

### GENERAL COMMENTS

The 2014 VCE VET Furnishing examination assessed students' knowledge of the competencies they had undertaken in Units 3 and 4 as part of the VCE VET Furnishing program.

#### Areas of strength

- completing a cutting list
- identifying, describing and explaining how tools are used

#### Areas of weakness

- articulating answers
- hardware selection and construction knowledge
- work plans (plans were often too generalised and undeveloped)
- describing information when using diagrams
- paying attention to key words in the questions and responding to them
- calculations used to determine dimensions and costing

When preparing for the VCE VET Furnishing examination, teachers and students are advised to revisit relevant questions in past examinations and read past examination reports; this will help students gain a better understanding of the kinds of answers required in the examination.

### SPECIFIC INFORMATION

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

#### 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	53	21	25	1	0	
2	5	7	8	80	0	
3	16	35	31	18	0	Students were required to have an understanding of melamine cabinets and the appropriate screws that should be used when assembling this material.
4	1	65	12	22	0	
5	0	5	17	78	0	
6	9	40	43	8	0	Students were required to identify the function of the ball bearing.
7	36	3	52	9	0	This question assessed knowledge and understanding of various documents related to assembly sequencing of a chest of drawers. Students who gave incorrect responses seemed to miss the key word 'assembly'.
8	33	9	7	51	0	
9	10	70	7	13	0	
10	5	73	15	7	0	
11	11	20	61	8	0	
12	2	42	1	54	1	This question assessed students' knowledge of assembling drawers. Ensuring that the drawer is not twisted (option D) is the most essential check.

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Question	% A	% B	% C	% D	% No Answer	Comments
13	95	2	3	0	0	
14	97	0	1	2	0	
15	84	0	10	6	0	
16	6	16	7	71	0	
17	12	15	58	15	0	This question assessed students' knowledge and understanding of the most appropriate tool to use when constructing a leg and rail joint.
18	2	49	45	3	1	This question assessed students' understanding of the correct use of cramping blocks when assembling leg and rail joints. Some students seemed to have a weak understanding of the use of cramping blocks.
19	0	93	2	5	0	
20	38	4	13	45	0	This question assessed basic knowledge of collecting materials in preparation for assembling cabinets.

## Section B – Short-answer questions

### Question 1

Marks	0	1	2	3	4	5	6	Average
%	7	2	14	18	20	20	18	3.8

1.

Tool: plunge router

Use: moulding the top of a table edge/stopping and starting/stopped rebates/plunge right through to remove entire panels

2.

Tool: impact driver

Use: driving screws/high speed assembly/fixing drawer runners

3.

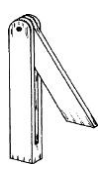
Tool: electric planer

Use: smoothing out timber/tapering timber/scribing a cabinet plinth

### Question 2

Marks	0	1	2	3	Average
%	40	3	15	42	1.6

Students were required to sketch a sliding bevel and explain how and why it is used.

Sketch	Explanation
	<ul style="list-style-type: none"> <li>• duplicates an existing angle</li> <li>• used to transfer angles from one place to another, e.g. plan to work, protractor to work</li> <li>• release nut, slide pieces to form required angle, tighten nut</li> </ul>

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## Question 3

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	88	12	<b>0.2</b>

5	<i>Fit adjustable shelves</i>
6	<i>Fit doors</i>
4	<i>Fit back and square up cabinet</i>
2	<i>Fix all hardware and fittings</i>
3	<i>Attach carcass ends to top/bottom</i>
1	<i>Check all parts and hardware are correct</i>

## Question 4a.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	3	97	<b>1</b>

The client for this product is Brian Buyer.

## Question 4b.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	92	8	<b>0.1</b>

The two angles used in an isometric drawing are  $30^\circ + 60^\circ$ .

## Question 4c.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	17	83	<b>0.9</b>

The measurements for the cabinet top are  $1760 \times 500 \times 22$ .

## Question 4d.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	24	76	<b>0.8</b>

The calculation for the length of the legs is  $900 - 22 = 878$ .

## Question 5

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average</b>
<b>%</b>	22	18	34	18	7	<b>1.7</b>

Students were required to outline two sustainability factors and two general factors that Ed should take into consideration when making his choice of a new timber to use for internal carcass assembly. Examples of appropriate responses could include the following factors.

Sustainability factors:

- whether the timber is plantation-grown
- whether the timber has FS certification
- where the timber has to travel from (shipping/transport increases the carbon footprint)

General factors:

- whether the colour matches the external timber
- the weight of the timber
- whether the timber is easy to use
- the cost (is the cost too excessive?)
- toxicity of the product

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## Question 6a.

Marks	0	1	2	3	Average
%	58	25	15	2	<b>0.6</b>

Changes to help redesign the workplace in order to minimise wasteful practices and to maximise production efficiency could include (any three of):

- Move the laminate storage to the inward goods area.
- Move the sheet material vertical storage near the inward goods area.
- Put the storage near the entry.
- Relocate the edge bander near the table saw.
- The CNC flatbed machining centre could be relocated to where the laminate storage was.
- Move the hinge insertion machine to the outside wall.
- The office and machining area could be swapped, so the machining area is close to the inward goods area.

## Question 6b.

Marks	0	1	2	3	4	Average
%	14	24	33	24	4	<b>1.8</b>

- Area 1: **A.**, **C.** and **D.** (could also include **F.**)
- Area 2: **C.**, **E.** and **B.** (could also include **A.** and **F.**)
- Area 3: **B.** (could also include **A.** and **F.**)
- Area 4: **C.** and **D.** (could also include **A.** and **F.**)

## Question 7

Marks	0	1	2	3	4	5	Average
%	23	21	21	18	14	3	<b>1.9</b>

Types of information included in a Material Safety Data Sheet (MSDS) (five of):

- the manufacturer or importing supplier
- the product (for example, its name, ingredients and properties)
- how the product can affect health/toxicity
- precautions for using or storing it safely/safe handling
- flammability
- use-by data/shelf-life
- emergency procedures
- clean-up procedures.

## Question 8

Marks	0	1	2	Average
%	25	31	44	<b>1.2</b>

'Flush' is when two or more components are joined together and are completely smooth.

A supporting example could have been one of the following.

- For the leg and rail construction in a table design, it might specify that the rails need to sit flush with the legs.
- The drawer frame was flush with the carcass (meaning that the edges met perfectly and there was nothing overhanging or sticking out).
- The nails were flush with the door front.

## Question 9

Marks	0	1	2	3	4	5	Average
%	25	18	30	14	9	3	<b>1.8</b>

Students were required to list four advantages and one disadvantage of using manufactured boards when making a wall unit.

Advantages (any four of):

- manufactured boards are made from a sustainable design (they are produced from relatively small trees, unlike larger pieces of solid dimensional timber, which require cutting a large tree)
- durability can be greater than timber

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- lighter in weight than many timbers
- lower manufacturing costs
- saves time having to join sawn boards together

Disadvantage:

- contains formaldehyde, so care must be taken when cutting

## Question 10

Marks	0	1	2	Average
%	16	30	54	1.4

Safe operating procedures that should be followed when using an electric planer include the following.

- Complete the usual check of the tools.
- Check the test and tag date.
- Secure the job.
- Wear protection.
- Use sharp blades.

## Question 11

Marks	0	1	2	3	Average
%	18	51	18	12	1.3

Ensure that the doorframe is cramped on a level plane, and then measure from one corner diagonally to the other corner. After that, compare that distance to the opposite diagonal measurement; if the two distances match exactly, the frame is square.

## Question 12

Marks	0	1	2	3	Average
%	9	9	48	33	2.1

Appropriate joints to use in leg and rail construction and two reasons for each joint include:

- Joint: mortise and tenon joint  
Reasons: strength and because you may want a traditional style of building
- Joint: dowels  
Reasons: combination of strength and ease of manufacture.

## Section C – Case Study

Students were given a brief introductory scenario and sketches of an ash display cabinet. The sketches were followed by the specifications and construction details for the display cabinet.

It was important that students took the time to read the specifications very carefully.

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## Question 1a.

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	8	2	7	6	12	13	18	11	17	5	1	5.3

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	1145	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	240	45	20	ash
g	bottom side panel	2	240	155	20	ash – 6 mm diameter bead along bottom edge
h	bottom shelf	1	455	285	19	ash – veneered particle board
i	bottom shelf facing	1	405	25	19	ash
j	drawer front	1	405	95	20	ash – 6 mm diameter bead along bottom and top edges – 4 mm groove for ply bottom
k	drawer side	2	300	95	12	hoop pine – 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
o	drawer guide	2	305	32	12	ash
p	door stile	2	905	45	20	ash
q	bottom door rail	1	315	60	20	ash
r	top door rail	1	315	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	4	hoop pine plywood

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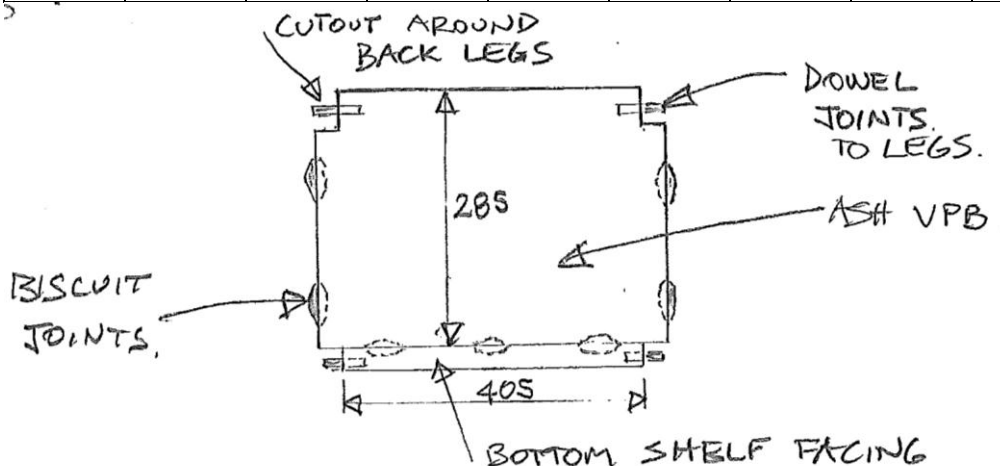
## Question 1b.

Marks	0	1	2	3	4	Average
%	70	8	7	5	10	0.8

Timber required: 4 @ 1145 × 45 × 45  
 2 @ 1145 × 125 × 50  
 Total: 1 @ 2290 × 125 × 50

## Question 1c.

Marks	0	1	2	3	4	5	6	Average
%	54	15	9	5	5	7	4	1.3



## Question 2

Marks	0	1	2	3	4	5	6	Average
%	44	10	11	11	5	6	11	1.9

Students could have included the following logical steps from a work plan for constructing the ash display cabinet doors.

- Clear work area; assemble all tools, equipment, work plans and materials; inspect for defects and check.
- Make dowel joints.
- Assemble the door/fit the door to the carcass.
- Use the router to make rebate for the glass.
- Glue and square frames.
- Fit the glass.
- Fit the hinges and catches.

## Question 3

Marks	0	1	2	3	4	5	6	7	8	9	Average
%	29	1	5	9	6	6	14	8	7	13	4.1

The following are examples of hand tools that could be used when making the ash display cabinet.

Tool 1: hand plane

Use: to fit drawers and doors

Maintenance of tool: keep the blade sharp; adjust the blade correctly; put paraffin wax on the base

Tool 2: chisel

Use: to fit the butt hinges

Maintenance of tool: keep it sharp

Tool 3: square/marketing gauge

Use: to mark out dowels; to butt hinges and catches

Maintenance of tool: keep the marking points sharp and neatly file