



STUDENT NUMBER

--

CENTRE NUMBER

--

HIGHER SCHOOL CERTIFICATE EXAMINATION

1999

INDUSTRIAL TECHNOLOGY

2 UNIT

SECTION II FURNITURE AND TIMBER PRODUCTS INDUSTRIES

*Total time allowed for Sections I and II—One hour and a half
(Plus 5 minutes reading time)*

DIRECTIONS TO CANDIDATES

- Write your Student Number and Centre Number at the top right-hand corner of this page.
- Where appropriate, show all working for solutions neatly and clearly.
- You may use Board-approved drawing instruments and calculators.

Section II—Furniture and timber (15 marks)

- Question 4 is COMPULSORY.
- Attempt TWO questions from Questions 5, 6 and 7.
- Answer the questions in the spaces provided in this paper.

MARKER'S USE ONLY

Question				
4				
5				
6				
7				

SECTION II—FURNITURE AND TIMBER PRODUCTS INDUSTRIES

(15 Marks)

QUESTION 4 This question is COMPULSORY. (5 marks)

Figure 1 shows a pictorial sketch of a timber dining chair.

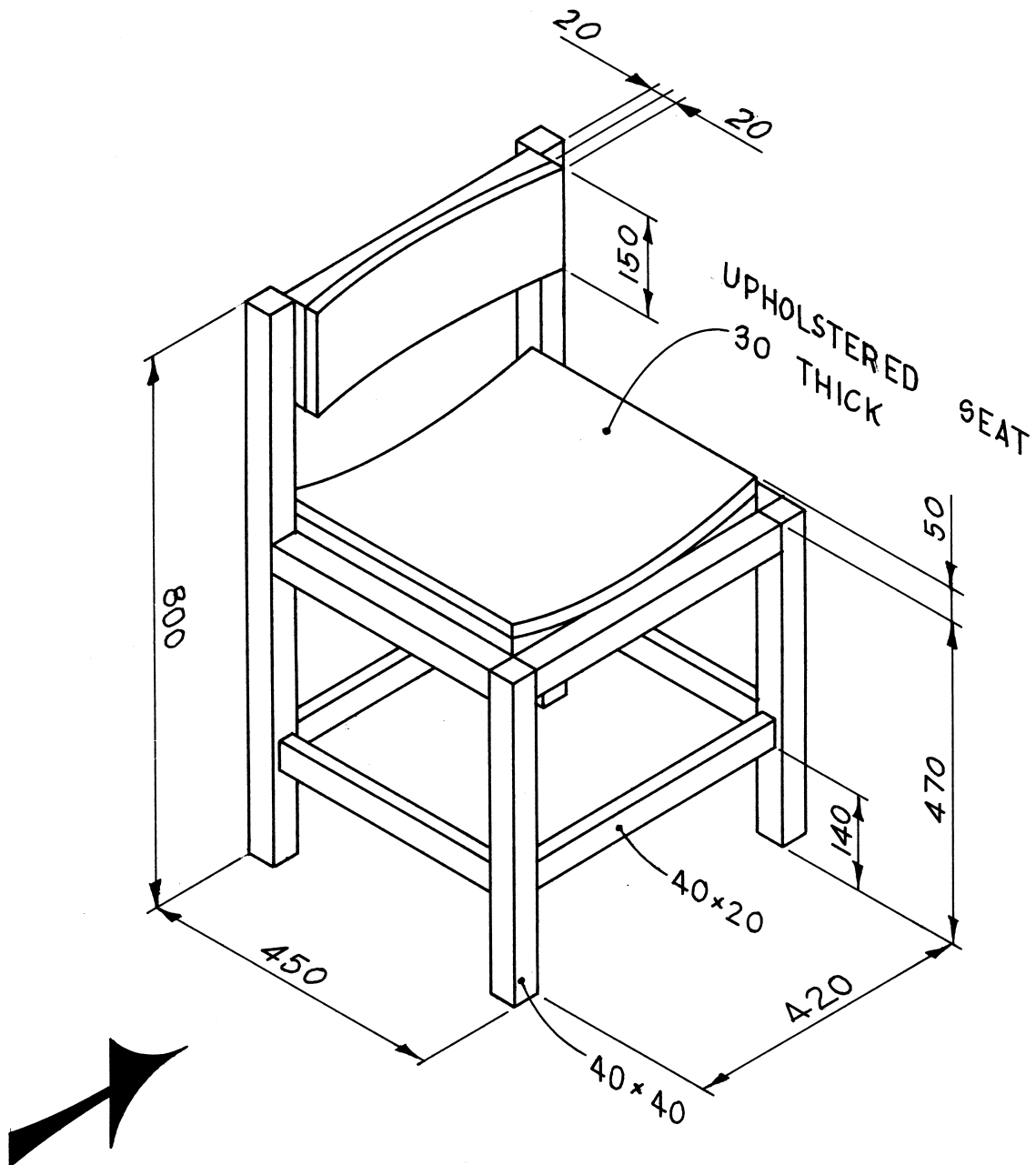
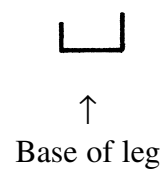
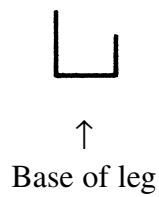


FIG. 1. DINING CHAIR

QUESTION 4 (Continued)

- (a) In the space below, complete a sketch of the dining chair shown in Figure 1 when viewed in the direction of the arrow. Your sketch must be drawn in proportion with relation to member sizes and spacings.



Question 4 continues on page 4

QUESTION 4 (Continued)

(b) A pictorial sketch of the dining chair is shown below in Figure 2.

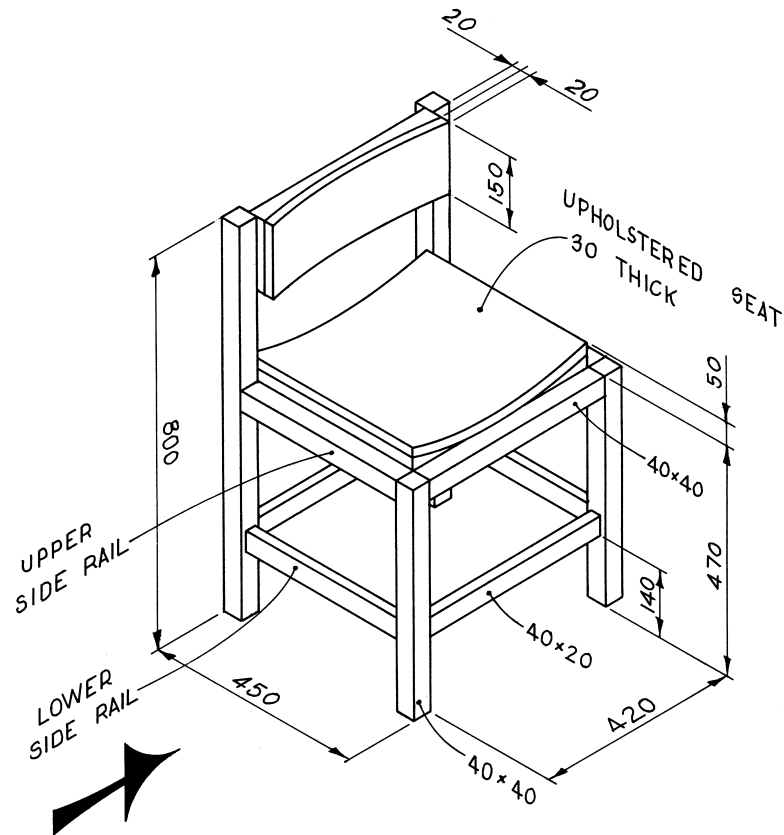


FIG. 2. DINING CHAIR

- (i) Complete the table below, showing the cutting list for the dining chair if dowel joints are to be used in the construction.

<i>Component</i>	<i>No. required</i>	<i>Length</i>	<i>Width</i>	<i>Thickness</i>
Back legs				
Front legs				
Lower rails				
Upper rails				

- (ii) Calculate the length of timber required for the back and front legs to make six (6) dining chairs. (No allowance is to be made for waste.)

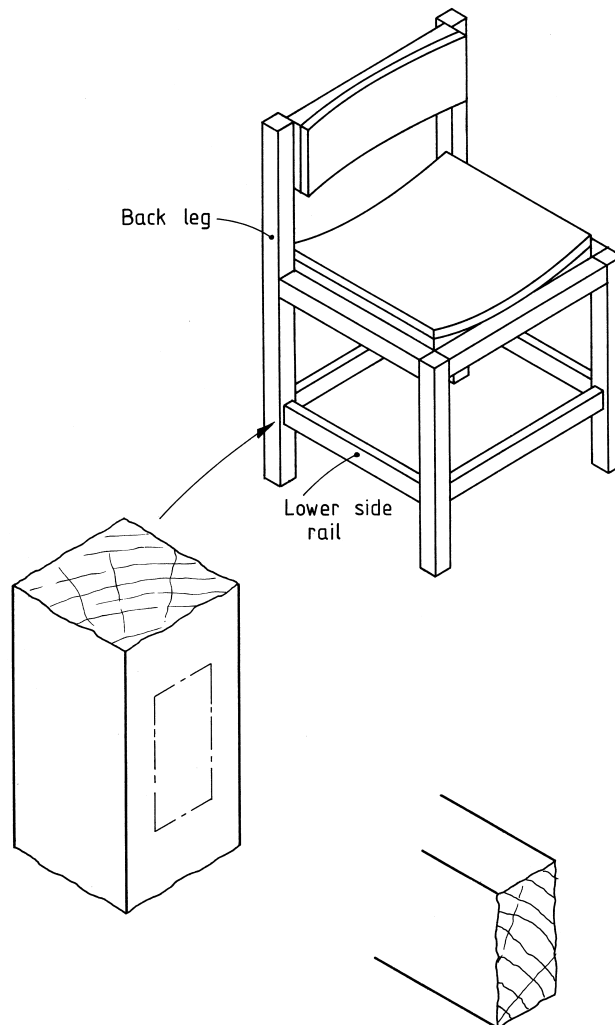
Timber required linear metres

QUESTION 4 (Continued)

- (iii) A piece of foam rubber $425 \text{ mm} \times 400 \text{ mm}$ is required for the seat panel. Calculate the cost, to the nearest dollar, of the foam rubber for one seat panel if the price is \$40.00 per square metre.

Cost \$

- (d) (i) Complete the sketches below showing a suitable timber joint, other than a dowel joint, used to join a back leg with a lower side rail.



- (ii) Name the type of joint used in part (d) (i) above.

Name

Attempt TWO questions from Questions 5, 6 and 7.

QUESTION 5 (5 marks)

Figure 3 shows a pictorial sketch of a dining chair.

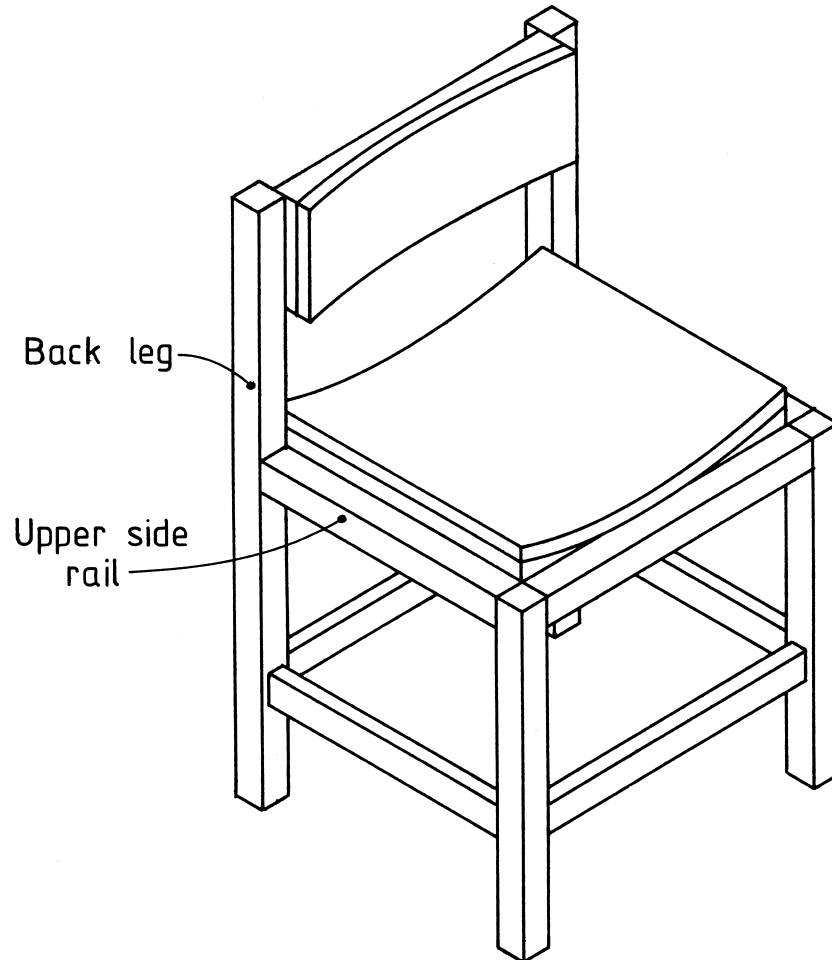


FIG. 3. DINING CHAIR

- (a) A manufacturer of the dining chair shown in Figure 3 must consider a number of issues when planning the mass production of the chair.

In the space provided, name **THREE** issues and explain how each could affect the mass production of the chair.

Issue 1

Explanation

.....

.....

QUESTION 5 (Continued)

Issue 2

Explanation

.....

.....

Issue 3

Explanation

.....

.....

- (b) (i) Name a suitable mass production joint that could be used to join the back leg to the upper side rail.

.....

- (ii) Outline the process used to produce this joint in the frame.

.....

.....

.....

.....

- (c) Explain TWO methods of ensuring that the dining chair frame remains square during construction.

Method 1

.....

Method 2

.....

Question 5 continues on page 8

QUESTION 5 (Continued)

Figure 4 shows a sketch of the rubber foam padding attached to the back panel of the dining chair.

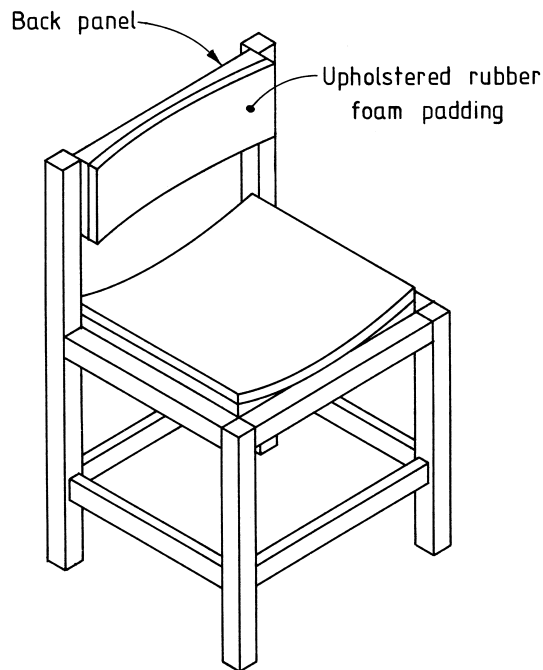


FIG. 4. DINING CHAIR

(d) Briefly describe the processes required to complete the following applications.

(i) Applying rubber foam to the plywood backing

.....

.....

.....

.....

(ii) Upholstering the back panel padding

.....

.....

.....

.....

(iii) Attaching the upholstered back panel to the dining seat frame

.....

.....

.....

.....

QUESTION 6 (5 marks)

(a) A manufacturer mass produces modular wall units made from manufactured board.

(i) Name TWO manufactured boards suitable for mass production.

1

2

(ii) Complete the flowchart below, outlining the steps in manufacturing a wall unit from start to finish.

<p>BOARDS DELIVERED TO FACTORY</p>
--

START

<p>UNITS DELIVERED TO RETAILER</p>
--

FINISH

Question 6 continues on page 10

QUESTION 6 (Continued)

(b) The modular units are designed to be assembled using knockdown fittings.

(i) Describe the purpose of a knockdown fitting.

.....

.....

.....

(ii) List ONE advantage and ONE disadvantage of knockdown fittings.

Advantage

.....

Disadvantage

.....

(iii) Describe, and use a diagram to illustrate, ONE method of supporting adjustable shelves in the wall units.

.....

.....

.....

.....

.....

.....

.....

QUESTION 6 (Continued)

- (c) Safe working practices are important in industry. List THREE safe working practices in mass producing the modular wall units in the following areas.

(i) Manufacture of component parts

- 1
- 2
- 3

(ii) Delivery of stock

- 1
- 2
- 3

(iii) Material finishing

- 1
- 2
- 3

Please turn over

QUESTION 7 (5 marks)

Figure 5 shows a pictorial drawing of a picnic table.

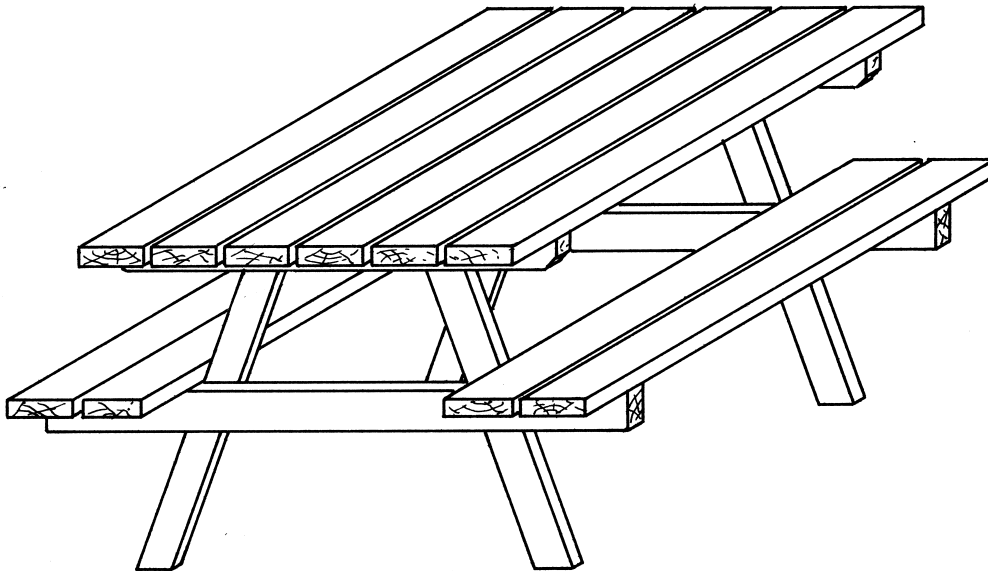


FIG. 5. PICNIC TABLE

- (a) (i) Name a timber suitable for the outside picnic table.
-
- (ii) List THREE characteristics of the timber named in part (i) that make it suitable for the picnic table.
- 1
- 2
- 3
- (iii) List TWO timber defects that should be avoided when purchasing timber. Explain why each defect should be avoided.
- Defect 1
- Explanation
-
-
-

QUESTION 7 (Continued)

Defect 2

Explanation

.....

.....

.....

- (b) (i) Name a suitable timber finish for the timber named in part (a) (i).

.....

- (ii) List TWO reasons for using the timber finish named above.

Reason 1

.....

Reason 2

.....

Question 7 continues on page 14

QUESTION 7 (Continued)

(c) Outdoor furniture usually has an edge treatment applied.

(i) State TWO reasons why edge treatment is important.

Reason 1

.....

.....

Reason 2

.....

.....

(ii) Sketch and label an edge treatment that could be used on the picnic-table seat. Use the space below.

(iii) Describe the process you would use to carry out the edge treatment.

.....

.....

.....

.....

.....

.....

End of paper

BLANK PAGE

BLANK PAGE