

STUDENT NUMBER           Letter

## VCE VET FURNISHING

### Written examination

Friday 17 November 2017

Reading time: 9.00 am to 9.15 am (15 minutes)

Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)

### QUESTION AND ANSWER BOOK

#### Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	20	20	20
B	14	14	50
C	15	15	30
			Total 100

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers and one scientific calculator.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.

#### Materials supplied

- Question and answer book of 21 pages
- Detachable insert for Section C in the centrefold
- Answer sheet for multiple-choice questions

#### Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.
- All written responses must be in English.

#### At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.
- You may keep the detached insert.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

**SECTION A – Multiple-choice questions****Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1; an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

**Question 1**

Which one of the following tools is used to flatten a 600 mm × 400 mm solid timber cabinet top?

- A. no. 5 jack plane
- B. no. 92 rebate plane
- C. no. 60½ block plane
- D. no. 3 smoothing plane

**Question 2**

The unit of measurement for calculating the cost of a sheet of medium-density fibreboard (MDF) is

- A. roll metres.
- B. cubic metres.
- C. square metres.
- D. lineal metres.

**Question 3**

Which document is used to record and communicate the dressed sizes of cabinet parts?

- A. specification
- B. cutting list
- C. section
- D. plan

**Question 4**

Dowels should be

- A. parallel to the rail.
- B. 90 degrees to the rail.
- C. parallel to the joint surface.
- D. 90 degrees to the joint surface.

**Question 5**

Which machine is used to make cylindrical chair legs?

- A. lathe
- B. router
- C. bandsaw
- D. thicknesser

**Question 6**

The cap iron on a hand plane

- A. reduces surface chip-out.
- B. provides lateral adjustment.
- C. gives the plane more weight.
- D. is used as a gauge for the depth of cut.

**Question 7**

Which tool is used to check the depth of cut for a router bit?

- A. try square
- B. tape measure
- C. 300 mm steel rule
- D. 1000 mm steel rule

**Question 8**

Isaac, a cabinet-maker, has been asked by the foreman to attach three drawer fronts to a bedside table.

The correct method for attaching drawer fronts is to

- A. screw the drawer front on from the inside of the drawer.
- B. nail the drawer front to the drawer, then nail punch and putty the holes.
- C. attach timber cleats to the drawer and screw the cleats to the drawer front.
- D. glue the drawer front onto the drawer using polyvinyl acetate (PVA) wood glue.

**Question 9**

The plans for a bedside table with a drawer show a drawer kicker.

What is a drawer kicker?

- A. the timber block that stops the drawer and makes the drawer front sit flush
- B. the timber rail that assists with holding the drawer when the drawer is opened
- C. the timber block that stops the drawer from hitting the back of the bedside table
- D. the timber rail that prevents a drawer from tilting downwards when the drawer is opened

**Question 10**

What does a safe operating procedures document include?

- A. health and hazard information about a product and how it should be handled
- B. steps that must be followed to perform a workplace activity safely
- C. steps that must be followed to make a piece of furniture safely
- D. a logbook that documents scheduled maintenance

**Question 11**

John is making a cabinet to hold his 110 L fish tank. The tank is 762 mm long, 305 mm wide and 457 mm high. The cabinet is made from 18 mm veneered particle board (VPB). The cabinet has two doors below the fish tank and a 100 mm kicker. The doors are 620 mm high and 360 mm wide, and will be attached using overlay hinges. The doors are between the kicker and the top, with the recommended spacing in between. The top in which the fish tank will sit is 32 mm thick, solid Victorian ash timber.

What is the overall height of the cabinet, including the fish tank?

- A. 1209 mm
- B. 1213 mm
- C. 1229 mm
- D. 1249 mm

**Question 12**

Which is the correct tool to use when attaching a 6 mm thick plywood back with 20 mm flathead nails?

- A. rubber mallet
- B. tack hammer
- C. brad hammer
- D. wooden mallet

**Question 13**

Harry, a Furnishing student, is using a low-angle block plane to arris the legs of a coffee table.

After sharpening the blade, Harry places the blade in the tool

- A. with the bevelled side up.
- B. with the bevelled side down.
- C. by attaching the cap iron correctly.
- D. by tightening the screw so it will not loosen.

**Question 14**

Dressed all round (DAR) timber is required for 500 mm × 42 mm × 18 mm rails.

What is the most economical size of rough sawn timber needed to machine the rails to the required size?

- A. 42 mm × 18 mm
- B. 42 mm × 25 mm
- C. 50 mm × 25 mm
- D. 45 mm × 45 mm

**Question 15**

Janet, a cabinet-maker, is required to check the size of a door for a cabinet.

Which unit of measurement should Janet use?

- A. inches
- B. metres
- C. millimetres
- D. centimetres

**Question 16**

When gluing dowel joints on a coffee table for leg and rail construction, the glue should be placed

- A. on both ends of the dowels.
- B. on the leg surface and the end grain of the rail.
- C. in the dowel holes on the leg and the end grain of the rail.
- D. in the dowel holes on both the leg and the rail, and the end grain of the rail.

**Question 17**

What does the term 'dry clamping' mean when gluing and clamping leg and rail construction?

- A. the type of glue that is strong and can be used in any climate
- B. the type of clamp that does not need oiling and regular maintenance
- C. using clamping blocks to ensure that the timber does not touch the dusty clamps
- D. clamping the joints prior to gluing, to ensure joints fit neatly and all equipment is prepared

**Question 18**

Which joint is **not** suitable for leg and rail construction for a dining-room chair?

- A. dowel joint
- B. biscuit joint
- C. loose tenon joint
- D. mortise and tenon joint

**Question 19**

A chair frame is checked for square during the gluing-up process by

- A. calculating the ratio of width to height.
- B. measuring the diagonals.
- C. measuring the seat angle.
- D. measuring the length.

**Question 20**

The Australian Standard 'AS/NZS 4386.2:1996 Domestic Kitchen Assemblies, Part 2: Installation' relates to the installation of kitchen cabinets.

Australian Standards describe

- A. minimum rates of pay.
- B. minimum standards for a product.
- C. protection from unwanted litigation.
- D. methods of identifying inferior products.

**SECTION B – Short-answer questions**

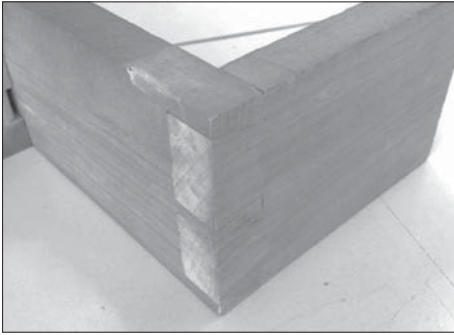
**Instructions for Section B**

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

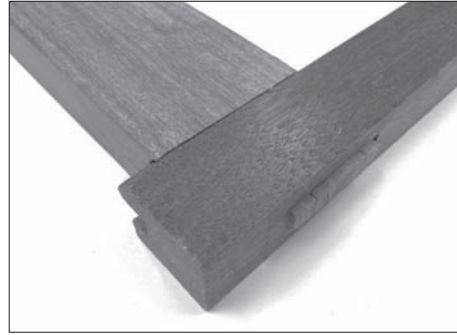
Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

**Question 1** (4 marks)

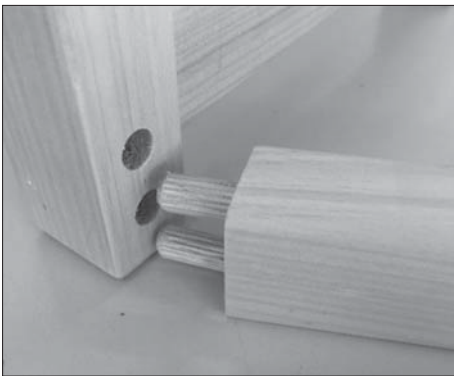
Name the following joints.



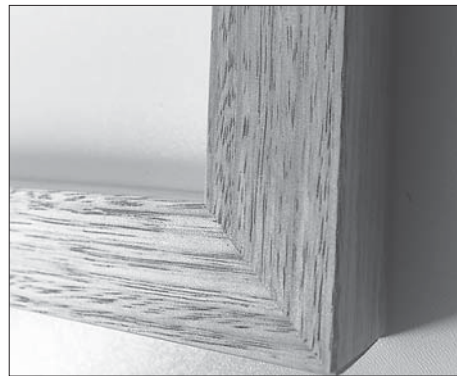
1. \_\_\_\_\_



2. \_\_\_\_\_



3. \_\_\_\_\_



4. \_\_\_\_\_

**Question 2** (2 marks)

Where are stretcher rails located on a chair and what is their purpose?

Location \_\_\_\_\_

Purpose \_\_\_\_\_

\_\_\_\_\_

**Question 3** (4 marks)

List two joints that can be used for leg and rail construction and give one advantage of using each joint.

Joint 1 \_\_\_\_\_

Advantage \_\_\_\_\_

Joint 2 \_\_\_\_\_

Advantage \_\_\_\_\_

**Question 4** (2 marks)

JSA and PPE are common workplace terms.

Provide the full name of each term.

JSA \_\_\_\_\_

\_\_\_\_\_

PPE \_\_\_\_\_

\_\_\_\_\_

Use Figure 1 to answer Questions 5 and 6.



Figure 1

**Question 5** (4 marks)

The tools shown in Figure 1 are sharpened using two steps.

Identify the two steps and the equipment required for each step.

Step 1 \_\_\_\_\_

Equipment \_\_\_\_\_

Step 2 \_\_\_\_\_

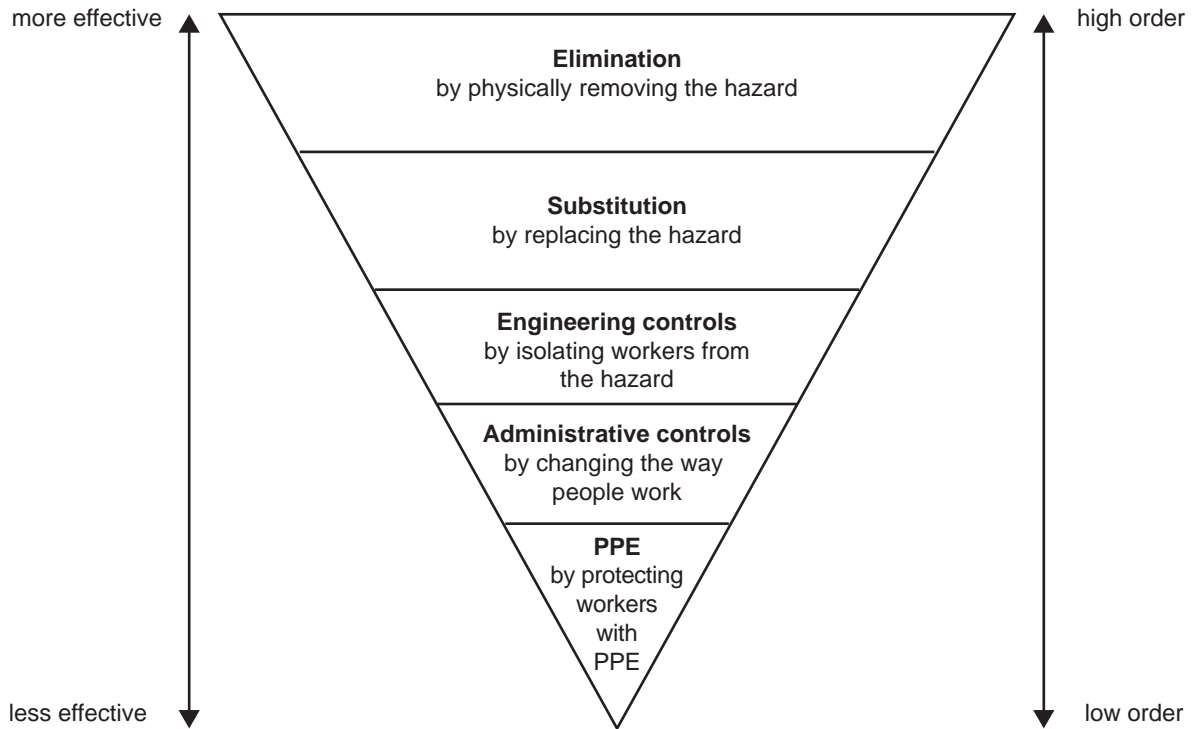
Equipment \_\_\_\_\_

**Question 6** (3 marks)

List the items of PPE required when sharpening the tools shown in Figure 1.

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



**Question 7** (6 marks)

Source: adapted from 'Hierarchy of Controls', National Institute for Occupational Safety and Health, [www.cdc.gov/niosh/topics/hierarchy/default.html](http://www.cdc.gov/niosh/topics/hierarchy/default.html)

List two hazards, the risks attached to each hazard and a method to control each hazard when grinding tools.

Hazard 1 \_\_\_\_\_

Risk \_\_\_\_\_

Control \_\_\_\_\_

Hazard 2 \_\_\_\_\_

Risk \_\_\_\_\_

Control \_\_\_\_\_

**Question 8** (1 mark)

A benchtop is 2680 mm × 600 mm.

Calculate the area of laminate required to laminate the top face of the benchtop. Give your answer in square metres (m<sup>2</sup>).

---

---

**Question 9** (2 marks)

What are the two most common causes of twist or wind when gluing a timber door?

- ---
- ---

**Question 10** (2 marks)

Anne is assembling kitchen cabinets. The edging is glued on, but the edge bander did not trim the edging to width.

Provide **two** ways Anne could remove the excess edging.

---

---

**Question 11** (4 marks)

What details should be included in the title block of a scaled drawing?

---

---

---

---

**Question 12** (1 mark)

Paul is looking at a scaled drawing of a chair. The scale is 1:5. Paul measures the chair's front rail to be 62 mm long.

What is the full-size length of the chair's front rail?

---

**CONTINUES OVER PAGE**

**Question 13** (5 marks)

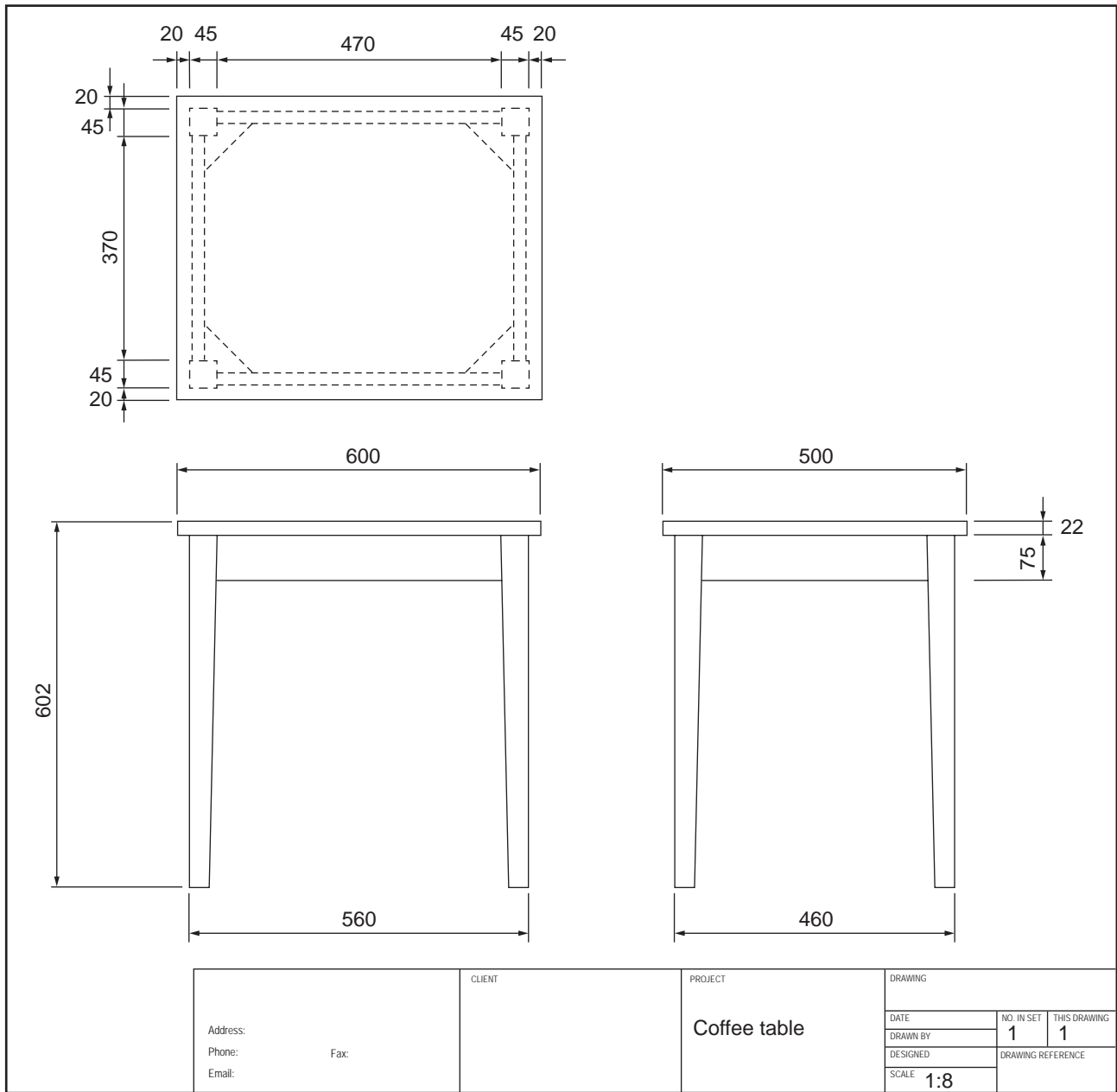
A tax invoice for items sold to Just Furniture by Sharpening Saw Service is shown below.

Sharpening Saw Service		<b>Tax Invoice</b>			
PO Box 1234					
21 Paddy Road					
Melbourne, Victoria 3000					
Tel: 9123 4567					
Fax: 9333 5478					
ABN: 32 555 123 456					
		Invoice number	Customer	Date	Page
		83245	44	23/02/17	1
<b>Sold to</b>					
Just Furniture					
230 Station Rd					
Port Melbourne, Victoria 3207					
Terms	Order				
Net 30 days					
Quantity	Description	Unit price	Discount	Total	
2	S 60 TCT saw blade 60 teeth	\$21.00		\$42.00	
4	J 25 jointer knives 610 mm	\$8.00		\$32.00	
3	J 12 jointer knives 305 mm	\$6.00		\$18.00	
Comments		Subtotal		\$92.00	
		GST			
		Total amount		\$101.20	
		Amount received		\$0.00	
		Balance			

- a.** What does ABN stand for? 1 mark
- 
- b.** Calculate the GST. 1 mark
- 
- c.** What is the balance owing to Sharpening Saw Service? 1 mark
- 
- d.** One additional TCT saw blade 60 teeth is added to the invoice.  
Calculate the new subtotal. 2 marks
-

**Question 14** (10 marks)

Figure 2 shows the plan of a coffee table for which Victorian ash timber is required.



**Figure 2**

**Timber price list**

<b>Timber</b>	<b>width (mm) × thickness (mm)</b>	<b>Cost per lineal metre</b>
Victorian ash	45 × 45	\$6.99
Victorian ash	190 × 45	\$27.94
Victorian ash	142 × 45	\$20.96
Victorian ash	90 × 45	\$13.97
Victorian ash	190 × 32	\$20.96
Victorian ash	142 × 32	\$15.73

<b>Timber</b>	<b>width (mm) × thickness (mm)</b>	<b>Cost per lineal metre</b>
Victorian ash	90 × 32	\$10.29
Victorian ash	190 × 19	\$13.97
Victorian ash	142 × 19	\$10.51
Victorian ash	140 × 12	\$9.90
Victorian ash	90 × 19	\$6.99
Victorian ash	70 × 19	\$5.28

In the cutting and costing list below, complete the costing of the coffee table using the timber price list provided.

**Cutting and costing list – Coffee table**

<b>Item no.</b>	<b>Part of product</b>	<b>Number of pieces</b>	<b>Length (mm)</b>	<b>Width (mm)</b>	<b>Thickness (mm)</b>	<b>Type of material</b>	<b>Total lineal metres</b>	<b>Cost per lineal metre</b>	<b>Total</b>	
									<b>\$</b>	<b>C</b>
1	legs	4	580	45	45	Victorian ash		\$6.99		
2	front and back rails	2	470	75	19	Victorian ash	0.94			
3	side rails	2	370	74	19	Victorian ash				
4	top	1	600	500	22	Victorian ash		\$20.96		
<b>Total \$</b>										

**SECTION C – Case study****Instructions for Section C**

Please remove the insert from the centre of this book during reading time.

Use the case study provided in the insert to answer the questions in this section.

Use explanatory diagrams, charts and sketches if you believe they will improve your answers.

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

Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.

**Question 1** (6 marks)

Complete the cutting list for the hall table by filling in the missing information.

Cutting list							
Item no.	Item	No. of pieces	Length (mm)	Width (mm)	Thickness (mm)	Remarks	Material
1	top	1	1100	420	22	to suit pattern	Victorian ash
2	legs	4		45	45	to suit pattern	Victorian ash
3	upper side rails	2	263	140	20	to pattern	Victorian ash
4	back rail	1	770		20		Victorian ash
5	blade rails	2	770	45	20		hoop pine
6	drawer runners	2		45	20		hoop pine
7	drawer kickers	2	263	45	20		hoop pine
8	fixing cleats	2	263	45	20		hoop pine
9	drawer sides		315	80	12		hoop pine
10	drawer front	1	400	80	12		hoop pine
11	drawer back	1	400	62	12		hoop pine
12	drawer slips	2		22	12		hoop pine
13	drawer bottom	1	362	296	6		hoop pine
14	false front	1	400	140	20	cut from same as panels	Victorian ash
15	side panels	2	185		20	cut from same as panels	Victorian ash



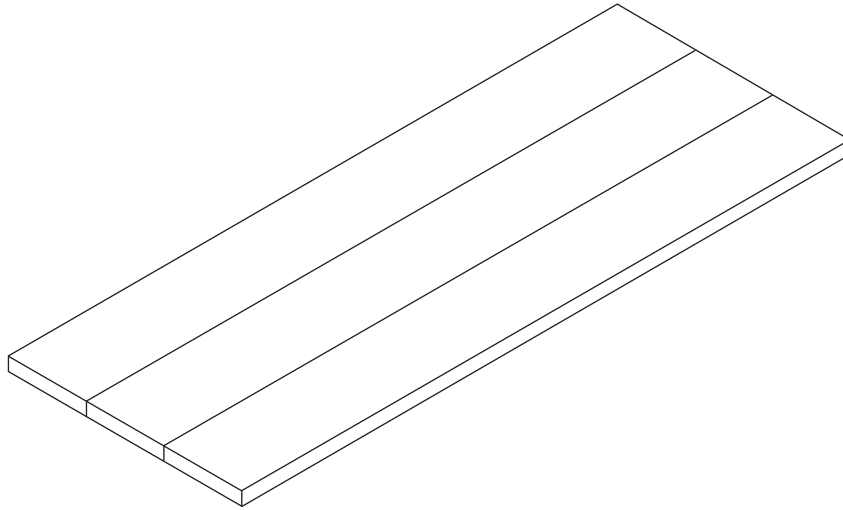
**Question 2** (6 marks)

Complete the job plan for the hall table by filling in the missing information.

<b>Section</b>	<b>Step</b>	<b>Tools/equipment required</b>
preparation	Select timber, dress and cut to size.	tape measure, docking saw, rip saw, jointer and thicknesser
leg and rail	Mark out leg rail joints.	
	Make loose tenon joint for legs and rails.	loose tenon machine, supporting board
	Shape legs and sand internal faces.	
	Shape upper and lower side rails, and sand internal faces.	jig saw, spokeshave, smoothing plane, sanding block and abrasive paper
	Dry run and glue-up side frames. Check for square and wind.	glue, clamping blocks, clamps, tape measure
		glue, clamping blocks, clamps, tape measure
drawer and runners	Fit drawer runners, guides and kickers to the leg and rail assembly.	loose tenon machine, supporting board, drill/driver, clamps
	Fit drawer sides, back and front to the opening.	
	Mark out and cut dovetails.	pencil, 300 mm steel rule, combination square, sliding bevel, bench hook, dovetail saw
	Assemble drawer and fit drawer slips. Check for square and wind.	glue, clamps, tape measure, dovetail saw
	Fit drawer to opening and install drawer bottom.	jack plane, hammer
assembly	Attach side panels.	drill/driver
	Attach false drawer front.	drill/driver
	Shape top and sand ready for finishing.	
	Fit top to leg and rail assembly.	drill/driver, combination square
finishing	Sand all parts ready for finishing.	sanding block and abrasive paper
		brush, rags
	Fit drawer handle and glides to end of legs. Final check prior to delivery.	drill/driver, hammer

**Question 3** (2 marks)

Complete the sketch of the top layout of the hall table’s tabletop by drawing the location of biscuit joints and the growth rings on the ends of the boards.



**Question 4** (2 marks)

The job plan indicates that a loose tenon joint is needed to join the back rail to the leg joint.

Name an alternative joint that could be used and give a reason for choosing this joint.

Joint \_\_\_\_\_

Reason \_\_\_\_\_

**Question 5** (1 mark)

A lapped dovetail joint is used to join the solid timber drawer front to the solid timber drawer side.

Give **one** reason why lapped dovetail joints are used for drawer construction.

\_\_\_\_\_

**Question 6** (2 marks)

What power tool is used to cut the shape of the top? Give one reason for choosing this power tool.

Power tool \_\_\_\_\_

Reason \_\_\_\_\_

\_\_\_\_\_

**Question 7** (1 mark)

The legs are cut to a pattern using a bandsaw.

What hand tool is used to finish the shaping of the legs?

---

---

---

**Question 8** (2 marks)

When planning the production of the hall table, what are **two** things that can be done to reduce time wastage or delays?

---

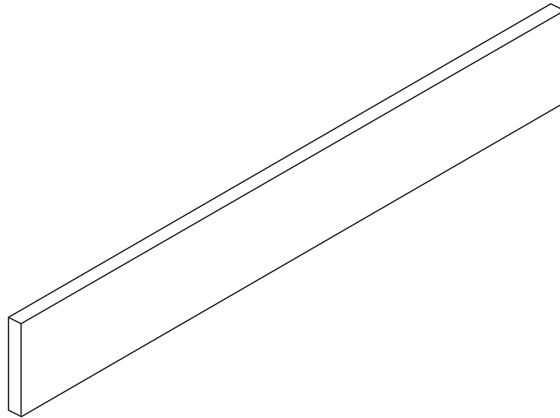
---

---

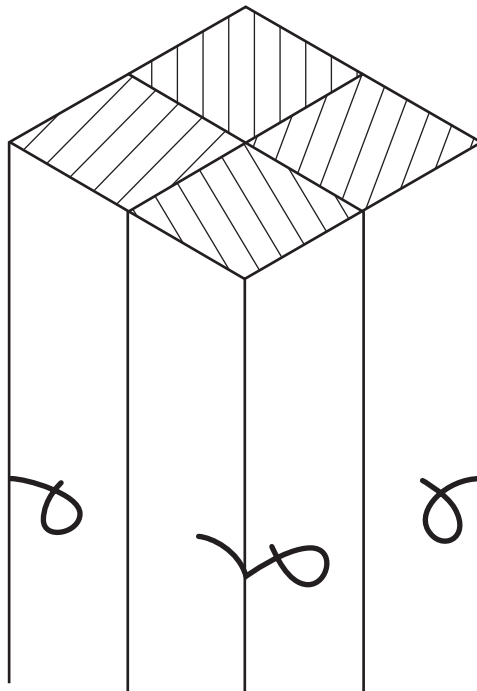
**Question 9** (1 mark)

The timber for the false drawer front and side panels is cut from a single piece of timber.

On the diagram below, draw where the timber will be cut.



**Question 10** (1 mark)



The diagram above shows the top of the legs.

What are the markings on the legs called and what is the purpose of these markings?

---

---

---

**Question 11** (1 mark)

The working drawing for the hall table shows revision notes.

In Revision note 2, what changes were made to the working drawing?

---

---

**Question 12** (1 mark)

A current Material Safety Data Sheet (MSDS) is required for the oil finish.

Who must supply the MSDS?

---

---

---

**Question 13** (2 marks)

The hall table is being assembled with polyvinyl acetate (PVA) glue.

After clamping the side rails and legs, what tasks must be completed before allowing the glue to set?

---

---

**Question 14** (1 mark)

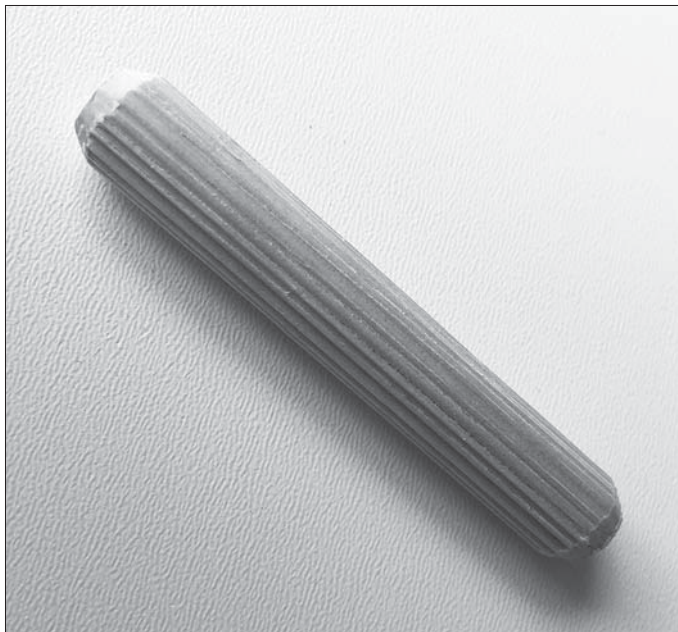
A hand-rubbed oil finish is specified for the hall table.

What abrasive paper grit is used for the final sanding, before applying the oil finish?

---

**Question 15** (1 mark)

A fluted cabinet-making dowel is shown below.



What is the purpose of the multiple parallel grooves along the length?

---

---

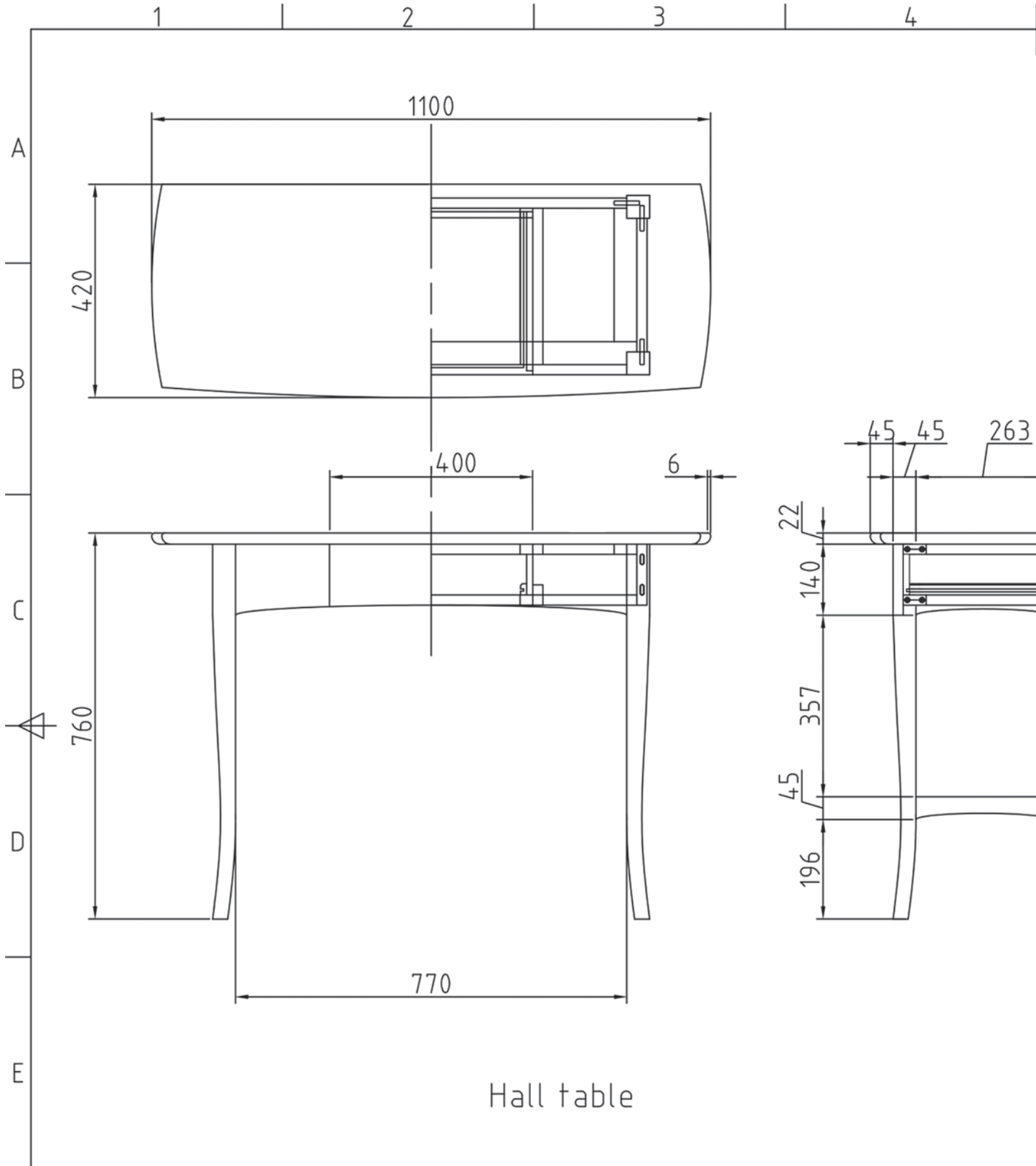


**Insert for Section C**

Please remove from the centre of this book during reading time.

A client has requested a hall table with the following specifications:

- timber: Victorian ash
- internal joinery: hoop pine
- all materials 20 mm thick unless otherwise noted
- top 22 mm thick
- legs 45 mm square
- side and back rails set in 5 mm from leg faces
- top, legs and rails shaped to patterns provided
- lapped dovetail drawer construction
- loose tenon or dowel construction as shown on plans
- hand-rubbed oil finish



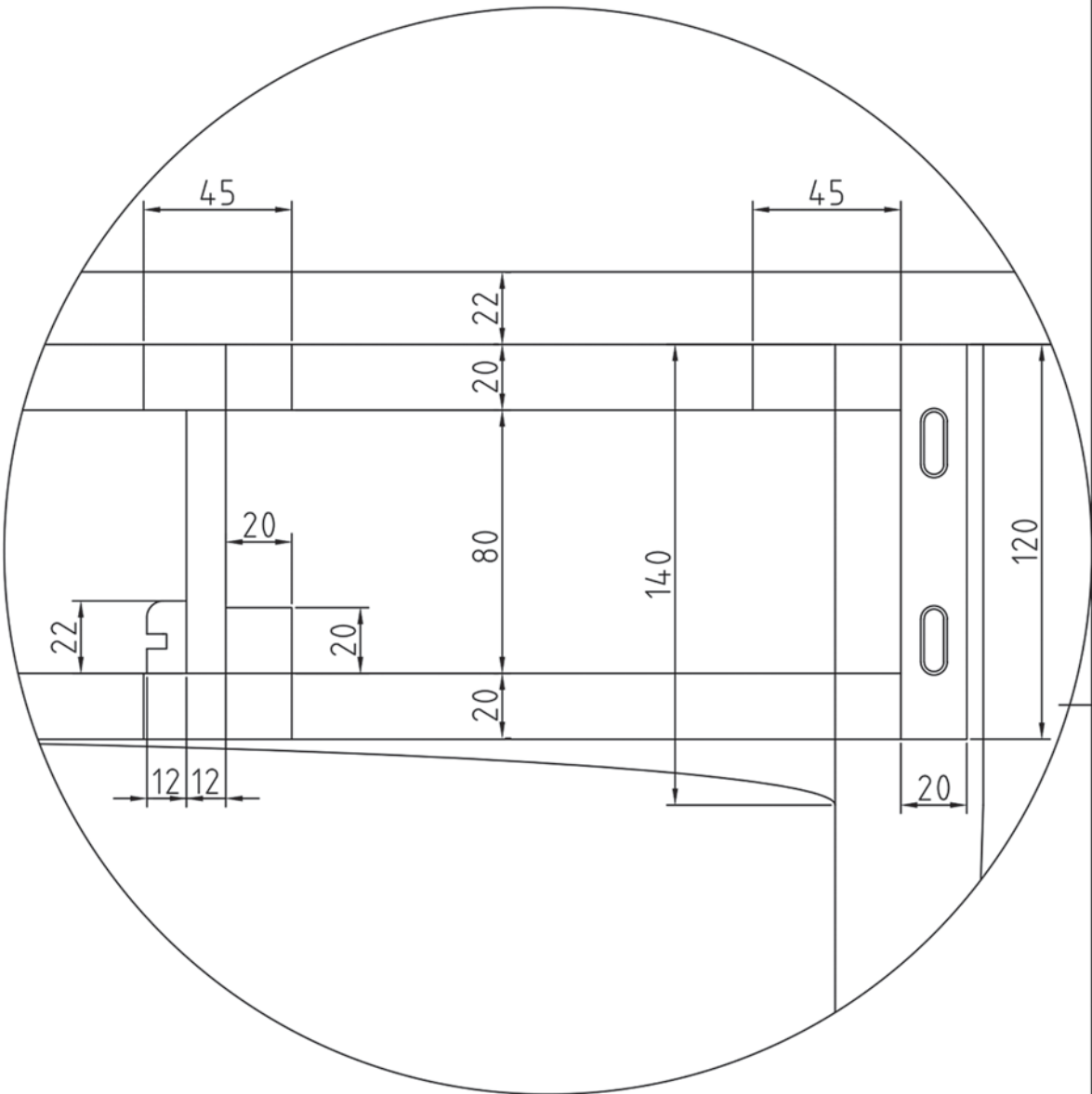
Hall table

SPECIFICATIONS

- |   |   |
|---|---|
| F | <ul style="list-style-type: none"> <li>• timber: Victorian ash</li> <li>• internal joinery: hoop pine</li> <li>• all materials 20 mm thick unless otherwise noted</li> <li>• top 22 mm thick</li> <li>• legs 45 mm square</li> <li>• side and back rails set in 5 mm from leg faces</li> <li>• top, legs and rails shaped to patterns provided</li> <li>• lapped dovetail drawer construction</li> <li>• loose tenon or dowel construction as shown on plans</li> <li>• hand-rubbed oil finish</li> </ul> |
|---|---|



Rev No	Revision note	Date	Signature	Checked
1	Top shape change	4/08/2017		
2	Dowel location - intersection with loose tenons	4/08/2017		
3	Overall height correction - now 760	21/08/2017		



Drawer frame detail

FILE NAME	Hall Table.dwg	FSCM NO	SHEET	1	SCALE	D.N.S.
SIZE			DO NOT SCALE			
DRAWN	2/08/2017		Hall table			
CHECK	B.A.W.		1140 mm x 420 mm			
APPR.	C.C.A.		DWG NO			
ISSUED	B.A.W.		0001 – Cabinet-making			
REV	4					
CONTRACT NO	0001					