



## **2012 HSC Construction '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 16 (a)

*Sample answer:*

- The benefits of using saw stools include having a stable work platform to rest timber on. It provides workers with a mobile bench and improves posture to support the body.

### Question 16 (b)

*Sample answer:*

- Lump or club hammer, used with a bolster to cut bricks and stone
- Pinch or wrecking bar, used for pulling nails and used as a lever for prying framework apart and de-nailing timber

### Question 16 (c)

*Answers could include:*

- A worker should wear safety glasses to protect their eyes from flying objects during the cutting process.
- The electrical cord should be clear of the cutting blade to prevent electrocution.
- Replace worn blades and make sure sufficient clearance is available under the job being cut.
- Ensure the air vents in the jigsaw are not blocked, to prevent heating.

### Question 17 (a)

*Sample answer:*

- Information such as the date, time and venue should be stated, including the agenda, attendance, general business and action taken.

**Question 17 (b)*****Sample answer:***

Demonstrates the use of MSDS by providing training and education seminars.

***Answers could include:***

- Explaining information on a MSDS
- Training and education programs/seminars
- Hazard report

**Question 18 (a)*****Sample answer:***

The bricklayer has been allocated days before bricklaying can commence ie prior to the setout, excavation and placement of concrete footings.

**Question 18 (b)*****Sample answer:***

The benefits include adequate time allocated for each activity and trade, for the calculation of labour costs and overall forecasting of time.

***Answers could include:***

- Adequate time allocated for each activity/trade
- Forecasting overall time
- Labour costs calculated
- Efficiency
- Labour and time should be proportional to the extent of work being performed
- Start and finish dates

**Question 19 (a)**

*Answers could include:*

- End use
- Gauge
- Weight needed
- Type of fixing method
- Finish
- Length

**Question 19 (b)**

*Answers could include:*

- Wear safety glasses and ear protection
- Use clean, regulated compressed air and the recommended pressure (usually 120psi/8 bar maximum)
- Always release the trigger between fastening to avoid accidental firing
- Always keep the tool pointing in a safe direction when handling a nail gun
- The safety must be fully depressed before the frame nailer can fire

**Question 19 (c)**

*Answers could include:*

- Gas — versatile, range of uses, 90° and angled brad guns
- Battery — small, portable, light
- Air — fixed cord, factory-type use

**Question 19 (d)**

*Sample answer:*

The benefits of using a nail gun include reduced work effort and time. It is cost effective due to the reduced time for the task while efficiency and productivity are improved. The quality of the finished job is better and there are reduced labour costs.

**Question 20 (a)***Sample answer:*

$$2.07 \times 3.0 \times 0.125 = 0.77625 \text{ m}^3$$

$$2.50 \times 4.0 \times 0.125 = 1.25 \text{ m}^3$$

$$3.00 \times 3.5 \times 0.125 = 1.3125 \text{ m}^3$$

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$$3.33875 \text{ m}^3$$

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Rounded up to nearest 0.2 m<sup>3</sup> = 3.4 m<sup>3</sup>.

**Question 20 (b)***Sample answer/Answers could include:*

$$2070 \div 90 = 23 \text{ lengths at } 3.0 \text{ m each}$$

$$23 \text{ lengths} \times 3000 = 69\,000 = 69 \text{ m}$$

$$10\% \times 69 = 6.9$$

$$69 + 6.9 = 75.9 \text{ m of } 90 \times 22 \text{ decking timber}$$

+ round up = 76 m of decking timber.

**Question 20 (c)***Answers could include:*

- Battens
  - Use galvanised anchors (align a bolt) to secure battens and resist corrosion.
- Decking timber
  - Use galvanised decking screws to resist corrosion. A counter-sunk screw head such as a bugle-head screw will remain flush or below the timber surface.

## Section III

### Question 21

*Answers could include:*

- WHS Act knowledge/National codes of practice
- Legislative requirements
- Codes of practice
- Practical, commonsense & industry acceptable
- Safety signs/regulatory signs
- Safety site induction and white card
- Wear appropriate PPE
- Apply the hierarchy of risk control
- Monitoring and reporting for WHS
- Information recording MSDS/JSA/Risk Assessment accident reporting
- Compulsory WHS induction training
- Knowledge of workers compensation and injury management
- Knowledge of working in different environments such as temperature/UV, confined spaces, working at heights.
- Hazard identification, potential risks.

## Section IV

### Question 22 (a)

*Answers could include:*

- signage
- delivery zone/area
- silt barriers
- notification
- fencing
- barricades
- construction area barricades
- high temporary fence that encloses site

### Question 22 (b)

*Answers could include:*

- Plan, organise and sequence ALL tasks so as to avoid delays, save time and money
- Sequencing also results in a safe work site
  - site setting out
  - locate and inspect site, peg-out
  - clear and level site
  - set out string lines
- Arrange services – electrician (power for BBQ)
- Excavation – for concrete site, prepare/ level area
- Slab
  - set-out
  - form-work
  - pour
  - clean-up/strip form-work
- Materials
  - timber, seating, BBQ
- Construction
  - decking, need area for storage/delivery and constructing deck