display unit in stiff card to display **four** phones.
The unit must include the brand name.

- (a) List **four** points about the appearance of such a display unit that you consider to be important. [4]
- (b) Use sketches and notes to show **two** ways by which stiff card could be made to fold easily. [4]
- (c) Develop and sketch **three** ideas for the display. [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 own choice, a full solution to the problem. Include construction details and major dimensions. [12]
- (f) Suggest **two** suitable specific materials for your solution and give reasons for your choice. [4]
- (g) Design a logo for the company that could be attached on the display unit. Include a method of attaching the logo on the unit. [6]

- 3 It is sometimes very difficult to pick fruits from a tall tree.



Design a device incorporating some form of mechanisms that could be used by people while standing on the ground to pick fruits from a tall tree.

- (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** mechanisms that could be used to operate 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 own choice, a full solution to the problem. Include construction details and major dimensions. [12]
- (f) Suggest **two** 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]