

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.

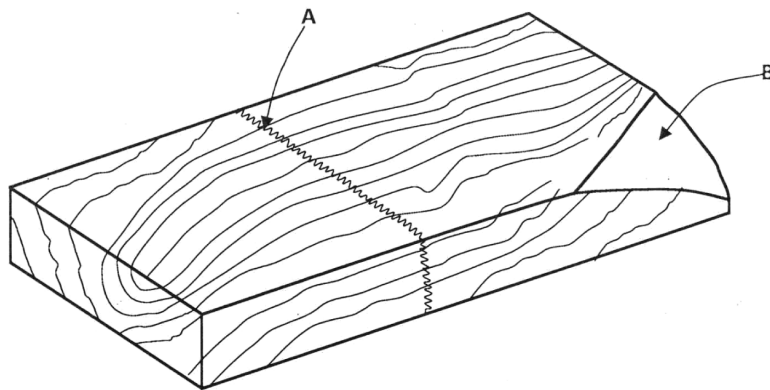


Figure 1

- (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.

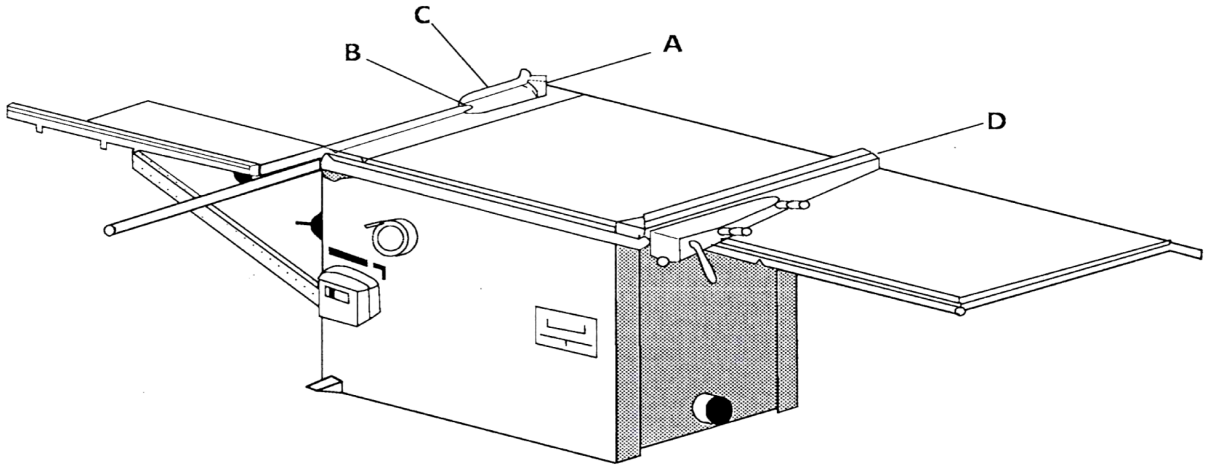


Figure 2

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.

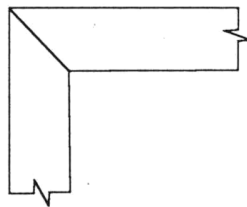


Figure 3

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

SECTION B (60 marks)

Answer question **11** on the **A₃ 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.

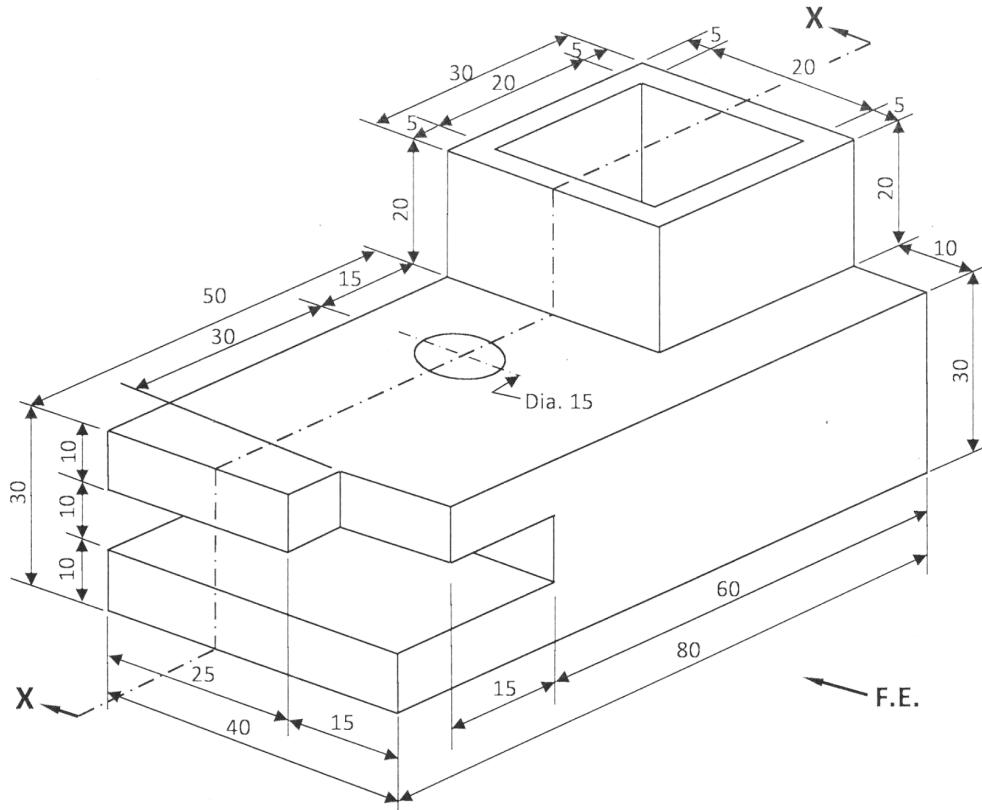


Figure 4

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

- (a) a sectional front elevation of the cutting plane x-x;
- (b) a plan;
- (c) 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.

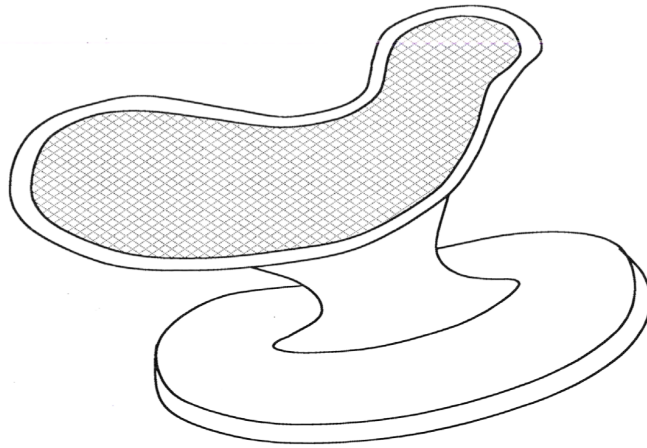


Figure 5

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.

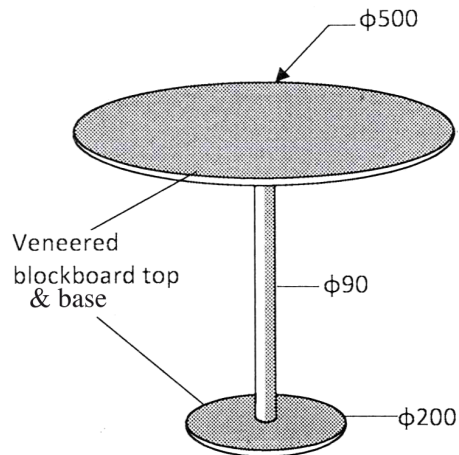


Figure 6

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.

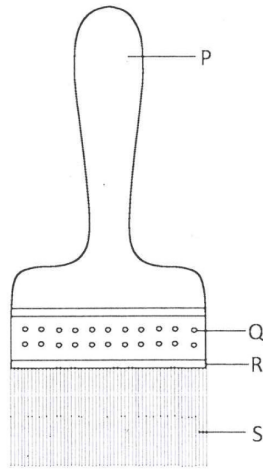


Figure 7

- (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)