



B O A R D O F S T U D I E S
NEW SOUTH WALES

2012 HSC Industrial Technology Timber Products and Furniture Technologies 'Sample Answers'

When examination committees develop questions for the examination, they may write 'sample answers' or, in the case of some questions, 'answers could include'. The committees do this to ensure that the questions will effectively assess students' knowledge and skills.

This material is also provided to the Supervisor of Marking, to give some guidance about the nature and scope of the responses the committee expected students would produce. How sample answers are used at marking centres varies. Sample answers may be used extensively and even modified at the marking centre OR they may be considered only briefly at the beginning of marking. In a few cases, the sample answers may not be used at all at marking.

The Board publishes this information to assist in understanding how the marking guidelines were implemented.

The 'sample answers' or similar advice contained in this document are not intended to be exemplary or even complete answers or responses. As they are part of the examination committee's 'working document', they may contain typographical errors, omissions, or only some of the possible correct answers.

Section II

Question 11 (a)

Sample answer:

When selecting timber for an outdoor bench seat, the required properties should include resistance to weathering and insect/fungal attack.

No doubt the timber needs to be strong and durable. Other properties could include avoidance of splitting and warping, minimum moisture absorption.

Overall a hardwood is preferred to treated softwood.

Answers could include:

- Avoids splitting
- Avoids warping
- Minimum moisture absorption
- Absorption of timber finishes

Question 11 (b)

Sample answer:

The process of manufacturing the rear leg would use CNC plotted/cut profiles of a computer/gang assembly.

The process would include:

1. Laminating section of timber to the required length \times width + thickness of the rear leg
2. Cutting the profile of the leg
3. Shaping the leg to the desired contour and edge treatment
4. Preparation of joint construction steps for the rail and the back rest
5. Finishing/sanding process
6. Ready to be assembled to the rails + back support

Answers could include:

The steps:

- Laminating
- Cutting
- Shaping
- Allow for joint construction of the leg to the rails and back support
- Finishing

Question 11 (c)

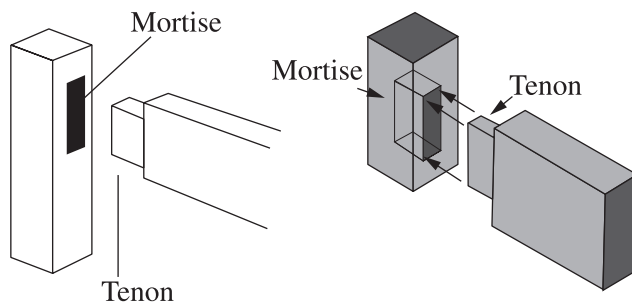
Answers could include:

- Epoxy resin
- Urea – formaldehyde
- PVA (Outdoor use)

These adhesives are suitable as they have waterproof features, high strength and can withstand external elements such as UV rays (sunlight), fungal attack, rain and other weathering.

Question 11 (d) (i)

Sample answer:

**Question 11 (d) (ii)**

Sample answer:

The advantages of using a stopped/stub mortise and tenon joint.

This is the strongest framing joint in terms of mechanical strength, which is why it is used where the effects of weight and stress need to be intensively reduced in table and chair construction. The surface area between the tenon and mortise is also ideal for a greater glue area, which gives it greater strength.

Answers could include:

- Mortise & tenon (stopped/stub)
- Dowel
- Bridle
- Domino

Question 11 (e)

Sample answer:

Once assembled the garden bench is filled and defects treated if required. It is then sanded, working through coarse and fine grades of sandpaper, depending of type of finish (water based finishes, oils etc). The finish would be hand applied or sprayed on, cutting back between coats.

Answers could include:

- Electric spray booths
- Use of oils
- Water-based finishes – environmental issues need to be considered

Section III

Question 12 (a)

Answers could include:

- YouTube lead in ads
- ECommerce technology
- Advert links to online store
- PayPal
- Cloud, iCloud
- Twitter
- Banners and Pop ups
- Social media marketing
- Email
- Online Store
- Facebook
- Apps
- Ebay
- Website/Shopping cart

Question 12 (b)

Answers could include:

Organisation

- In-house versus external support for setup and ongoing maintenance
- Location
 - Warehouse/factory versus shop front
 - Cheaper location
- Management with expertise in technology
- Support services, eg transport, courier, postal services
- The addition of a web-based marketing, sales and delivery team

Work Practices

- Staff retrained
- Hours of operation to cater for different time zones
- Change in administrative practices to accommodate ordering to dispatch processes
- Extend range of duties/multiskilling
- Staff changes to ensure accuracy of online information
- Awareness of regulations/web-related legislation/security issues