3.17 WOODWORK (444)

3.17.1 Woodwork Paper 1 (444/1)

SECTION A (40 marks)

*Answer **all** the questions in this section in the spaces provided.*

1   (a)   State **two** advantages of water stains.   (2 marks)

(b)   State **two** disadvantages of spirit stains.   (2 marks)

2   Name **three** types of saws in each of the following categories: (3 marks)

(a)   Hand saws.

(b)   Curve cutting saws.

3   (a)   Explain the cause of each of the following timber defects: (2 marks)

(i)   Heart rot
(ii) Knots

(b)   List **four** types of glue used for veneering.   (2 marks)

4   State **four** safety rules to observe when using a power drill to drill a hole in a piece of wood.
                                                                                            (4 marks)

5   With the aid of a sketch, explain how the trueness of a try square is tested using a board
and a straight edge.   (4 marks)

6   With the aid of a labelled sketch, explain the 'toenailing' method of driving nails.   (4 marks)

7   **Figure 1** shows the blade of a Jack plane fitted in two different ways.
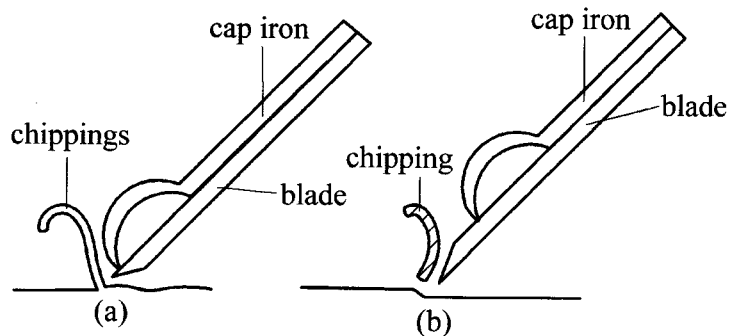

Figure 1

Explain the cutting effect in both cases.   (4 marks)

8 (a) State **four** factors which may cause closure of a business. (2 marks)

(b) Sketch the following patterns of matching veneers. (2 marks)

(i) Diamond
(ii) Slip

9 With the aid of labelled sketches, illustrate **two** methods used to prevent a piece of wood from splitting at the end when drilling a hole. (4 marks)

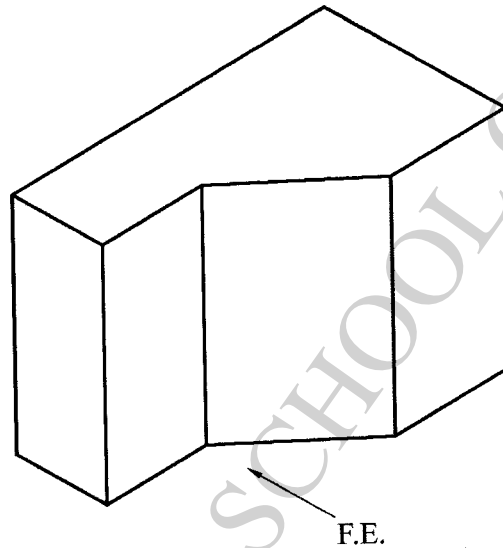**10** **Figure 2** shows a shaped block drawn in isometric projection.

F.E.

Figure 2

Sketch the **three** orthographic views of the block in third angle projection. (5 marks)

*Answer **question 11** on the **A3 paper** and any other three questions from this section in the spaces provided. Candidates are advised **not to spend more than 25 minutes on question 11**.*

11   **Figure 3** shows two views of a truncated square pyramid drawn in first angle projection.
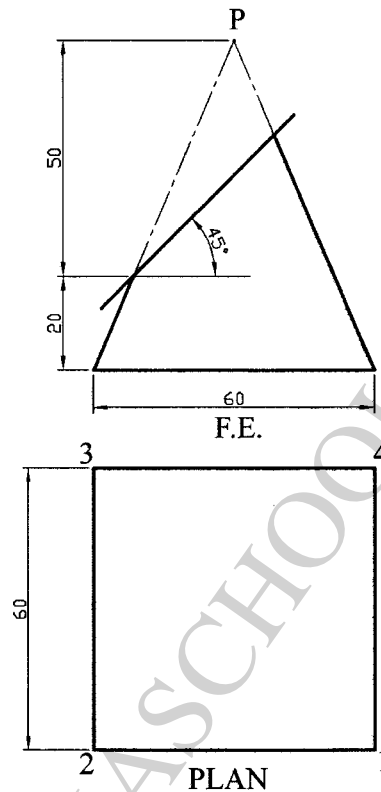

Figure 3

Copy the given views Full Scale and draw the following: (15 marks)

(a)   Complete plan.

(b)   True shape of the cut face.

(c)   Development of the pyramid when opened along P-Q.

12   (a)   Explain the following methods of laying veneers: (4 marks)

            (i)   Hammer veneering
            (ii)   Caul and press veneering

      (b)   Outline the procedure of shooting end grains of a piece of wood 50 X 100 mm using
            a bench plane and bench vice only.   (5 marks)

(c)   With the aid of sketches, describe the following timber defects: (6 marks)

    (i)   Twist
    (ii)   Bow

13   (a)   **Figure 4** shows boring tools labelled X and Y.
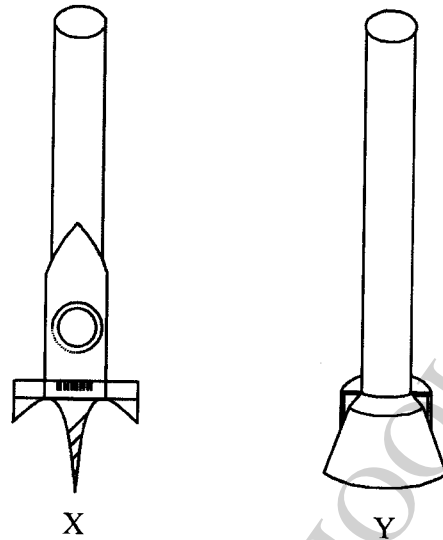

Figure 4

    (i)   Name the tools.
    (ii)   State **one** function of each of the tools in 13 (a) (i) above.   (3 marks)

(b)   Outline the procedure of sharpening the cutting blade of a Jack plane using an oil stone.
          (6 marks)

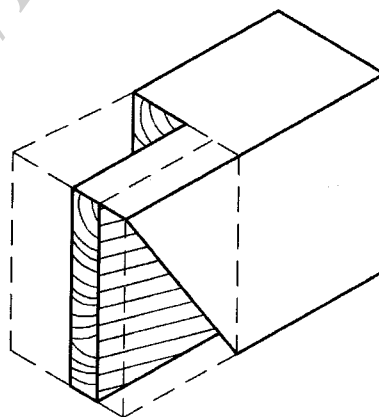(c)   **Figure 5** shows a part of a bridle mitre joint.

Figure 5

Outline the procedure of marking and cutting the joint.   (6 marks)

14 (a) Explain the difference between the following terms, giving two examples in each case:

(4 marks)

   (i)   Public sector
   (ii) Private sector
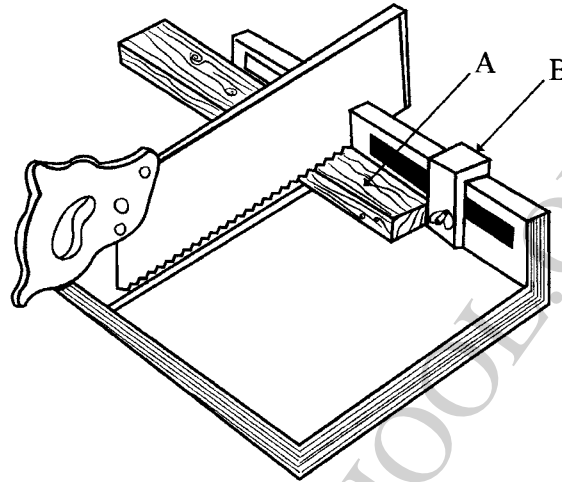
(b) **Figure 6** shows a device used in a wood workshop.

Figure 6

   (i)   Name the device.   (1 mark)

   (ii)   Name the parts labelled A and B.   (2 marks)

   (iii) State the function of the device.   (1 mark)

   (iv)   State **two** safety precautions to observe when using the device.   (1 mark)

(c) State **six** safety precautions to observe when using a surface planer.   (6 marks)

15 (a) Using pictorial sketches, show the difference between square and secret haunch tenon.

(b) **Figure 7** shows three views of a kitchen stool.
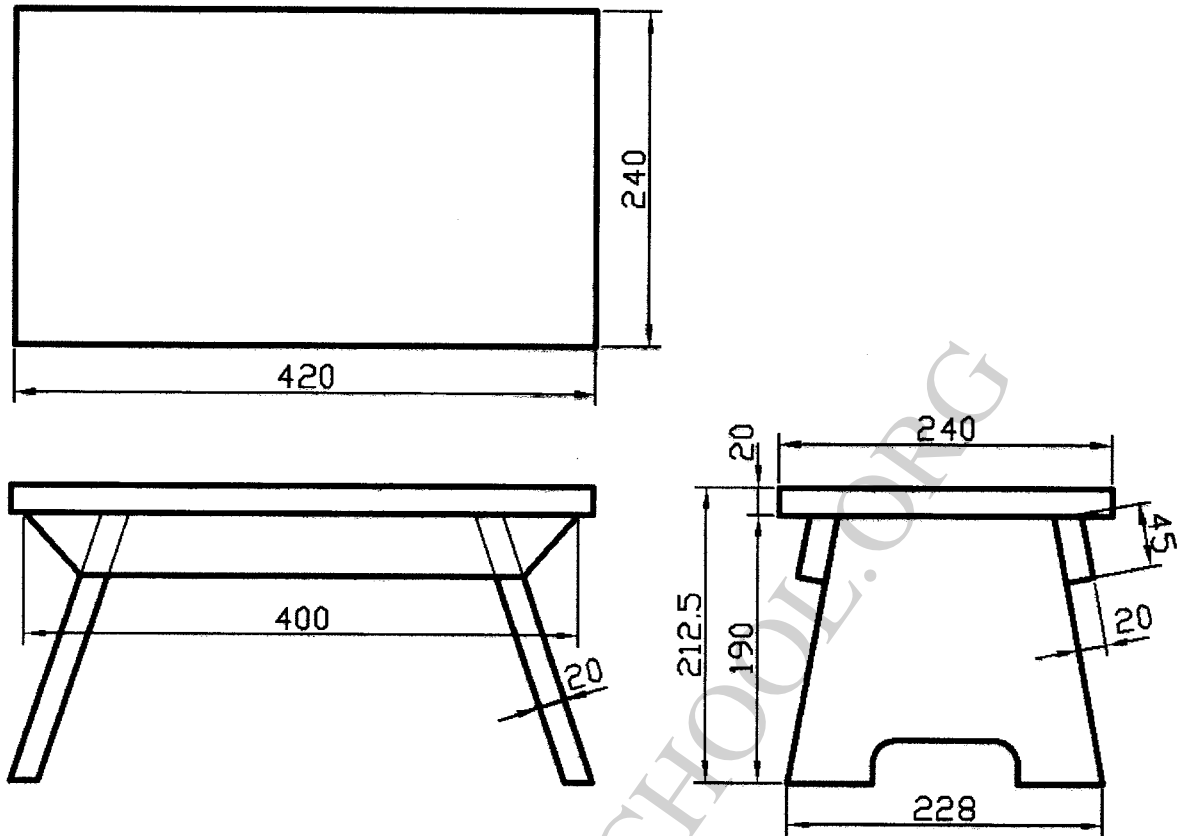

Figure 7

Given the following information:

Timber   250 X 25 mm – Ksh 100 @ 300 mm
                50 X 50 mm – Ksh 60 @ 300 mm

Nails   38 mm long – Ksh 120 @ 1 kg

Sandpaper   Ksh 20 @ sheet

Allow 35% profit and overheads.

NB/minimum timber lenth sold – 150 mm

(i)   Prepare a cutting list for the materials required.   (12 marks)

(ii) Calculate the cost of making the stool.