

**Victorian Certificate of Education
2014**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER Letter

VCE VET FURNISHING (CABINET MAKING)
Written examination

Monday 10 November 2014

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	12	12	45
C	3	3	35
			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 white out liquid/tape.

Materials supplied

- Question and answer book of 16 pages. There is a 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.
- 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.

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.

Question 1

What is the main purpose of corner blocks in the construction of a dining table?

- A. to strengthen the construction
- B. to square the legs during assembly
- C. to use as fixing blocks to attach the tabletop
- D. to make the dining table more difficult to construct

Question 2

Many clients are now requesting that their new furniture is finished with environmentally safe products.

Which polish could companies use to meet clients' needs?

- A. shellac
- B. polyurethane
- C. two-pack lacquer
- D. water-based varnish

Question 3

Which one of the following is the most appropriate screw to use when assembling white melamine kitchen cabinets?

- A. tek
- B. pan head
- C. chipboard
- D. galvanised

Question 4

In a caravan-manufacturing company, who is responsible for ensuring that occupational health and safety (OH&S) regulations are followed?

- A. the worker
- B. everyone in the company
- C. the owner of the company
- D. the foreman in the workshop

Question 5

James is using a new manufactured board product, bamboo ply, to assemble bedroom furniture. Which document explains the safety precautions for using bamboo ply?

- A. the advertising brochure
- B. the Risk Assessment sheet
- C. the Job Safety Analysis (JSA) sheet
- D. the Material Safety Data Sheet (MSDS)

Question 6

When using a roundover router bit, shown above, what is the function of the ball bearing?

- A. to prevent burning the moulding
- B. to guide the width of the moulding
- C. to guide the depth of the moulding
- D. to balance the weight of the router bit

Question 7

Which document should be used to check the assembly sequence for a chest of drawers?

- A. the plans
- B. the MSDS
- C. the work instructions
- D. the sketch of the finished product

Question 8

What is the correct order when assembling a kitchen cabinet carcass?

- A. square up the carcass, fit the drawer runners
- B. nail the back to the carcass, square up the carcass
- C. fit the drawer runners, nail the back to the carcass
- D. square up the carcass, nail the back to the carcass

Question 9

Which one of the following documents is required before completing a cutting list?

- A. the MSDS
- B. the set-out
- C. the JSA sheet
- D. the work instructions

Question 10

In which document should waste allowances be included?

- A. a set-out
- B. a costing sheet
- C. production plans
- D. a safe operating procedure

Question 11

Which one of the following is the most appropriate joint to use for the front/side joint of a timber drawer?

- A. butt
- B. dowel
- C. dovetail
- D. mortise and tenon

Question 12

When assembling timber drawers, it is essential to check that

- A. there are gum veins.
- B. the sides are parallel.
- C. there are no glue marks.
- D. the drawer is not twisted.

Question 13

When using power tools, the safest method of securing materials is to

- A. hold the material in a bench vice.
- B. secure the material using a heavy item.
- C. ask another worker to hold the material.
- D. use one hand to hold the tool and one hand to hold the material.

Question 14

A visual check of a power tool should be completed

- A. each time you use the tool.
- B. at least once per month.
- C. at the start of every week.
- D. when the tag date has almost expired.

Question 15

A worker is asked by the foreman to dispose of MDF offcuts.

Which one of the following is the best option for disposing of the material in an environmentally safe manner?

- A. Organise a collection by a recycling service.
- B. Dispose of the material with other rubbish in a wheelie bin.
- C. Place the offcuts in the skip bin, to be disposed of in landfill.
- D. Cut the MDF into smaller pieces so it takes up less space in landfill.

Question 16

A biscuit jointer is best used for joining

- A. two or more legs and rails together.
- B. boards end-to-end to make longer boards.
- C. two or more pieces to form halving joints.
- D. two or more boards together along the grain.

Question 17

The most appropriate tool to use when constructing a leg and rail joint is

- A. a battery-operated drill fitted with the relevant drill bit.
- B. an electric drill used in conjunction with a dowelling jig.
- C. a horizontal drilling machine fitted with a dowel point bit.
- D. a horizontal drilling machine fitted with a machine point drill bit.

Question 18

When assembling leg and rail joints, the correct use of cramping blocks enables the legs and rails to be

- A. clamped successfully.
- B. free from bruising and dents.
- C. squared, aligned and made parallel.
- D. measured for squareness of the assembly.

Question 19

When constructing a piece of furniture, the cutting list provides

- A. many of the details that are not found in the full-size set-out.
- B. the number of pieces, the sizes required and the materials to be used.
- C. most of the relevant details of how to construct the item of furniture.
- D. general information that is needed to successfully construct the piece of furniture.

Question 20

When assembling a cabinet, Jane should collect

- A. all the tools, parts, jigs, fixtures, assembly aids and work instructions.
- B. all the screws, nails, hardware, patterns, jigs and parts for the cabinet.
- C. dowels, knock-down fittings, cabinet parts and the relevant tools to construct the project.
- D. all the work instructions, as these will inform Jane of everything relevant to the assembly process.

SECTION B – Short-answer questions

Instructions for Section B

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

Question 1 (6 marks)

Identify the following tools and provide an example of how each tool is used.

1.



Tool _____

Use _____

2.



Tool _____

Use _____

3.



Tool _____

Use _____

Question 2 (3 marks)

In the space below, sketch a sliding bevel, and explain how and why it is used.

Sketch	Explanation

Question 3 (1 mark)

Fill in the blanks with the numbers 2–6 to put the assembly sequence below in the correct order. An example has been provided.

Order	Assembly sequence
	Fit adjustable shelves
	Fit doors
	Fit back and square up cabinet
	Fix all hardware and fittings
	Attach carcass ends to top/bottom
1	Check all parts and hardware are correct

Use Figure 1 to answer Question 4.

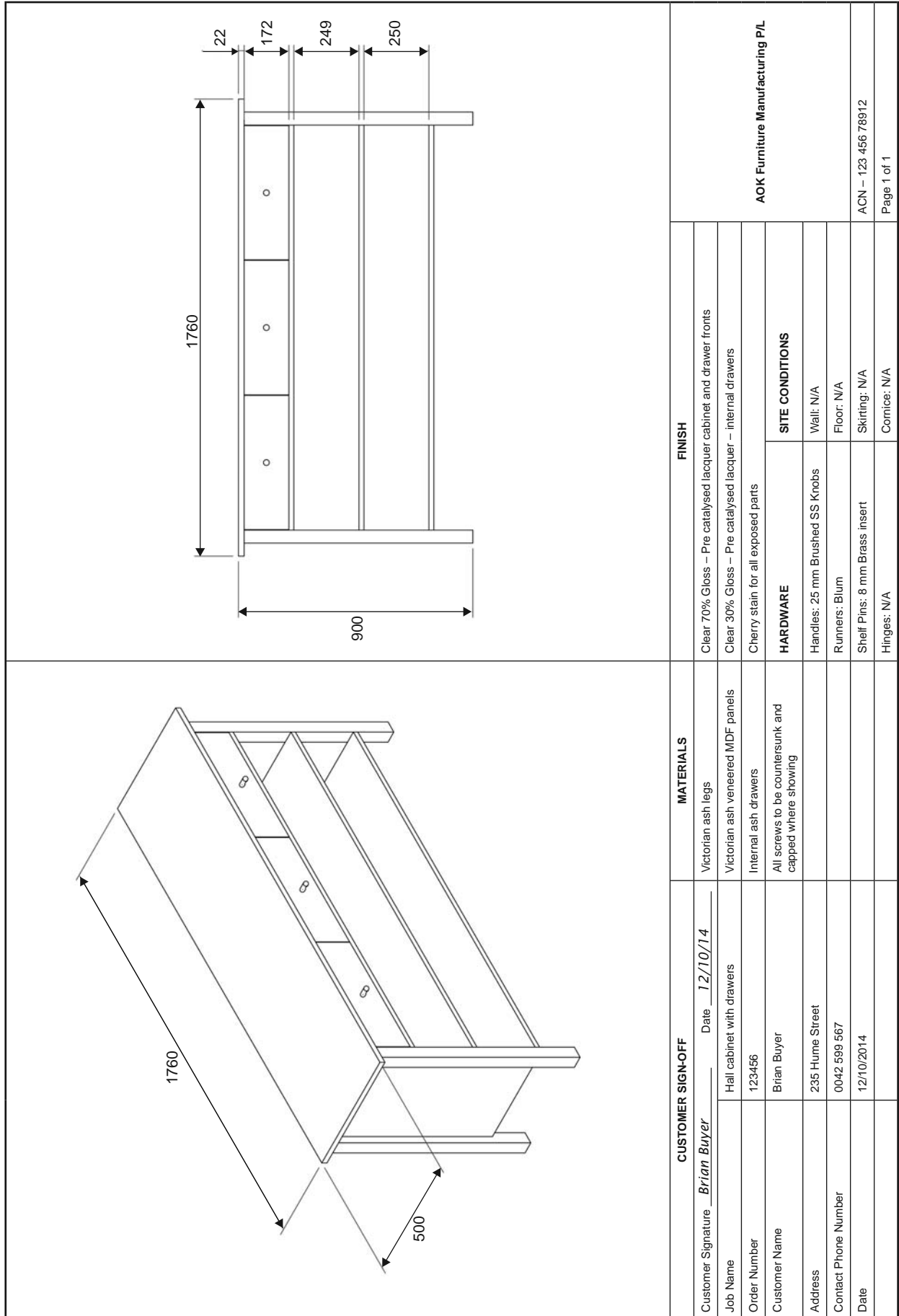


Figure 1

Question 4 (4 marks)

- a. Who is the client for this product? 1 mark

- b. What are the **two** angles used in the construction of an isometric drawing? 1 mark

- c. What are the measurements for the cabinet top? 1 mark

- d. Calculate the length of the legs. 1 mark

Question 5 (4 marks)

Ed has been asked to select a new timber to use for internal carcass assembly.

Outline **two** sustainability factors and **two** general factors that Ed should take into consideration when making his choice.

Sustainability factors _____

General factors _____

Use Figure 2 to answer Question 6.

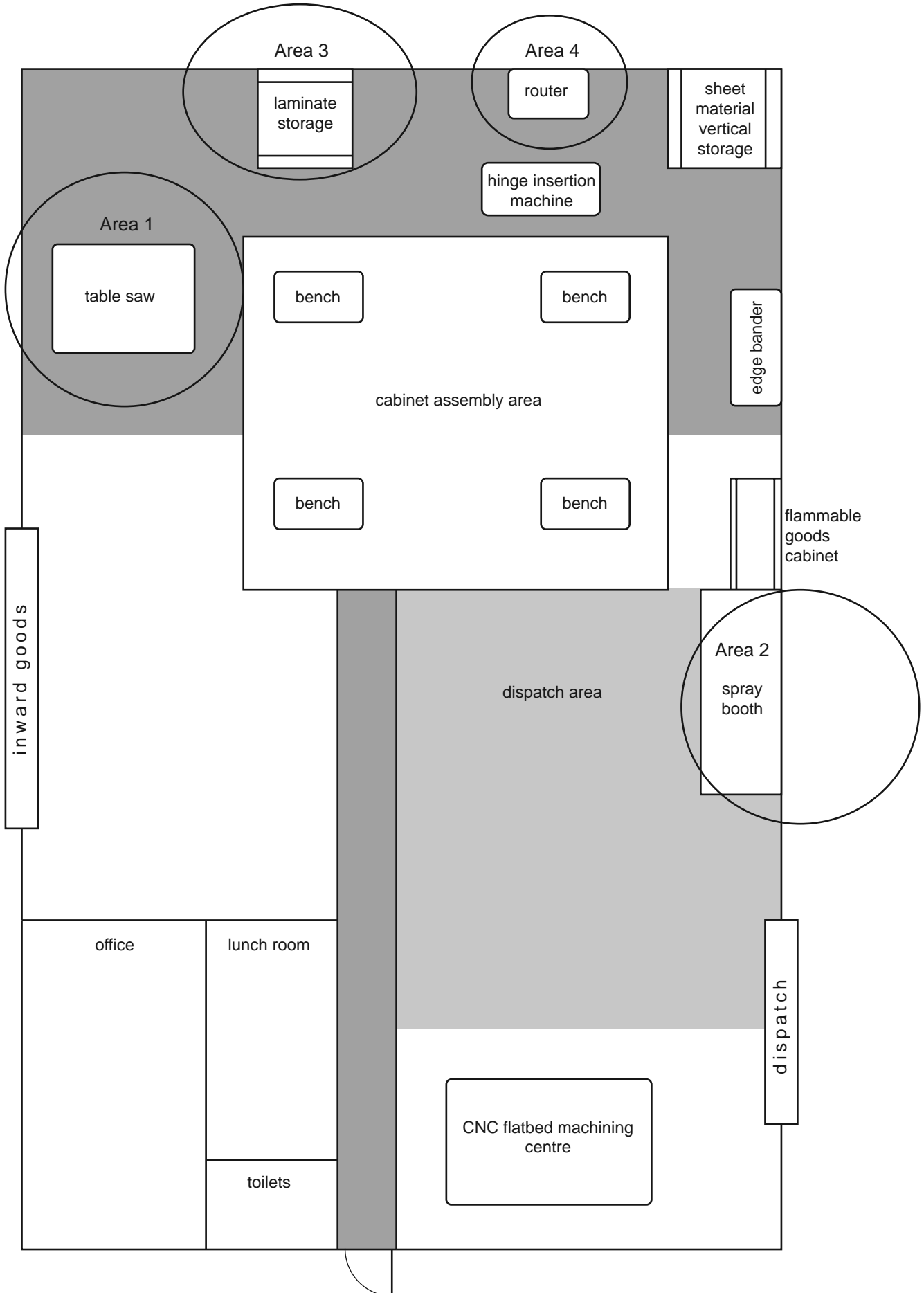


Figure 2

Question 6 (7 marks)

Figure 2 shows a schematic plan of your workplace.

- a. Your employer has asked you to help redesign the workplace.

Suggest three changes to minimise wasteful practices and to maximise production efficiency. 3 marks

1. _____

2. _____

3. _____

- b. As part of the workplace redesign, the signage will be replaced.

Using the letters A.–F., match the mandatory signage in Figure 3 with the areas listed below.

4 marks

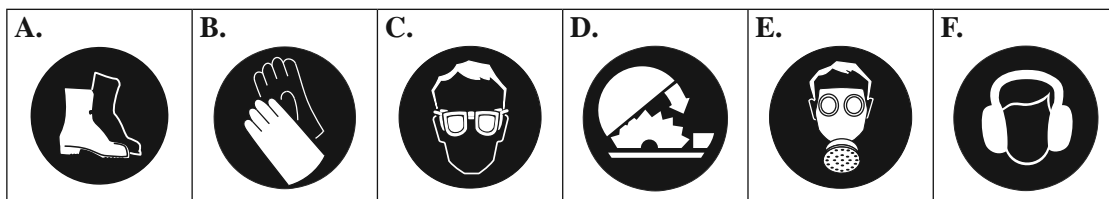


Figure 3

Area 1 _____

Area 2 _____

Area 3 _____

Area 4 _____

Question 7 (5 marks)

List five types of information included in a Material Safety Data Sheet (MSDS).

1. _____

2. _____

3. _____

4. _____

5. _____

Question 8 (2 marks)

What does the term 'flush' mean in relation to components of furniture? Provide an example to support your answer.

Question 9 (5 marks)

List four advantages and one disadvantage of using manufactured boards when making a wall unit.

Advantages

- 1. _____
- 2. _____
- 3. _____
- 4. _____

Disadvantage

- 1. _____

Question 10 (2 marks)

What are **two** safe operating procedures that should be followed when using an electric planer?

Question 11 (3 marks)

Explain the process Tom should use to check if a doorframe is square when completing the gluing stage of a project.

Question 12 (3 marks)

Name **one** appropriate joint to use in leg and rail construction. Give **two** reasons for your answer.

CONTINUES OVER PAGE

TURN OVER

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

Answer all questions in the spaces provided. Refer to the insert when answering Questions 1–3.
Use explanatory diagrams, charts and sketches if you believe they will improve your answers.

Question 1 (20 marks)

- a. Complete the cutting list on pages 14 and 15 for each part of the ash display cabinet in Figure 1 in the insert.

10 marks

Cutting list for the ash display cabinet						
Item	Description	No. of pieces	Length (mm)	Width (mm)	Thickness (mm)	Material/Machining
a	top	1	585	370	20	ash – 4 pieces 100 mm × 25 mm sawn timber
b	leg	4		45	45	ash
c	bottom front/back rail	2	405	45	32	ash
d	bottom side rail	2	240	45	32	ash
e	top front/top back rail	2	455	65	20	ash
f	top side rail	2		45	20	ash
g	bottom side panel	2	240		20	ash – 6 mm diameter bead along bottom edge
h	bottom shelf	1	455	285	19	ash _____
i	bottom shelf facing	1	405	25	19	ash
j	drawer front	1	405	95	20	ash – _____ _____ – 4 mm groove for ply bottom
k	drawer side	2	300	95	12	_____ – 4 mm groove for ply bottom
l	drawer back	1	367	77	12	hoop pine – half round along top edge
m	drawer bottom	1	375	304	4	hoop pine plywood
n	drawer runner	2	266	32	20	ash

Item	Description	No. of pieces	Length (mm)	Width (mm)	Thickness (mm)	Material/Machining
o	drawer guide	2	305	32	12	ash
p	door stile	2		45	20	ash
q	bottom door rail	1	315		20	ash
r	top door rail	1		45	20	ash
s	door/end frame glazing bead – vertical	6	812	10	6	ash – 3 mm half round along one edge
t	door/end frame glazing bead – horizontal	2	327	10	6	ash – 3 mm half round along one edge
		4	252	10	6	
u	back	1	1020	455		hoop pine plywood

- b. Calculate how much material would be required to machine the legs (45 mm × 45 mm) if the furniture maker is to machine the timber from sawn ash (125 mm × 50 mm). Show your working process in the space below.

4 marks

- c. The bottom shelf is joined to a solid piece of ash.

In the space below, sketch a plan view of the shelf, the shelf facing and the corner cut-outs. Include all sizes and explain how the two joining processes will be completed.

6 marks

Question 2 (6 marks)

List six logical steps from your work plan for constructing the ash display cabinet doors.

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

Question 3 (9 marks)

List three hand tools that could be used when making the ash display cabinet.

In your answer:

- identify each tool
- explain how the tool was used
- describe how the tool was kept in good working order.

Tool 1 _____

Use _____

Maintenance of tool _____

Tool 2 _____

Use _____

Maintenance of tool _____

Tool 3 _____

Use _____

Maintenance of tool _____

Insert for Section C

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

A local furniture maker has been commissioned to construct a display cabinet with glass panels on the door and both sides. The back is to be lined with plywood. The cabinet will be made of ash timber and will have a storage drawer in the lower part of the cabinet.

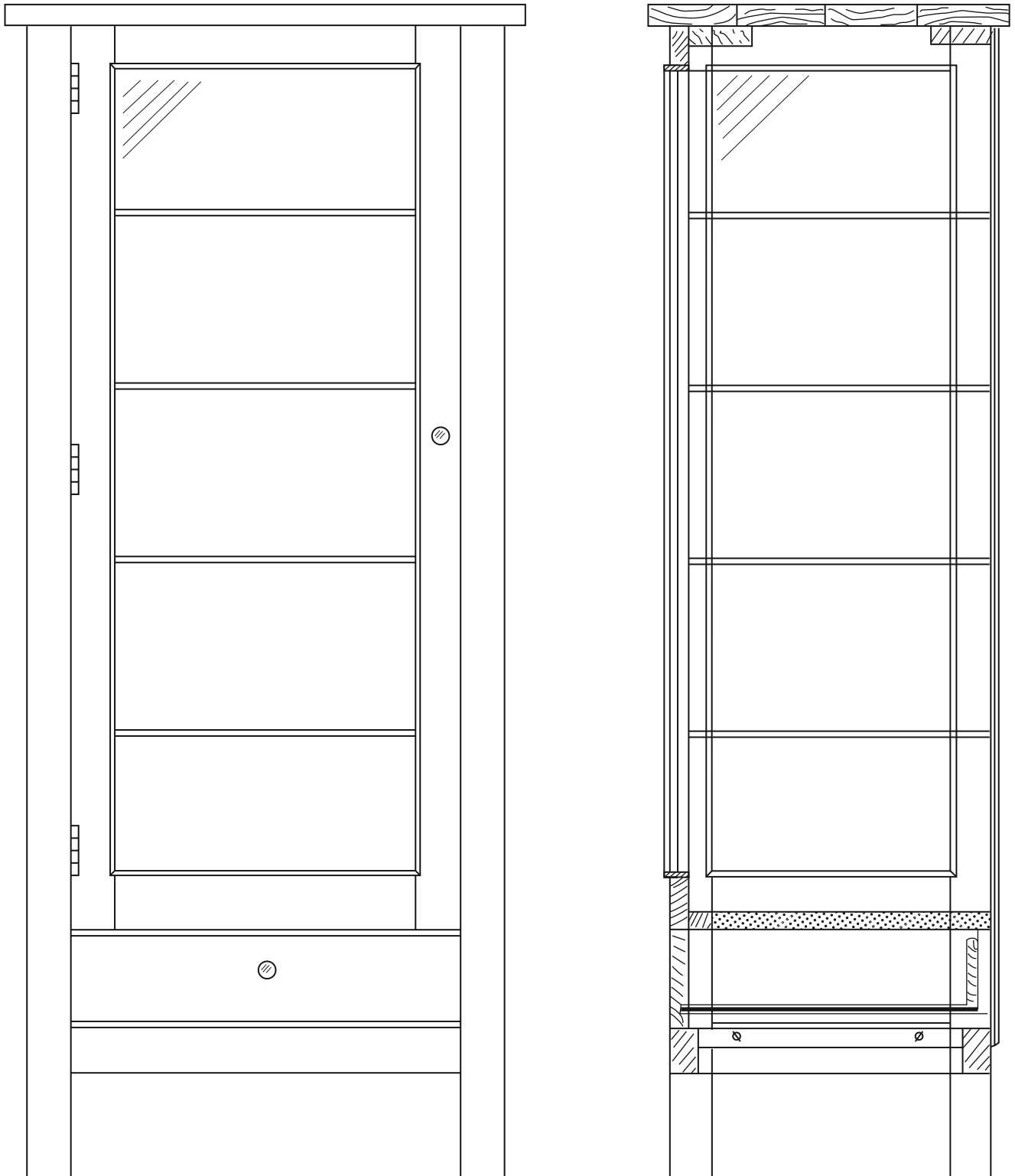


Figure 1

Specifications and construction details for the ash display cabinet

- The overall height of the cabinet is 1165 mm.
- The overall length at the top is 585 mm.
- The overall width at the top is 370 mm.
- The top is centrally fitted on the cabinet, with 20 mm overhang on either side.
- The legs are 45 mm × 45 mm and the bottom rails are set up from the bottom of the legs by 100 mm. The bottom rails (45 mm × 32 mm) are dowelled flush to the legs all round.
- The bottom side panels are 155 mm × 20 mm and are set flush with the outside of the legs and the top of the bottom rails. These panels have a bead that runs along the joint with the bottom rails. The panels also have a rebate (10 mm × 6 mm) along the top edge to take 3 mm glass panes, which are held in place by half round beading (10 mm × 6 mm). All other outside faces (door, both ends, and all legs and rails) have the same rebate to carry the glass panes.
- The top front rail and top back rail are 455 mm × 65 mm × 20 mm and are cut to fit around the legs. The front rail is set back 20 mm from the front to enable the doorframe to close flush with the legs. The back is machined with a 3 mm pencil round on the two sides and bottom edge, and fixed over the back of the legs. The top front rail and top back rail are dowelled to the legs and the top end rails.
- The bottom shelf is cut from 19 mm ash veneered particle board and is again cut around the back legs to finish flush at the back and fixed by dowels. The front of the shelf has an ash facing that will finish 20 mm back from the leg. This again matches with the top front rail to enable the door to close flush with the front legs. The ash facing is 25 mm × 19 mm and is biscuit jointed to the veneered particle board. Each end is dowelled to the front legs.
- The back is made from 4 mm thick plywood and, on the inside face, a velvet material is applied. The size is 1020 mm × 455 mm × 4 mm. The back is screwed on after polishing.
- The door is constructed using a 45 mm × 20 mm frame for the top rail and the stiles, and the bottom door rail is 60 mm × 20 mm. Dowel joints are again used to assemble the door and the rebate will take the glass after the door has been initially fitted to the carcass. Three 50 mm butt hinges are used to hang the door and magnetic catches secure the door on the closing side.
- The drawer sides and back are made from hoop pine timber and are biscuit jointed together. The drawer front is made from ash and is dowelled to the front end of both drawer sides with two 8 mm dowels. The drawer front is finished with a 6 mm bead along the top and bottom edges to match the other beads.
- The drawer back is set down 6 mm from the top of the drawer at the back and up 12 mm from the bottom to enable a 4 mm plywood bottom to be fitted into the drawer carcass.
- The drawer front measures 405 mm × 95 mm × 20 mm.
- The drawer sides measure 300 mm × 95 mm × 12 mm.
- The drawer back measures 367 mm × 77 mm × 12 mm.
- The drawer bottom measures 375 mm × 304 mm × 4 mm.
- Two runners are fitted to the inside of the bottom side rails with screws and are flush with the top face of these rails (266 mm × 32 mm × 20 mm). The drawer guides (305 mm × 32 mm × 12 mm) sit on top and against the inside of the bottom side panel, and are glued and nailed. The front ends are cut around the leg (25 mm × 25 mm at the front and 25 mm × 45 mm at the back) to enable the drawer to slide easily into this space. The front ends can be fitted after the drawer has been constructed, in order to ensure that the drawer can move freely. Drawer stops can also be made and fitted to enable the drawer to stop at the appropriate point.
- After the job has been polished, four glass shelves (405 mm × 305 mm × 6 mm) are fitted onto adjustable shelf bushes and pins, and 3 mm glass panes are beaded in using small brads.

END OF INSERT FOR SECTION C