



**Victorian Certificate of Education
2006**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Letter

Figures									
Words									

VCE VET FURNISHING (CABINET MAKING)

Written examination

Thursday 9 November 2006

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	15	15	47
C	7	7	33
			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 19 pages.
- 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

The ratio of the resin urea formaldehyde (UF) to hardener is 5:1.

If you have 50 grams of resin, how much hardener do you need?

- A. 1 g
- B. 5 g
- C. 10 g
- D. 15 g

Question 2

You need to calculate the total amount of plywood required for a number of cabinet backs.

Which formula should be used?

- A. length (metres) \times width (metres) \times thickness (mm)
- B. thickness (mm) \times width (metres) \times number of pieces
- C. number of pieces \times thickness (metres) \times length (metres)
- D. length (metres) \times width (metres) \times number of pieces

The following information relates to Questions 3–4.

Extract of cutting list

Item No.	Item	No. of pieces	Length	Width	Thickness	Material	Remarks
1	back leg	2	1000 ⁺	45	to pattern	Tasmanian Oak	leg to follow 32 mm parallel line to pattern and mitred at top

Question 3

Why is it important to identify **item** on this cutting list?

- A. to know what material to use
- B. to know what it is you are making
- C. to know the size of each component
- D. to let the machinist know if natural features/defects are acceptable

Question 4

The plus (+) on this cutting list means

- A. you need this item first.
- B. you already have this item.
- C. this item needs to be the same colour.
- D. this item needs to be longer than indicated.

Question 5

When manually handling large sheet materials you should

- A. use two people for lifting.
- B. wear safety goggles and ear muffs.
- C. use your legs to protect your back when lifting on your own.
- D. consult your product data sheet for the correct advice.

Question 6

Which material is best suited to use as shelving for heavy objects?

- A. veneered MDF
- B. veneered particle board
- C. an appropriate softwood
- D. an appropriate hardwood

Question 7

Australian Standards are standards that

- A. apply only to items made in Australia.
- B. are set overseas that Australian companies must meet.
- C. only apply to safety equipment in Australia.
- D. apply to items made in or imported into Australia.

Question 8

You have to remove the band saw marks from a curved front edge of a foreedge or blade rail and you cannot use a router.

Which hand tool should you use?

- A. mallet
- B. spokeshave
- C. tenon saw
- D. marking gauge

Question 9

Which one of the following is **most** appropriate for securing a table top while routing the front edge?

- A. 'F' clamp
- B. 'G' clamp
- C. PVA glue
- D. sash clamp

Question 10

After constructing a kitchen drawer carcass, you should then fit the

- A. cutlery insert.
- B. drawer bottom.
- C. 'D' pull drawer handle.
- D. mechanical drawer runner.

Question 11

Which one of the following hinges should be used for a kitchen cabinet?

- A. scissor hinge
- B. brass butt hinge
- C. galvanised 'T' hinge
- D. concealed hinge

Question 12

Which tool should be used to check the size of a sheet of veneered particle board?

- A. steel rule
- B. folding rule
- C. tape measure
- D. vernier callipers

Question 13

You have to cut and edge the end panels for a vanity unit.

Which documents provide the information you need to complete this task?

- A. specification, cutting list
- B. specification, safe operating procedure (SOP)
- C. cutting list, Material Safety Data Sheet
- D. Material Safety Data Sheet, Australian Standards

Question 14

You have to prepare a cutting list for a bedside table.

Where would you get the most accurate information to work out the sizes?

- A. scale drawing
- B. full-size set out
- C. isometric sketch
- D. perspective drawing

Question 15

Which one of the following **best** describes what a marking gauge is used for?

- A. marking out grooved lines prior to constructing joints
- B. roughly marking out for dowel positions prior to drilling dowel holes
- C. marking grooved lines on timber components where accuracy is not important
- D. accurately marking out a range of tasks on the face, edge and ends of timber components

Question 16

What information about a product is always included on a Material Safety Data Sheet?

- A. the safe use, handling and storage of the material
- B. how to safely manufacture the product
- C. the effect of the product on the environment
- D. the same safety information that is found on the product label

Question 17

How many **square metres** are there in a standard 2400 mm × 1200 mm × 19 mm veneered particle board sheet?

- A. 2.88
- B. 28 800
- C. 5.472
- D. 547 200

Question 18

A cutlery drawer has four divided sections for storage and a false front.

How many components are needed to fully construct the drawer?

- A. 7
- B. 8
- C. 9
- D. 10

Question 19

When selecting solid timber drawer sides, the grain should run

- A. in a variety of directions to maintain a balance.
- B. from front to back along the top edge to enable easier fitting.
- C. from the back to the front so as not to damage the drawer back.
- D. along the bottom edge from front to back so any fitting marks are not seen.

Question 20

If a material meets Australian Standards it

- A. is suitable for use across Australian conditions.
- B. is better than other materials that are imported.
- C. is manufactured to a stated quality for its purpose.
- D. costs more than other materials of the same type.

SECTION B – Short answer questions**Instructions for Section B**

Answer **all** questions in the spaces provided. Use explanatory diagrams, charts and sketches if you believe they will improve your answer.

Question 1

When drilling into brickwork you need to wear eye protection (safety glasses).

Name **two** other essential pieces of personal protective equipment (PPE) required when completing this task.

2 marks

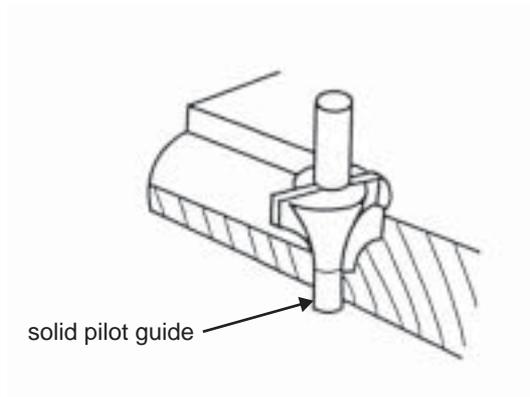
Question 2

Name **two** different types of portable 'power saw' used in the furnishing industry.

2 marks

Question 3

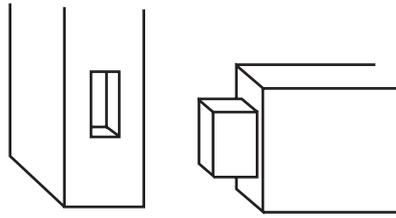
Label the direction of rotation of the router cutter on the diagram below.



1 mark

Question 4

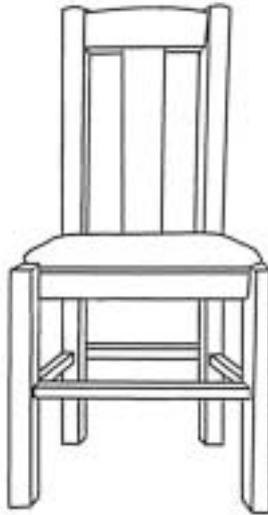
- a. The joint shown below is a mortise and tenon joint. Label each part.



1 mark

- b. Mortise and tenon joints are suitable to use when joining _____

1 mark

Question 5

Label each of the following components on the diagram of the chair above.

- back-rest rail
- front rail
- back leg
- splat
- front leg
- stretchers

3 marks

Question 6

Indicate whether a dowel or biscuit joint is most suitable for each of the following tasks.

Task	Dowel or biscuit joint
joining legs and rails	
joining timber that is less than 20 mm thick	
joining chair rails to back legs	

3 marks

Question 7

You are making a flat pack entertainment unit that will sell for under \$40.

- a. What would be the most suitable material to use?

1 mark

- b. Give **three** reasons for your choice.

3 marks

Question 8

You are setting the depth stop on a horizontal drill.

The 8 mm dowel is 50 mm long. The frame of a bedside table is 20 mm thick.

How deep will you drill into the rail? You may use a sketch to help complete your answer.

2 marks

Question 9

Six different types of screw heads are shown above.

Identify each of the screw heads listed below by placing the matching number in the right-hand column of the table.

Type	Number
slotted head	
phillips head	
posidrive	

3 marks

Question 10

You have to sand off a deep scratch on the front rail of a table.

a. Indicate which one of the following pieces of equipment should be used.

- belt sander
- orbital or finishing sander
- sanding block with abrasive paper

Equipment to use _____

1 mark

b. Explain why this equipment should be used and why the other two should **not** be used.

Method	Reason for use/not use
belt sander	
orbital/finishing sander	
sanding block with abrasive paper	

3 marks

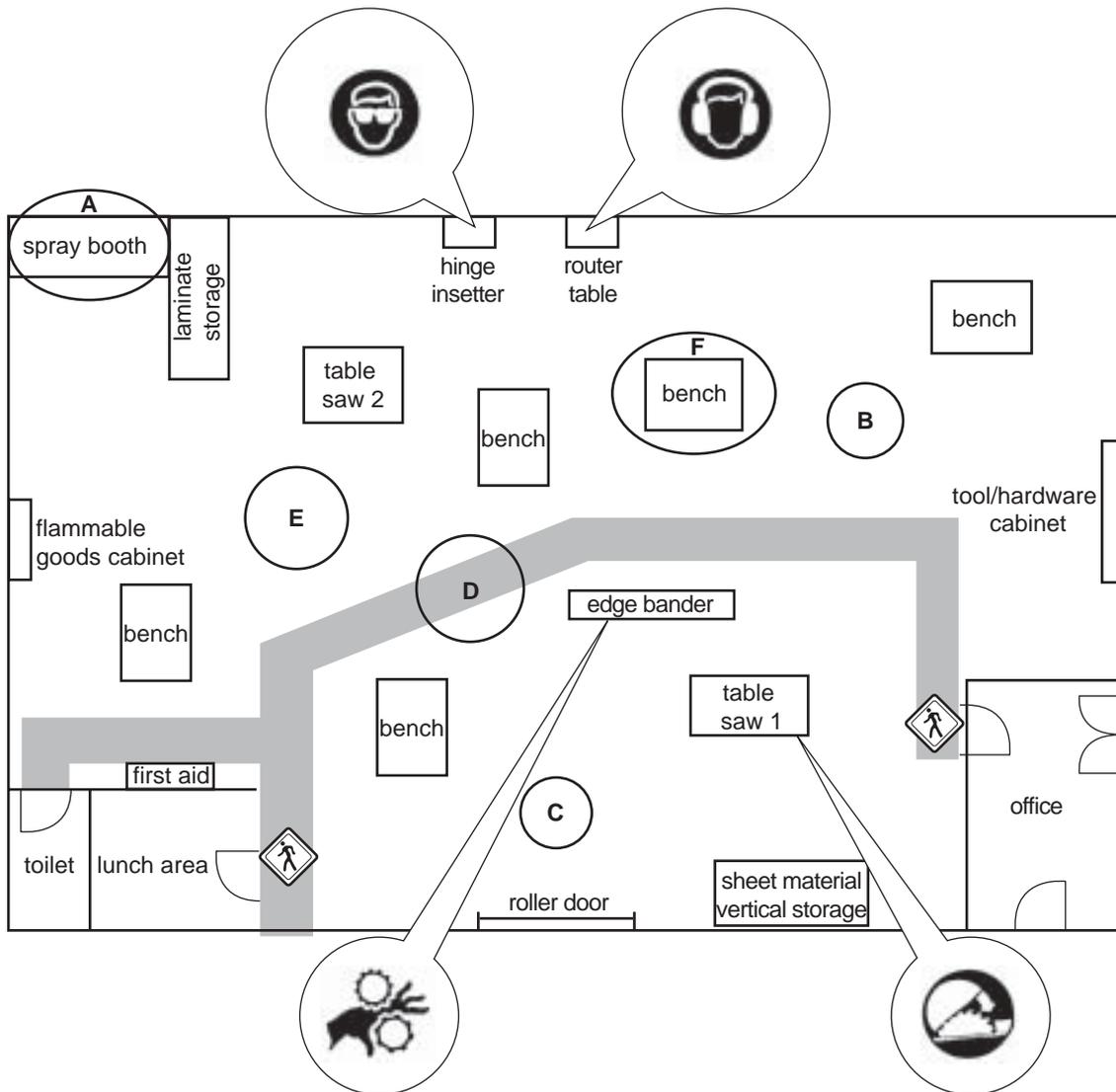
Question 11

A truck has arrived at your kitchen manufacturing workplace to deliver the following materials.

- 2 rolls of laminate sheet
- 10 sheets of white melamine HMR particle board
- 1 × 20 litre drum of contact adhesive
- 5 × 50 rolls of white melamine edge tape

Your job is to unload these goods from the truck and store them in the workshop ready for use.

A plan of your workplace is provided below.



a. Name **three** types of manual handling equipment that could be used to unload these materials from the truck.

3 marks

Refer to the workplace plan for parts b. – e.

- b. Where should the contact adhesive be stored?

1 mark

- c. What does the sign on the wall near the **router table** mean?

1 mark

- d. What does the sign on the **table saw 1** indicate?

1 mark

- e. In which area (A–F) would you spray the contact adhesive to laminate a bench top?

1 mark

Question 12

While routing a table top you accidentally damage the electrical cord. What must you do?

2 marks

Question 13

What are **two** safety procedures that you should use when cutting mitres on a drop saw?

2 marks

Question 14

Below is a list of instructions for assembling a leg and rail section of a table. The first (1) and last (6) steps are shown. Indicate the correct order for the remaining steps 2–5.

	Order (1–6)
glue rails and assemble legs and rails	
dry test assembly of legs and rails	
drill dowel holes in legs and rails	1
check for square	6
glue legs and insert dowels	
clamp legs and rails	

2 marks

Question 15

You have been provided with a cutting list for a small wall-mounted cabinet which is to be painted after installation.

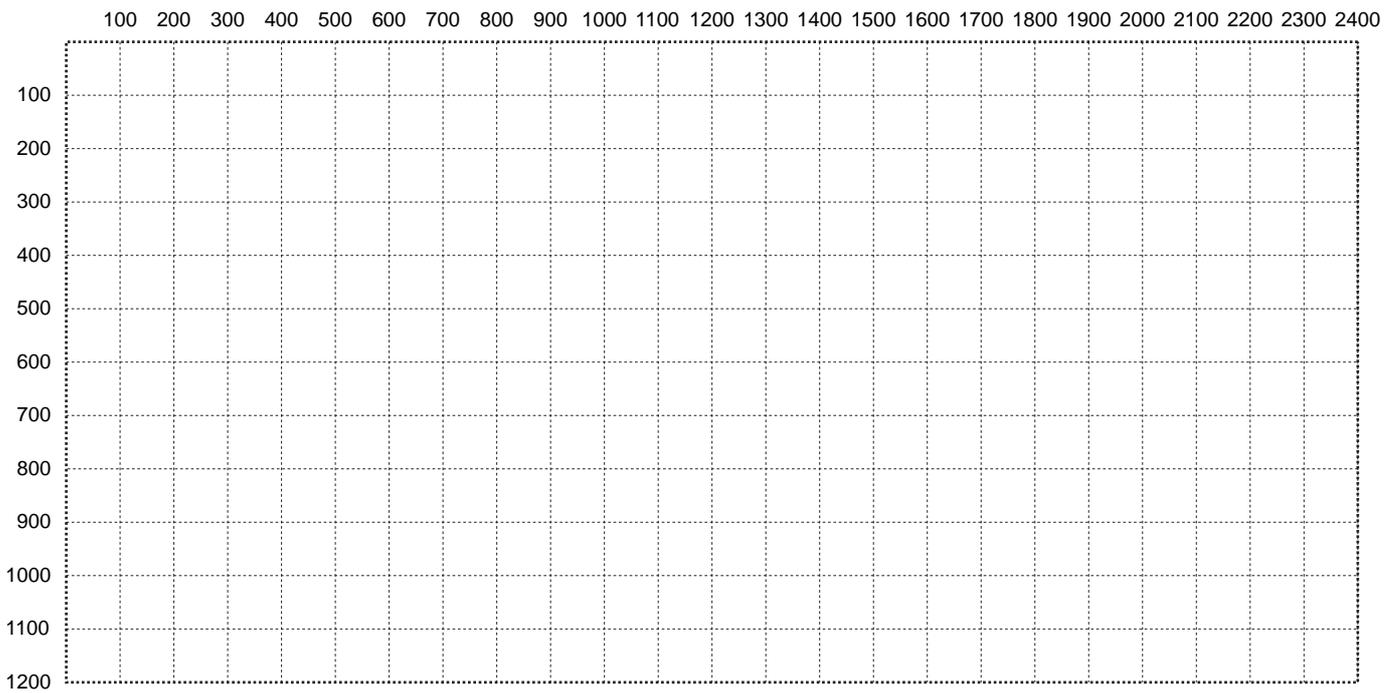
Painted wall cabinet

Item	Description	No. of pieces	Length	Width	Thickness	Material
1	top/bottom	2	762	330	19	MDF
2	shelf	1	762	290	19	MDF
3	end	2	750	330	19	MDF
4	back	1	762	712	19	MDF
5	door	2	750	400	19	MDF

Using the grid below draft a sheet cutting plan for **all** the MDF required for this cabinet.

Mark out your cutting plan and label the part and size for all items on the cutting list. Your plan should reflect the economical use of the sheet of MDF.

Grid
Standard 2400 mm x 1200 mm sheet



8 marks

Total 47 marks

**END OF SECTION B
TURN OVER**

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

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

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

The chair shown in Figure 1 is to be made up as a prototype for a major furniture retailer.



Figure 1

Specifications for chair shown in Figure 1

- overall height of back is 1000 mm
- overall width of back is 380 mm
- back leg is 45 mm × 32 mm in section and shaped to suit leg pattern
- allow 90 mm for leg pattern shape
- top rail is mitred, section size 45 mm × 32 mm
- ladder back rails are 45 mm × 22 mm
- timber seat is to be made in 3 pieces and tapered to 5 mm overhang at the back leg on both sides
- 10 mm overhang at the front and side of seat at front
- chair height is 450 mm at front overall
- front legs are 40 mm × 40 mm in section
- depth of seat is 450 mm overall
- seat is 20 mm thick
- chair width at front is 430 mm overall

Question 1

Using the specifications for the chair (Figure 1), complete the cutting list below.

Cutting list for chair

Item No.	Item	No. of pieces	Length	Width	Thickness	Material	Remarks
1	back leg	2	1000 ⁺	90 to pattern		Tasmanian Oak	leg to follow 32 mm parallel line to pattern and mitred at top on face
2	front leg	2		40	40		square dressed
3	front rail	1		50	22	Tasmanian Oak	square dressed
4	side rail		400	50	22	Tasmanian Oak	compound angle on rails
5	back seat rail	1	290		22	Tasmanian Oak	square dressed
6	seat	1	450	430		Tasmanian Oak	tapered to 390 at back to be made in 3 parts
7	top back rail	1	380		32	Tasmanian Oak	mitred at ends and dowelled to legs
8	ladder rail		290	45		Tasmanian Oak	dowelled to back legs

10 marks

Question 2

Sketch a plan view of the seat for the chair (Figure 1).

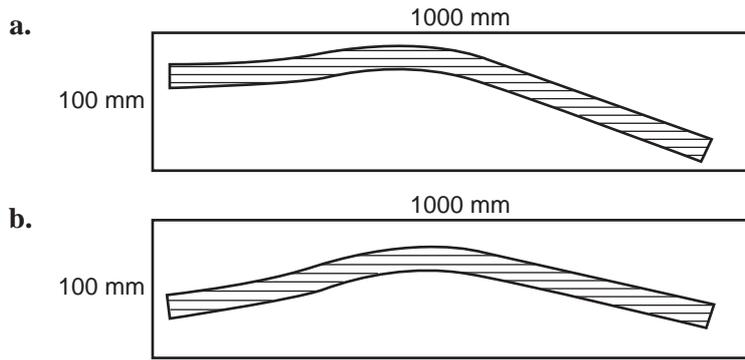
Your sketch should include sizes/measurements and the method of construction.

plan view of seat

3 marks

Question 3

The sketch below shows two back legs for the chair (Figure 1).



If these back legs were to be cut out as drawn, which would be the strongest and why?

2 marks

Question 4

Calculate the total cost of the Tasmanian Oak components for the chair using the following information.

- 1. back legs 2.1 metres × 100 mm × 50 mm @ \$12.57 per lineal metre
- 2. front legs 0.9 metres × 50 mm × 50 mm @ \$ 6.80 per lineal metre
- 3. rails 2.7 metres × 75 mm × 25 mm @ \$ 6.40 per lineal metre
- 4. seat 1.5 metres × 150 mm × 25 mm @ \$ 9.70 per lineal metre

You should show all working in the space below.

Total Cost \$ _____

5 marks

Question 5

Complete **four** major steps in the construction of the chair (Figure 1) for the workplan below.

Workplan

1.	Machine dress all materials for the chair as per the cutting list/full size set out.
2.	
3.	
4.	
5.	
6.	Sand all surfaces so that dents, scratches or machine marks are removed. The chair is now ready for polishing.

4 marks

Question 6

Name **three** different hand tools that would be used in the construction of the chair. Explain how each tool would be used in the construction process.

Hand tool	How tool is used
1.	
2.	
3.	

6 marks

Question 7

The cutting list you completed in Question 1 is for the chair in Figure 1.

A second prototype is also to be made to the same size **but** with an upholstered seat and **three** vertical back slats.

List **three** steps you would take to modify the chair (Figure 1) to accommodate three vertical slats in the back and provide for an upholstered seat.

1. _____

2. _____

3. _____

3 marks

Total 33 marks