

### 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.

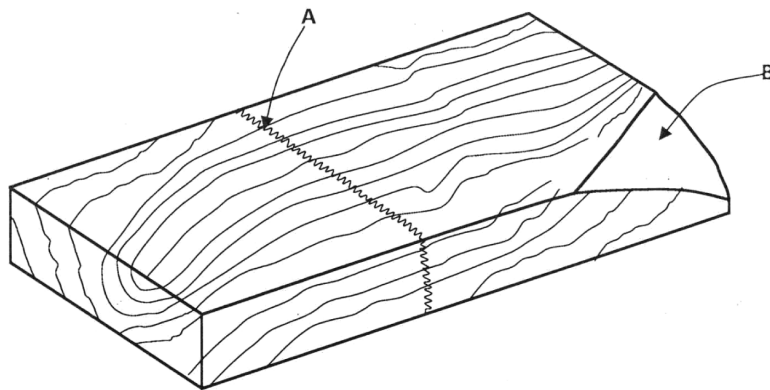
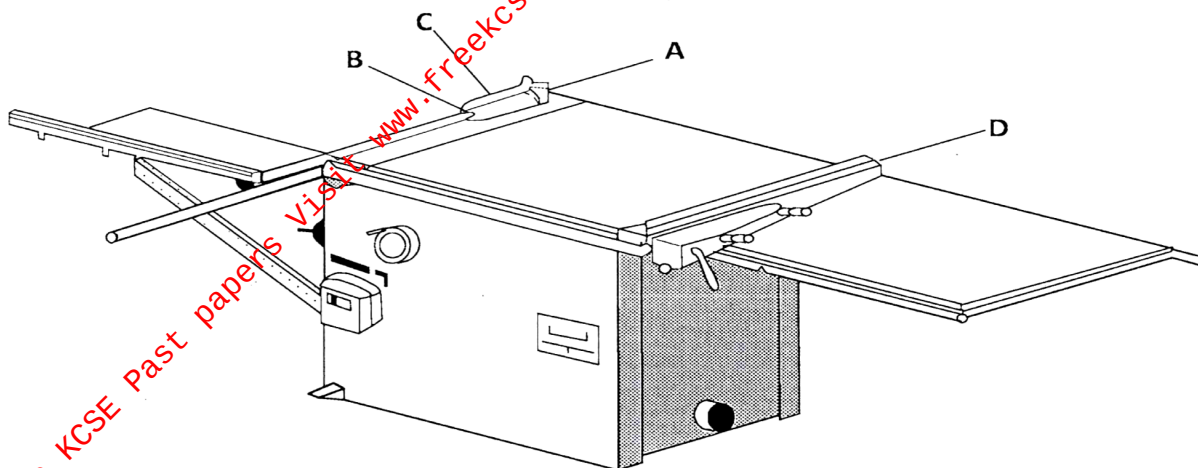


Figure 1

- (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 .....

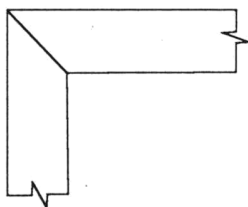
- 6 State the **two** functions of the knob in a bench plane. (2 marks)

- 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.

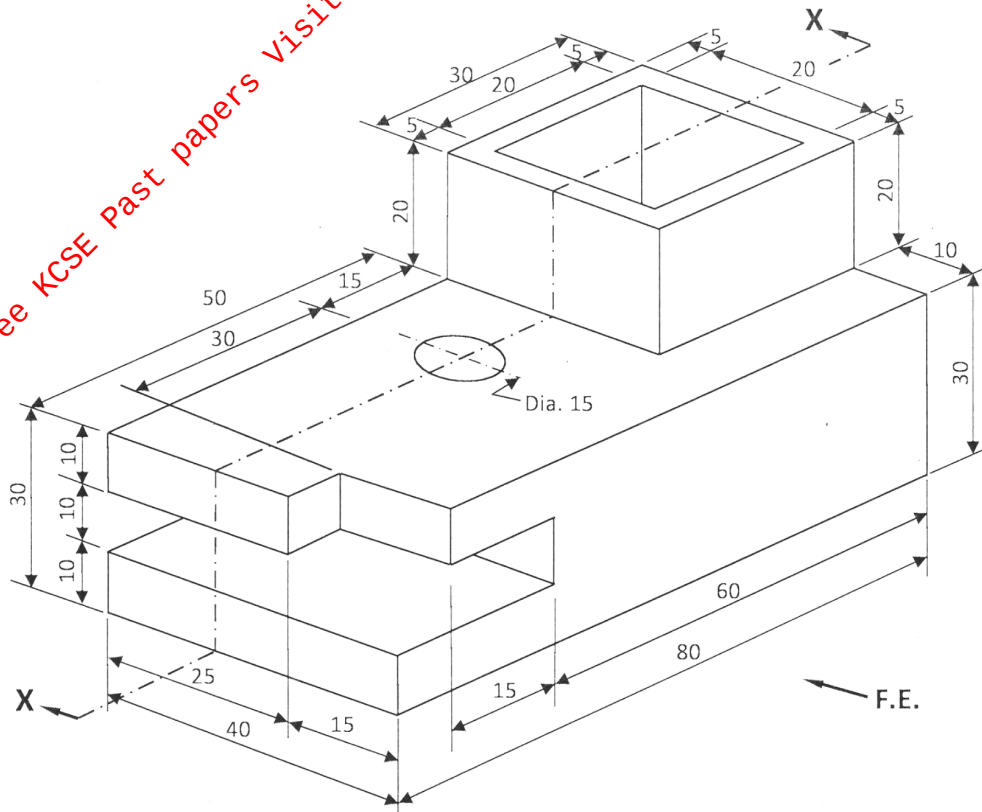


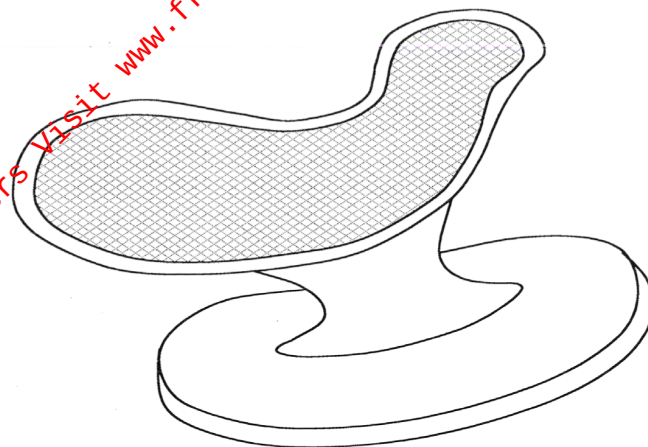
Figure 4

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.

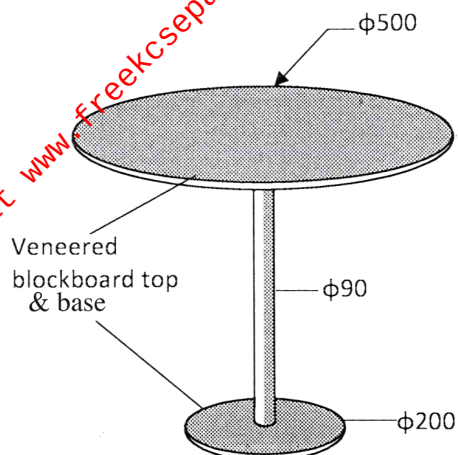


**Figure 5**

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.

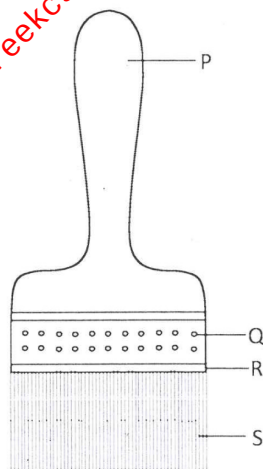
(8 marks)

| 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)