

**3.16 WOODWORK (444)**

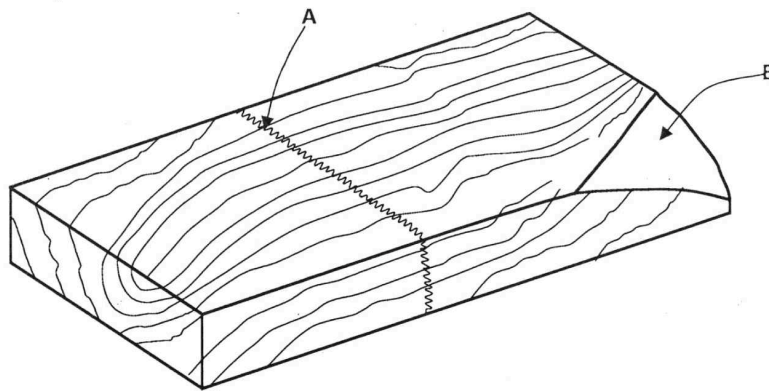
**3.16.1 Woodwork Paper 1 (444/1)**

**SECTION A (40 marks)**

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

- 1** (a) Name **four** sources of business capital. (2 marks)
- (b) State **four** factors to consider when starting a business. (2 marks)
- 2** (a) State **four** dangers of inhaling toxic adhesives. (2 marks)
- (b) List **four** characteristics of trees that produce softwood. (4 marks)
- 3** State **three** reasons why a mortice gauge may produce inaccurate marks on a piece of wood. (3 marks)

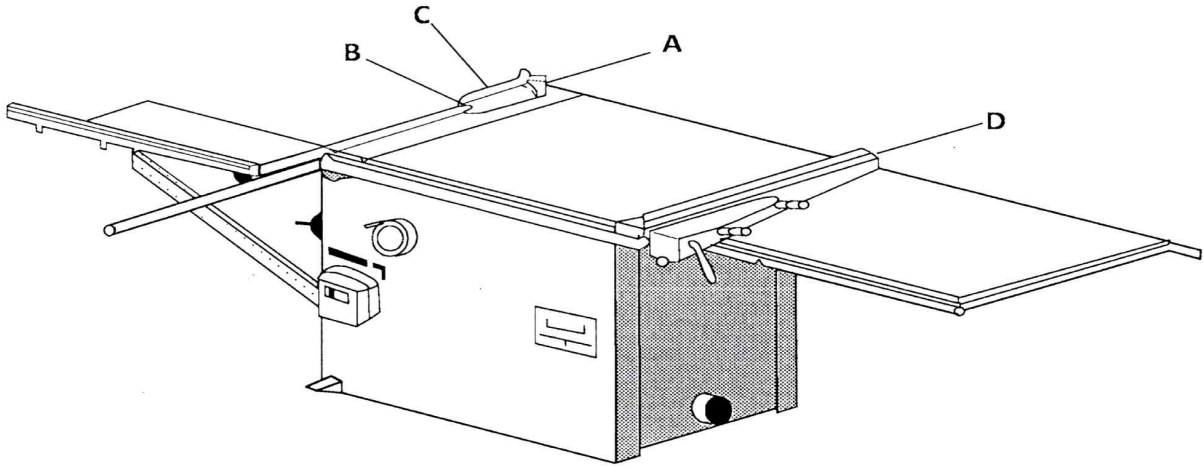
**4** **Figure 1** shows a piece of timber with defects.



**Figure 1**

- (a) Name the defects **A** and **B**. (2 marks)
- A** .....
- B** .....
- (b) State:-
- (i) **two** causes of defect **A**;
- (ii) **one** cause of defect **B**. (3 marks)

- 5 (a) List **six** practices that demonstrate the correct use of a cross-cut handsaw while cutting. (3 marks)
- (b) **Figure 2** shows a pictorial view of a circular saw.

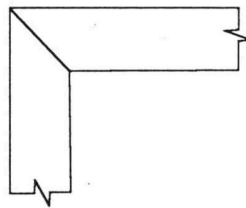


**Figure 2**

Name the parts labelled **A**, **B**, **C** and **D**. (2 marks)

- A** .....
- B** .....
- C** .....
- D** .....

- 6 State the **two** functions of the knob in a bench plane. (2 marks)
- 7 State **four** safety precautions to be observed when using a lathe machine. (4 marks)
- 8 Name **four** characteristics of polyvinyl acetate (PVA) glue. (4 marks)
- 9 Give **two** disadvantages of oil-based paint. (2 marks)
- 10 **Figure 3** shows a mitred bridle joint.



**Figure 3**

Sketch an exploded pictorial view of the joint. (5 marks)

**SECTION B (60 marks)**

Answer question **11** on the **A<sub>3</sub>** paper provided and any other **three** questions from this section in the spaces provided after question 15. Candidates are advised **not to spend more than 25 minutes on question 11**.

**11** Figure 4 shows a shaped block drawn in isometric projection.

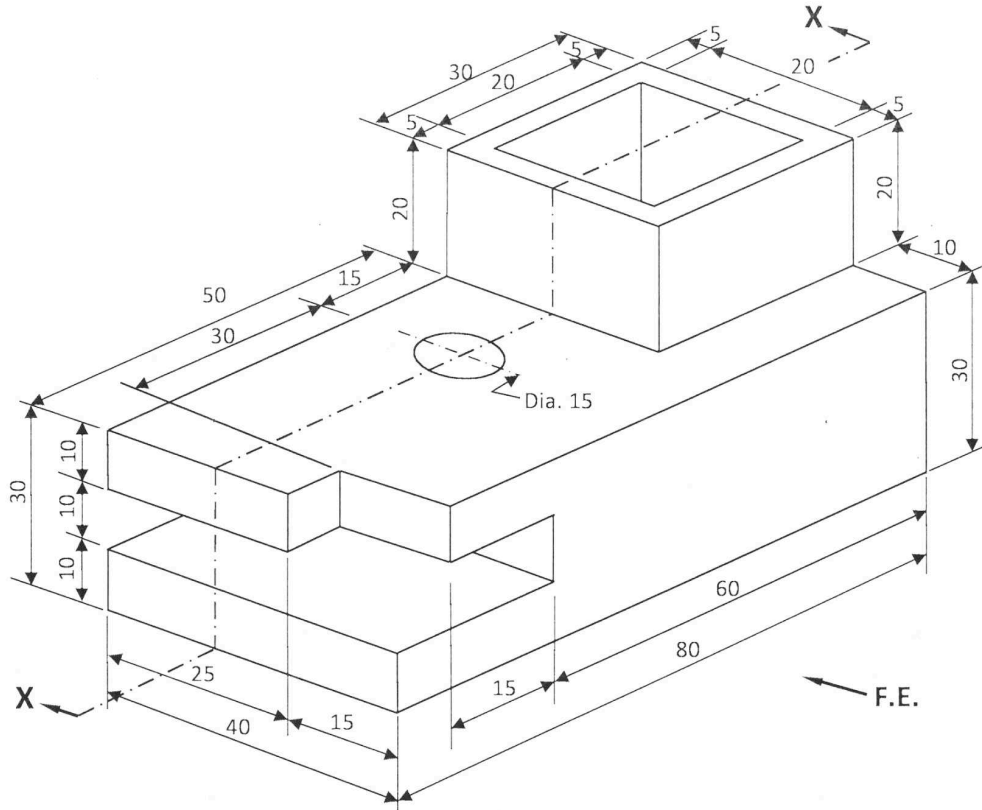


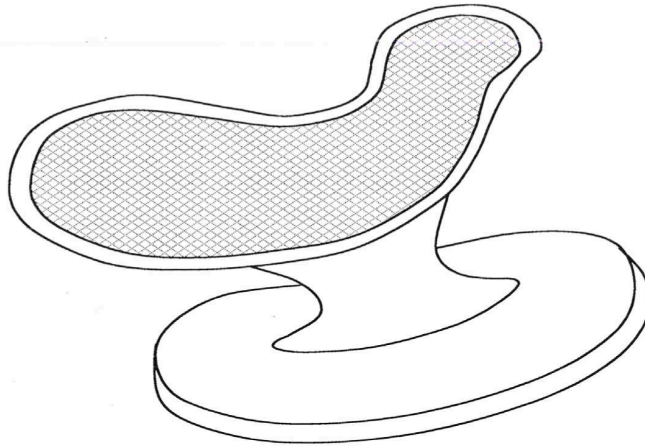
Figure 4

Draw, full size, the following views in first angle projection:

- a sectional front elevation of the cutting plane x-x;
- a plan;
- indicate six dimensions.

(15 marks)

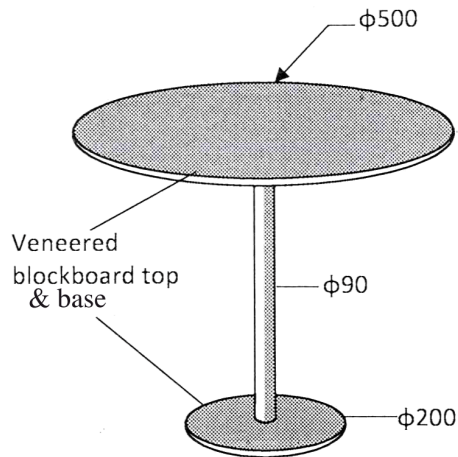
- 12 (a) Outline the procedure of making a groove in a workpiece using a plough plane. (7 marks)
- (b) **Figure 5** shows a curved shallow sugar dish.



**Figure 5**

- Outline the procedure of carving the dish from a block of wood to the required shape. (8 marks)
- 13 (a) Using labelled sketches, show the difference between an auger bit and a twist drill bit. (6 marks)
- (b) Describe the oven dry method of determining the percentage moisture content of a piece of timber. (5 marks)
- (c) Differentiate between film forming finishes and penetrating finishes as applied in wood work and give **two** examples of each. (4 marks)
- 14 (a) Outline the procedure of marking out a piece of wood to size using a marking gauge. (7 marks)

(b) **Figure 6** shows a coffee stool.



**Figure 6**

Calculate the cost of the stool from the given information.

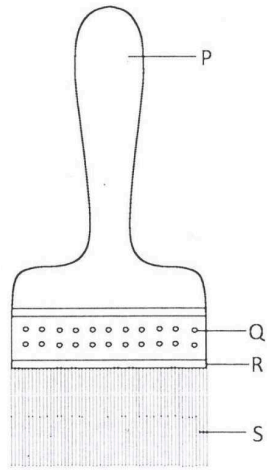
(8 marks)

ITEM NO.	DESCRIPTION	SIZE	COST (KSH)
1.	Veneered block board	1200 x 2400	3,600
2.	Wood lipping	25 mm wide	30 per 300 mm
3.	Timber	100 x 100	40 per 300 mm
4.	Wood glue	$\frac{1}{2}$ kg	60
5.	Wood varnish	$\frac{1}{2}$ kg	180

\* Allow 30% for labor and overheads.

**15** (a) With the aid of a labelled sketch, show the pocket screw method of fixing table top to rails. (5 marks)

(b) **Figure 7** shows a paint brush.



**Figure 7**

(i) Name the parts marked **P, Q, R** and **S**.

(ii) State the function of each part.

(6 marks)

(c) Other than food, state and explain **two** favourable conditions for fungal growth in timber.

(4 marks)