**CHAMPIONS JET 2 EXAMINATIONS**

(449/2)

Drawing and Design

TIME: 21/2 hours

JULY 2024

Kenya certificate of secondary school education

DRAWING AND DESIGN P2

**INSTRUCTIONS TO CANDIDATES**

You should have the following materials for this examination:

* Four sheets of drawing paper size A3.
* Drawing instruments.
* This paper has one compulsory question.
* This paper is to be issued to the candidates **30 minutes** before the examination starts.
* The candidates are advised to spend this time understanding the design problem and planning the work on one of the drawing paper provided.

**DESIGN PROBLEM (40 marks)**

High cost of living has forced fresh graduates to rent single roomed houses in big towns as they look for white color jobs. They are smartly dressed and prefer to wear clothes that are properly ironed. Ironing clothes is however, tiring particularly if ironing surface is too high or too low. It is also common problem to store ironing board in a limited space.

Design a suitable ironing board considering the following:

1. The ironing board should be adjustable to obtain the required height quickly and conveniently.
2. The whole board should be collapsible to allow for storage in a limited space.
3. The legs should be designed such that they remain stable during the ironing process and can allow for easy movement when there is need to move the board from one place to another.
4. There should be provision for holding the iron box when it is hot.

**REQUIREMENTS**

1. Make freehand sketches of two possible designs. (6 marks)
2. Select one of the designs in (a) above and make a refined labelled pictorial sketch. (13 marks)
3. Make detailed sketches of the mechanisms used in each of the consideration above (14 marks)
4. Name two materials used in the design and

(i) state where each material is used;

 (ii) State a reason why each material is used. (4 marks)

1. State three methods of joining the main parts together. ( 3 marks)