

## 17.0 WOODWORK (444)

This was the first time the subject was tested after it had been phased out in the year 2006. The subject was tested using a *theory paper (444/1)* and a *project paper (444/2)* which for the first time in the year 2008 was administered and scored by the subject teachers.

### 17.1 CANDIDATES' GENERAL PERFORMANCE

The table below gives performance in the subject for the year 2008. Since the syllabus did not change, performance statistics for the years 2003, 2004 and 2005 have also been given for comparison.

*Table 19 : Candidates' Overall Performance in Woodwork for the Years 2003, 2004, 2005 and 2008.*

Year	Paper	Candidature	Maximum Score	Mean Score	Standard Deviation
2003	1		60	18.16	7.49
	2		40	30.99	5.90
	<b>Overall</b>	<b>1,126</b>	<b>100</b>	<b>4919</b>	<b>11.20</b>
2004	1		60	24.50	8.69
	2		40	30.67	5.90
	<b>Overall</b>	<b>1,156</b>	<b>100</b>	<b>54.11</b>	<b>14.00</b>
2005	1		60	19.35	7.72
	2		40	32.70	4.65
	<b>Overall</b>	<b>1,052</b>	<b>100</b>	<b>51.70</b>	<b>10.00</b>
2008	1		60	27.84	9.23
	2		40	18.61	4.93
	<b>Overall</b>	<b>98</b>	<b>100</b>	<b>46.45</b>	<b>12.89</b>

From the table above, it is to be observed that:

- 17.1.1 Candidature for the subject declined significantly in the year 2008 when compared to the year 2005. This was as a result of the subject being phased out of the syllabus in the year 2006.
- 17.1.2 There was an improvement in the performance of the *theory paper (444/1)* where the mean improved from **19.35** in the year 2005 to **27.84** in the year 2008.
- 17.1.3 Performance in the *project paper (444/2)* dropped significantly from **32.70** in the year 2005 to **18.61** in the year 2008. This could have been attributed to the fact that majority of the examination centres did not have adequate facilities.
- 17.1.4 The decline in performance in the *project paper (444/2)* resulted in a decline in the overall performance in the subject.

Questions which were poorly done are briefly discussed below.

## 17.2 PAPER 1 (444/1)

### Question 2

- (a) State **six** factors that may hinder the growth of trees.
- (b) Calculate the wet weight of a piece of timber given that:

$$\begin{aligned} \text{dry weight} &= 40\text{g} \\ \text{moisture content} &= 32\% \end{aligned}$$

Candidates were expected to be able to calculate the weight of a given sample of timber.

#### Weaknesses

The candidates were unable to relate the dry weight to the moisture contents.

#### Advice to Teachers

Teachers should keenly take the students through the calculations for moisture content of a given piece of timber and more so how to use the formula.

#### Expected Responses

- (a)
- Destruction by animals.
  - Fire.
  - Harsh weather conditions.
  - Creeping plants.
  - Plant diseases.
  - Human destruction.
  - Parasitic plants.
  - Insect attack.
- b) Moisture content =  $(\text{wet weight} - \text{dry weight}) \times 100\%$
- $$= \left(\frac{x - 40}{40}\right) \times 100\% = 32$$
- $$= (x - 40) 2.5 = 32$$
- $$= 2.5x - 100 = 32$$
- $$= x = \frac{132}{2.5}$$
- $$= 52.8\text{g}$$

#### Question 5

- (a) Explain the term countersinking.
- (b) Sketch a counter sunk screw in position.

Candidates were expected to know the difference in types of screws in terms of the shape of their heads and lengths to be able to explain '*countersinking*'. They were also expected to sketch and show the correct position of the screws in a piece of wood.

### Weaknesses

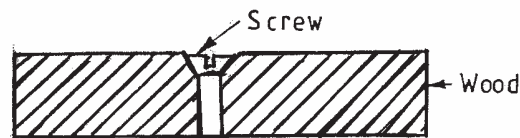
A number of candidates were unable to clearly explain the term countersinking. They were also unable to correctly sketch a countersink screw in position.

### Advice to Teachers

Teachers should comprehensively cover all the methods of joining timber using screws and nails. There should be emphasis on the workshop practice rather than theory alone.

### Expected Responses

- a) Countersinking is the preparation of the top of a pilot hole to facilitate the drawing of a countersink screw flush slightly below the wood surface.
- b)



### Question 8

With the aid of sketches, differentiate between the following types of matching veneers:

- (a) book and slip;
- (b) diamond and reverse.

Candidates were expected to show the differences of the veneers by use of cross-sectional sketches.

### Weaknesses

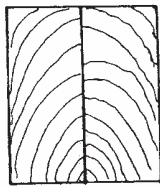
From the candidates' responses it was evident that they did not have any knowledge of veneers.

### Advice to Teachers

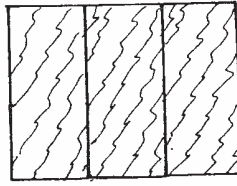
Teachers should make sure that all the topics in the syllabus are covered adequately. Use of sample materials displayed in the workshop should be encouraged. Visits to factories that make and deal in timber products should also be encouraged.

### Expected Responses

- (a)

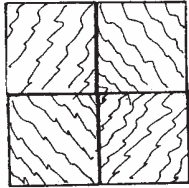


BOOK

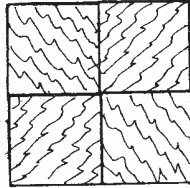


SEIF

(b)



DIAMOND



REVERSE

### Question 11

Figure 4 shows an isometric view of a block in 1<sup>st</sup> angle projection.

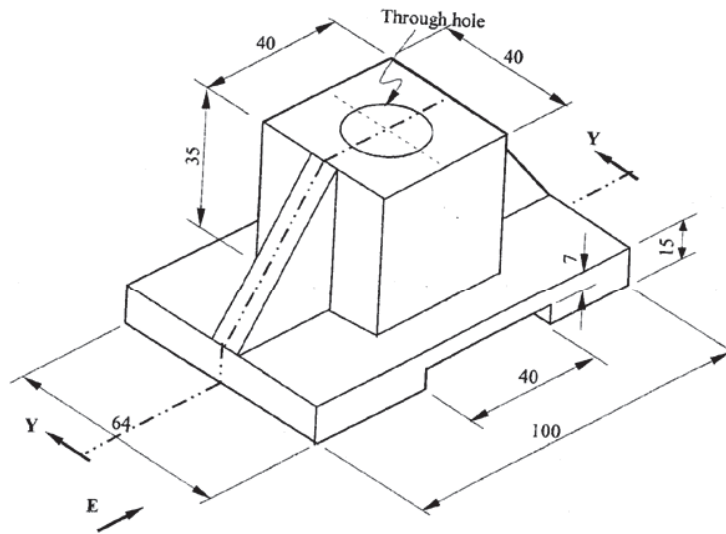


Figure 4

Draw full size and indicate the major dimensions:

- (a) Sectional front elevation (y-y).
- (b) End elevation in the direction of arrow E.
- (c) Plan.

Candidates were expected to interpret the block and draw the three views in orthographic projection, showing all types of lines.

### Weaknesses

Some candidates were able to produce the views but were not keen in centre lines and correct dimension lines with arrows.

### Advice to Teachers

Teachers should stress on detailing of the views.

### Expected Responses

