



2008 VCE VET Furnishing GA 2: Written examination

GENERAL COMMENTS

In 2008, the number of students sitting for the VCE VET Furnishing written examination increased slightly from the previous year from 266 to 296. The questions on the examination were designed to test students' underpinning knowledge of the seven competencies they had studied in Units 3 and 4 as part of their VCE VET Furnishing program.

Areas of strength

- ability to answer multiple-choice questions
- completing a cutting list
- occupational health and safety

Areas of weakness

- basic mathematics (calculations, dimensions, costing, etc.)
- hardware selection and construction knowledge
- work plans were too generalised and basic
- ability to describe using diagrams
- understanding of Australian standards

SPECIFIC INFORMATION

Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	% No answer	Comments
1	63	17	8	13	0	A concealed hinge is used almost exclusively for kitchen cabinet doors.
2	14	77	6	3	0	Students needed to simply multiply 45 x 5 to get the true length.
3	11	4	77	8	0	The band saw is the only item of equipment designed to cut curves.
4	8	48	32	12	1	The correct terminology was daily noise dose (option A) because it is the level of noise over a period of time that causes hearing damage, that is, 90 db over eight hours will cause hearing damage. Option B did not specifically answer the question and option C simply quoted the entire Australian Standard.
5	3	0	0	97	1	
6	70	24	3	3	1	Length x width x number of pieces (in metres square).
7	54	29	13	3	0	A G clamp will not loosen its grip.
8	16	45	23	15	2	No other tool is appropriate.
9	3	1	91	6	0	A full extension runner was pictured.
10	7	28	28	38	0	
11	1	6	0	93	0	
12	0	67	0	33	0	
13	58	6	15	22	0	
14	55	26	3	16	1	Checking for twist and wind is paramount.
15	0	78	2	20	0	
16	22	46	13	18	2	0.732mm x 0.418mm x 8 = 2.447808m2

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Question	% A	% B	% C	% D	% No answer	Comments
17	1	8	90	1	0	An MSDS will have all relevant technical details.
18	11	79	1	9	0	
19	7	66	13	13	1	This tool is only used for general cleaning up processes prior to sanding (option B).
20	78	2	15	6	0	The three personal protective equipment items in option A are the most appropriate for this process.

Section B – Short answer questions

Question 1a.

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	1	0	0	0	1	2	8	16	33	29	10	8.1

Using the pictured dining chair, students were asked to complete the ten missing items in the cutting list for a total of ten marks. This question tested students' knowledge of terminology and understanding of the elements of a cutting list.

Cutting list for the dining chair in ash timber					
item	description	no. of pieces	length (mm)	width (mm)	thickness (mm)
A	back leg	2	830	to pattern	34
B	front leg	2	430	40	40
C	seat	1	480	470	20
D	top back rail	1	340	60	42 (to pattern)
E	lower back rail	1	340	48	42 (to pattern)
F	slat(s)	4	380	35	12
G	front seat rail	1	370	55	20
H	back seat rail	1	340	55	20
I	side seat rail	2	370	55	20
J	side stretcher	2	440	22	16
K	centre stretcher rail	1	380	22	16

Question 1b.

Marks	0	1	Average
%	28	72	0.8

16 back legs were required

This question was not done well. Dining chairs as a set have dining chairs as well as carver chairs; all have the same sized/shaped legs. Carver chairs are wider, have arms and are designed to sit at either end of the table as in a position of importance to signify the head of the table who had the task of 'carving the meat' for the other diners.

Question 1c.

Marks	0	1	2	3	4	Average
%	87	6	5	0	1	0.3

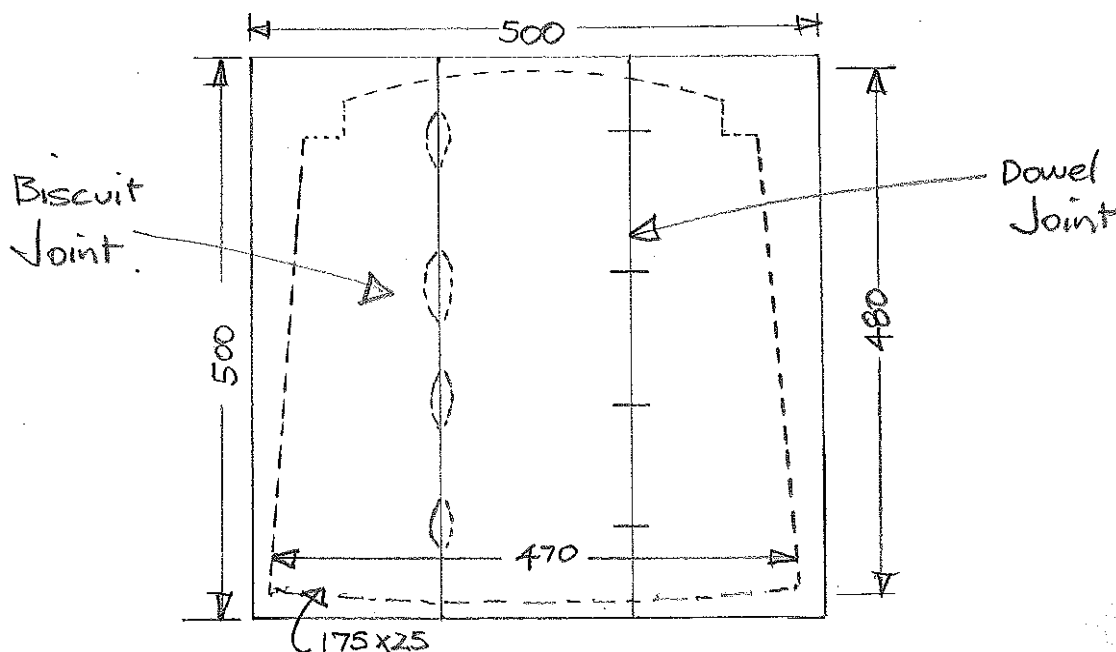
8 x .850 metres = 6.8 lineal metres

6.8 x 12.55 = 85.340 = 85.34
rounded up cost = \$85.35



Question 1d.

Marks	0	1	2	3	4	5	6	7	Average
%	42	12	6	9	7	8	9	7	2.3



Question 1e.

Marks	0	1	2	Average
%	56	34	10	0.6

Possible answers included:

- nesting helps to save on timber costs/economical
- matching timber, each pair of legs from the same piece (matching grain pattern and colour)
- easier and quicker to machine using a bandsaw.

Question 1f.

Marks	0	1	2	Average
%	7	45	48	1.4

Possible methods included:

- dowel joints (glued)
- mortice and tenon joints
- dry dowel joints coupled with a metal mechanical corner joint (suitable for use with flat-pack furniture).

Question 1g.

Marks	0	1	2	Average
%	14	20	66	1.5

Possible answers included:

- fit corner blocks and screw through them to secure the seat
- use figure 8 metal fittings to screw to both the top of the rail and the underside of the seat
- attach timber cleats with screws to the inside rails and fix with screws to the seat.

Question 2

Marks	0	1	2	3	4	5	6	7	8	Average
%	0	2	2	6	13	25	29	13	10	5.5

Marks were awarded for responses that did not include power tools, abrasive paper or a pencil. The process needed to reflect the work on the chair that was constructed or the chair pictured in figure 1, and should not have been a general response. Some possible responses to this question are listed below.

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hand tool		process used
1	Steel rule Marking gauge	<ul style="list-style-type: none"> for measuring components and setting out joints for the chair to accurately mark dowel positions on the chair rails, etc.
2	Marking gauge Flat and round spokeshave	<ul style="list-style-type: none"> accurately marking out joints/dowels on the chair to clean up curved chair components after the band sawing process
3	Smoothing plane Sliding bevel	<ul style="list-style-type: none"> planing chair legs/general cleaning up of machine marks on the chair components to transfer angles accurately
4	Adjustable bevel Sash cramps	<ul style="list-style-type: none"> marking angles on chair side rails to glue the solid seat together

Question 3

Marks	0	1	2	Average
%	37	32	31	1

Typical responses included:

- supplier's details
- precautions for use/safe manual handling
- the risk of carcinogenetic dust particles when machining the product safely
- a recommendation to wear personal protective equipment (PPE).

Question 4a.

Marks	0	1	Average
%	50	50	0.5

A portable jigsaw is used to cut shaped work.

Question 4b.

Marks	0	1	2	Average
%	4	36	59	1.6

Correct responses included:

- wear PPE
- clamp work down to a bench before machining (G clamp)
- wear a dust mask where the timber/timber product is considered toxic in terms of the dust emitted.

Question 5

Marks	0	1	Average
%	91	9	0.1

A system of version control is used and a numbered/dated version is issued, so easy identification of the latest drawing is evident.

Question 6

Marks	0	1	Average
%	81	19	0.2

Marks were awarded to students who understood the standard concerned. Examples included (but were not limited to):

- AS 4785.2 – 2002 Timber – Softwood – sawn and milled products – grade description
- AS 5604 – 2003 Timber – Natural durability ratings
- AS 1473 – Guarding and safe use of woodworking machinery
- AS/NZS 4364 – Adhesive types
- AS/NZS 1859.1 – Particleboards
- AS 1269.3 – 2005 – Occupational noise management.

This question was not answered well. Teachers and students should address this in their programs.

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Question 7

Marks	0	1	2	Average
%	31	47	22	0.9

- grinding on a power grinding wheel at a 25–27 per cent angle and at right angles to the length of the blade
- honing using a correct method on an oilstone or similar, using the appropriate lubricant to remove the burr

Question 8

Marks	0	1	2	3	4	5	Average
%	22	23	24	18	8	5	1.9

8i.

$$4 \times 730 \times 450 = 1.314 \times \$19.75 = \$25.95$$

8ii.

Veneer edging

$$8 \times 730 = 5.84$$

$$8 \times 450 = 3.60 = 9.44 \text{ m} \times .60 = \$5.66$$

8iii.

Concealed hinge (soft close)

$$8 \times \$3.25 = \$26.00$$

8iv.

$$2 \times \$30 = \$60.00$$

8v.

$$\text{Total} = \$117.61$$

Section C – Case study questions

Question 1a.

Marks	0	1	2	3	Average
%	2	2	32	64	2.6

1ai.

Safety glasses

1aii.

Long hair must be contained, using a hairnet or hat

1aiii.

Sturdy footwear must be worn.

Question 1b.

Marks	0	1	Average
%	32	68	0.7

- the last time the drill was tested and tagged for safety
- that it should not be used until it is updated

Question 1c.

Marks	0	1	2	Average
%	13	36	51	1.4

- maintain cutting edge (grinding and honing)
- keep the plane clean and free of off cuts
- when not in use, lay it on its side to protect the blade
- keep working parts in good working order by adjusting them to suit the task
- apply paraffin wax on the sole of the plane for ease of use
- lightly oil occasionally to prevent rust

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Question 1d.

Marks	0	1	Average
%	11	89	0.9

A wooden mallet

Question 1e.

Marks	0	1	2	3	Average
%	4	3	14	79	2.7

- the power lead is a tripping hazard
- the paint tin is being used as a timber rest
- the sash cramp is hanging over the bench
- the sash cramp should not be balanced on an unstable base
- gloves are not being worn
- the plane is on the edge of the bench

Question 2

Marks	0	1	Average
%	10	90	0.9

- to inform the user of the safety procedures of the machine
- to comply with the safety standards required
- to inform the operator of local and specific operating instructions

Question 3a.

Marks	0	1	Average
%	65	35	0.4

The correct name is a G clamp.

Question 3b.

Marks	0	1	2	Average
%	17	42	42	1.3

- to be square and/or parallel
- to be free of twist and wind

Question 3c.

Marks	0	1	2	Average
%	6	11	83	1.8

- legs x 2
- rail x 1

Question 3d.

Marks	0	1	2	3	4	Average
%	12	18	40	25	6	2

- Gather all tools, equipment and appropriate adhesive needed for assembly.
- Sand all parts to remove machine marks.
- Assemble legs and rails, checking for squareness, parallel, twist/wind and distortion, clean off any excess glue.
- Obtain the necessary clamps/blocks, glue, etc.
- Check that the dowels are not too long.
- Clear the bench of all obstructions and glue up.
- Check the twist/wind and parallel, allow to dry.

Question 4a.

Marks	0	1	Average
%	6	94	0.5

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Must wear safety glasses when operating the drill press

Question 4b.

Marks	0	1	3	4	Average
%	7	3	11	79	1.6

- the chuck key is removed from the chuck
- the drill guard is in position
- locate the on/off switch

Question 5

Marks	0	1	2	3	4	5	6	Average
%	4	4	16	23	27	19	7	0.1

This question asked students to respond to an activity/process using the drill press. Standard Operating Procedures (SOPs) are an integral part of planning to work and working safely. Students were asked to complete the scenario. The following is a typical response, with students being awarded marks for the depth of their response.

Activity	Hazards	Risk control measures
1. Insert the drill and check the work area	<ul style="list-style-type: none"> • the machine may start accidentally • damage to the electrical system • sharp edges and burrs on the drill 	Isolate power to the machine. Visually check all parts of machine before operation. Tighten the chuck and ensure that the guard is in position.
2. Load the job	<ul style="list-style-type: none"> • strain/sprain from improper lifting or awkward work piece • the job is too long for one person 	Use mechanical lifting aid and or stands for larger work pieces. Obtain a proper stand for support or an extra person
3. Drill the hole	<ul style="list-style-type: none"> • hand/finger lacerations from contact with the drill bit • the hole may go through the material 	Keep hands/fingers at safe distance from drill bits, focus on the task and do not get distracted. Ensure that you check the depth of stop prior to drilling.
4. Remove the work and clear the table for next operation	<ul style="list-style-type: none"> • eye injury from dust and wood debris • slip/ trip or fall in area • around drill press • machine is still running 	Wear eye protection. Clean/clear work area, remove dust/debris from the work floor. Switch off prior to removing job and wood waste.