3.2   WOOD WORK (444)

The 2013 KCSE examinations for wood work consisted of two papers namely Paper 1 (theory) and Paper 2 (Practical Project). The theory was worth 60% while practical was worth 40% of the final mark. Both papers followed the usual setting format as those of the previous years.

Candidates General Performance

The table below shows candidates' overall performance for the six year period, from 2008 to 2013.

Table 9:   ***Candidates Overall Performance for the period 2008 up to 2013***

Year	Paper	Candidature	Maximum Score	Mean Score	Standard Deviation
2008	1		60	27.84	9.23
	2		40	18.61	4.93
	Overall	98	100	46.45	12.89
2009	1		60	28.27	10.30
	2		40	18.84	6.07
	Overall	424	100	47.12	15.49
2010	1		60	30.18	8.31
	2		40	20.18	4.55
	Overall	375	100	50.01	12.27
2011	1		60	21.24	9.46
	2		40	14.28	5.18
	Overall	447	100	35.49	13.93
2012	1		60	27.66	9.81
	2	393	40	18.42	5.14
	Overall		100	46.01	14.13
2013	1		60	31.97	9.81
	2	322	40	21.42	5.43
	Overall		100	53.32	14.40

From the above table, the following observations can be made:

(i)   The mean score for the year 2013 improved compared to the mean for the year 2012. This is an indication that the performance in 2013 was better than in 2012.

(ii)   The candidature decreased from 393 in 2012 to 322 in 2013.

3.2.1   Woodwork Paper 1 (444/1)

The questions which were reported to have been poorly responded have been analyzed with a view to pointing out candidates' weaknesses and propose suggestions on some remedial measures that would be taken in order to improve the performance in future. The questions for discussions include 5 (a), 10, 11, 12 (b), 14 (b) and 15 (a).

Question 5

(a)   State **two** functions of a jointer.   (2 marks)

Weaknesses

Many candidates could state the functions of a jointer.

Advice to Teachers

They should emphasize on identification of different types of machines and their uses.
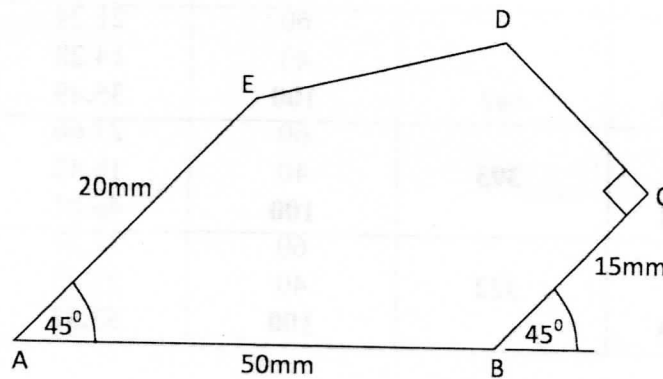
Expected response

(a)   **Functions of a jointer**
-       Makes edges straight and square.
-       Makes rebates, tongues and chamfers.

Question 10

Figure 1 shows a polygon ABCDE.

Figure 1

Enlarge the figure such that AB is 80 mm long.   (4 marks)
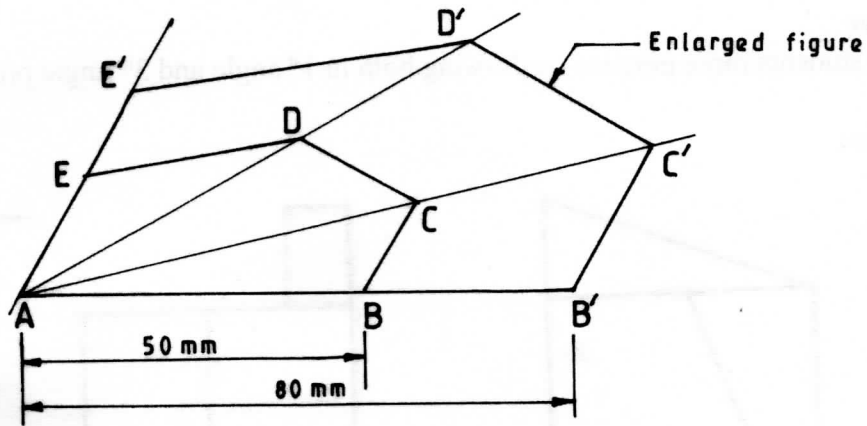
Weaknesses

Most candidates could not draw the enlargement of the figure given in the space provided.

Advice to Teachers

They should give the students more practice in drawing enlargement of figures.

Expected response

Enlargement

Length 80mm (AB') = 1
Radiation lines = 1
Enlarged figure = 1
Original figure = 1
= 4 mks

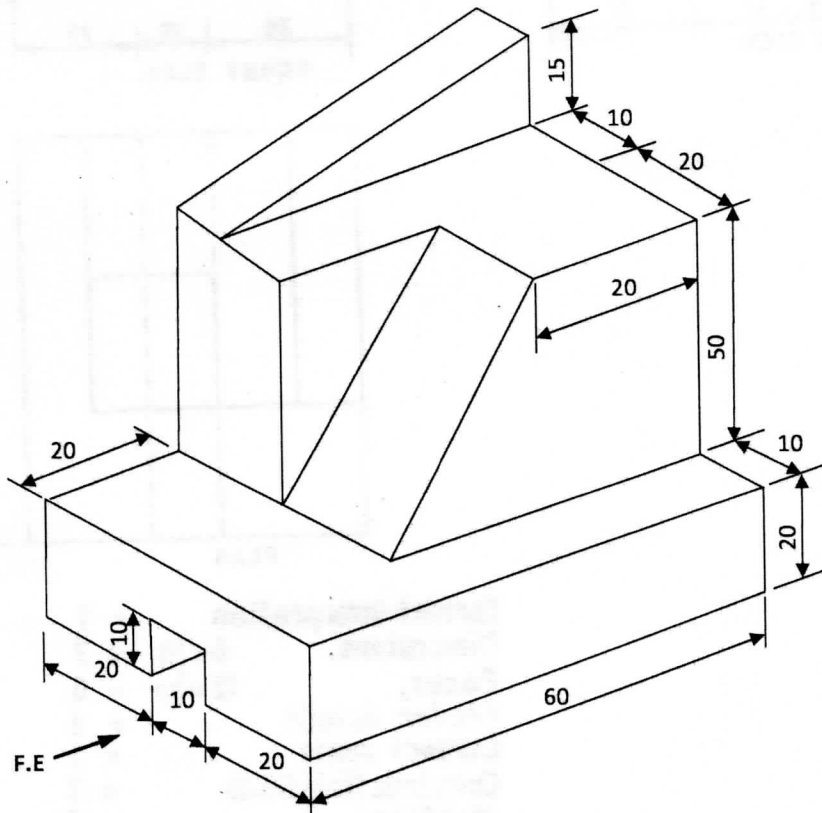**Question 11**

Figure 2 shows a shaped block.

Figure 2

In first angle orthographic projection, draw the three views of the block to a scale of 1:1. Insert any six dimensions.
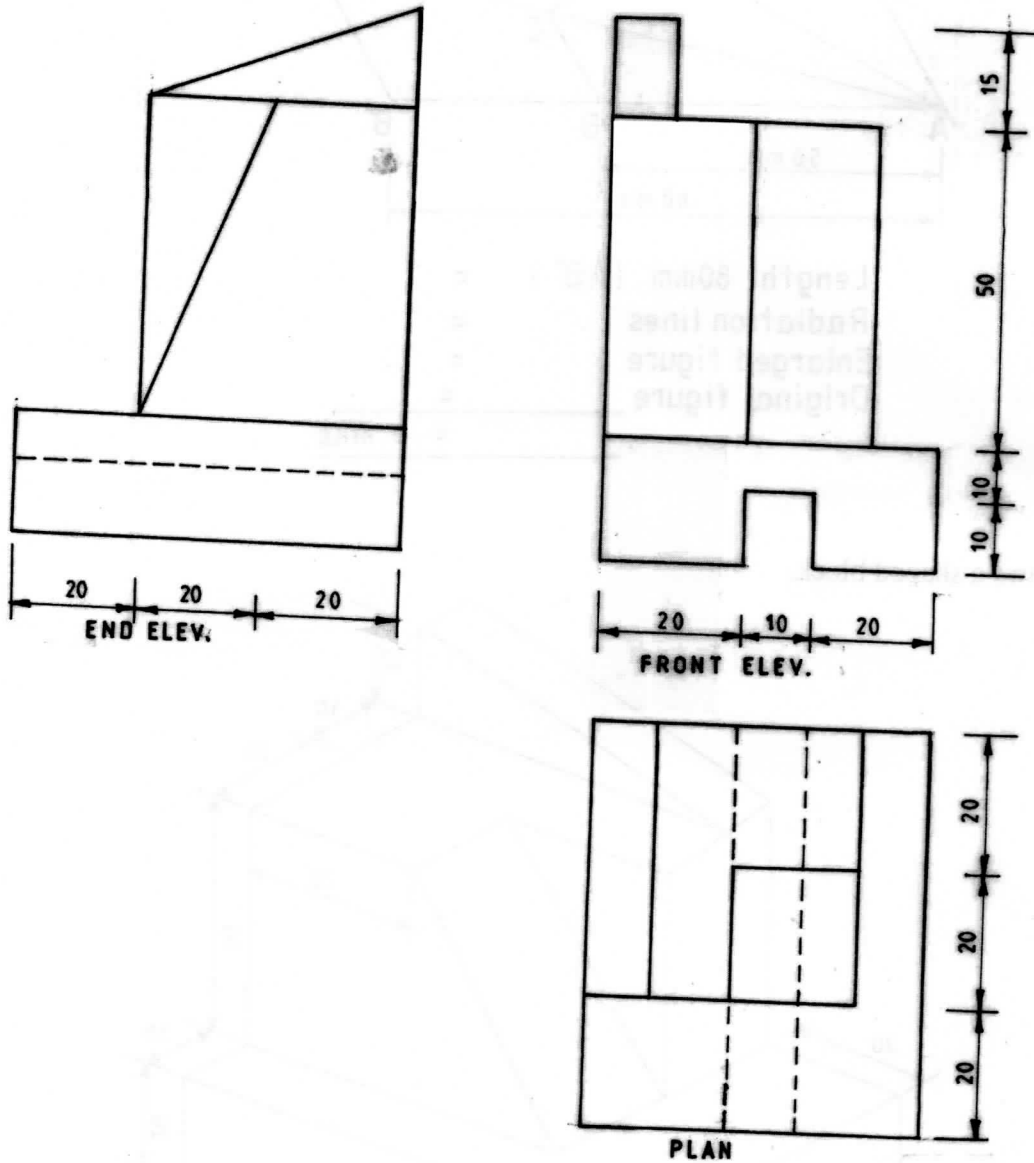
(15 marks)

14

Weaknesses

Some of candidates could not draw the orthographic views in 1st angle projection

Advice to Teacher

They should give students more practice on drawing both in 1st angle and 3rd angle projection.

Expected response:

END ELEV.

20 | 20 | 20

FRONT ELEV.

20 | 10 | 20

15

50

10 | 10

PLAN

20

20

20

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Correct interpretion        = 1
Dimensions,      6 × ½   = 3
Faces,          12 × ½   = 6
Hidden details              = 2
Correct scale               = 1
Construction lines          = 1
Neatness                    = 1
                          =15 mks
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15

Question 12

(b)   **Figure 3** (a) shows a surface of an irregular wooden block.

(a)   (b)
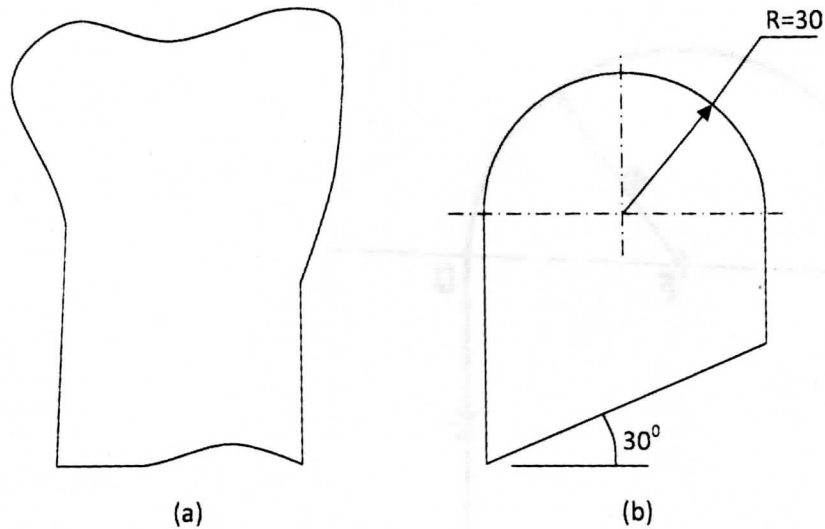
Figure 3

Using a pair of compass and a ruler and to a scale of 1:1

(i)   Outline the construction procedure to produce the shape in figure 3 (b).   (7 marks)
(ii)   Construct and mark out the shape shown in figure 3 (b).   (5 marks)
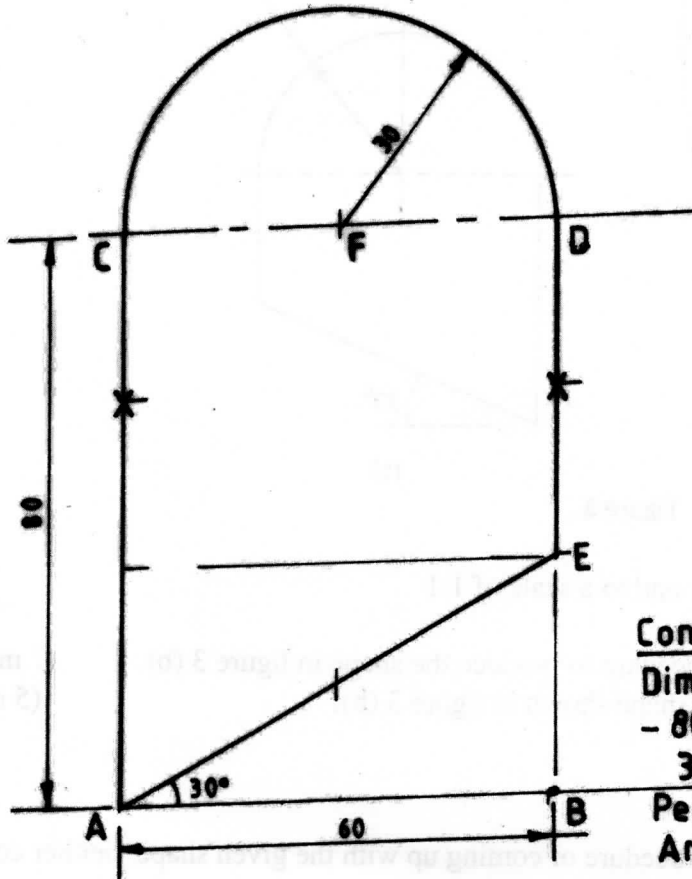
Weaknesses

Most of candidates could not outline the procedure of coming up with the given shape, neither could they construct and mark out the shape.

Advice to Teacher

They should give students more practice on geometry drawing.

Expected response:

(b)   (i)

Constructions:
Dimensions
– 80, 60, R 30   3 × ½ = 1½
    30° Angle   = 1
**Perpendiculars**   2 × ½ = 1
Arc constr (smooth) = ½
——————————
                     = 5 mks

(ii)   **Step of marking out the shape**

-    Establish line AB = 60 mm
-    At point A and B construct perpendicular lines.
-    At point A and B and along the perpendicular line, mark 80 mm - C and D.
-    At point A construct $\angle 30^0$ to cut at E.
-    Measure 30 mm from point E to establish point F.
-    At point F construct an arc 30 mm radius to meet at C and D.
-    Join points A, C, D and E to produce the desired shape.

Question 14 (b)

(b)   **Figure 4** shows pictorial views of wall mounted shelf. All members are 22 mm thick softwood.
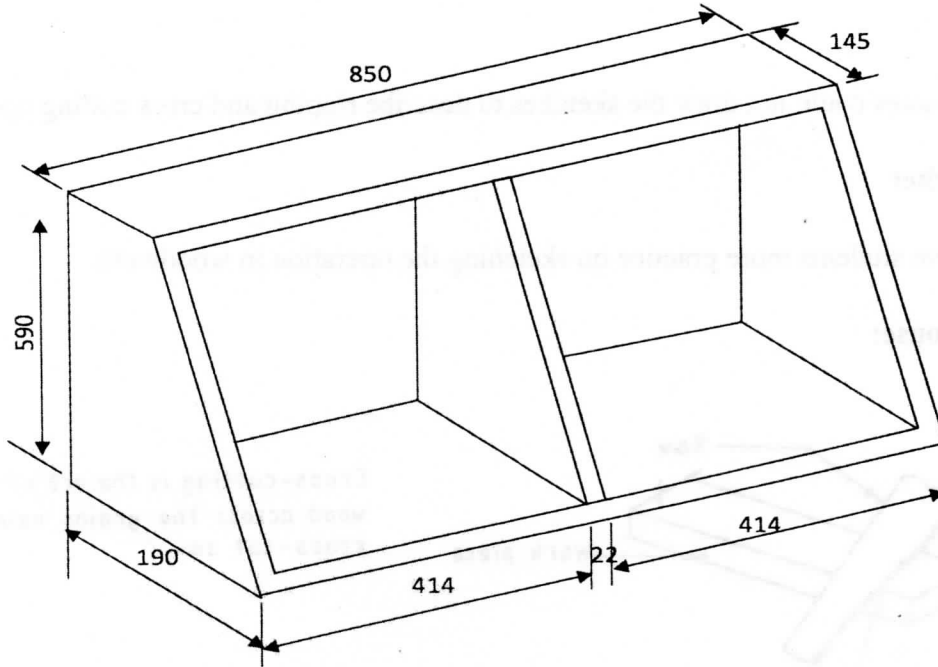
Figure 4

Prepare a cutting list for purchasing the timber required for the shelf.   (9 marks)

Weaknesses

Most of candidates could not prepare the cutting list for the shelf.

Advice to Teacher

They should give students more practice on preparation of cutting list to make common items in woodwork.

Expected response:

(b)   **Cutting list**

Item No.	Description	Size (mm)	No. Off	Marks
1	Top	25 x 150 x 900	1	= 2
2	Bottom	25 x 200 x 900	1	= 2
3	Sides	25 x 200 x 600	2	= 2
4	Partition	25 x 200 x 600	1	= 2

Format = 1

= 9 marks

Question 15

(a)   With the aid of labelled sketches, describe the ripping and cross cutting operations on a piece of timber.
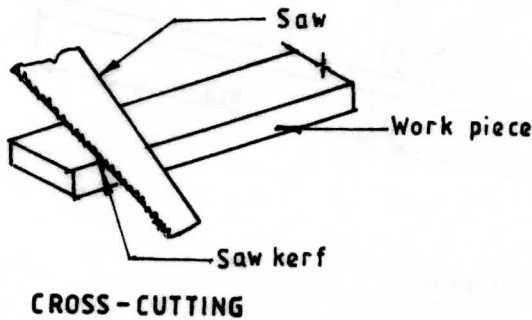(8 marks)

Weaknesses

Most of candidates could not draw the sketches to describe ripping and cross cutting operations.
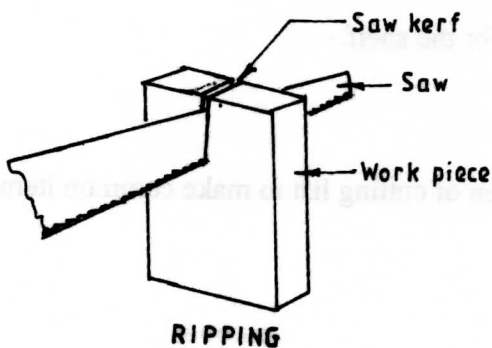
Advice to Teacher

They should give students more practice on sketching the operation in woodwork.

Expected response:

(a)

Cross-cutting is the act of cutting wood across the grains using a cross-cut saw

CROSS-CUTTING

RIPPING

Ripping is the act of cutting timber along the grains using a rip saw

Sketches   2 × 2   = 4
Labels, Any 2 × 2 × ½) = 2
Description 2 × 1   = 2
                         = 8 mks

3.2.2   Woodwork Paper 2 (444/2)

As in the previous years, the council designed a suitable project for this level together with a comprehensive marking scheme. The subject teacher used the working drawings to supervise the fabrication of the project and the marking scheme to mark the candidates' projects. The marks were then sent to the council through the D.E.Os office.