

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

2008

**HIGHER SCHOOL CERTIFICATE
EXAMINATION**

Construction

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black or blue pen
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of pages 9 and 13

Total marks – 80

Section I Pages 2–5

15 marks

- Attempt Questions 1–15
- Allow about 15 minutes for this section

Section II Pages 9–17

35 marks

- Attempt Questions 16–24
- Allow about 45 minutes for this section

Section III Page 21

30 marks

- Attempt TWO questions from Questions 25–27
- Allow about 1 hour for this section

Section I

15 marks

Attempt Questions 1–15

Allow about 15 minutes for this section

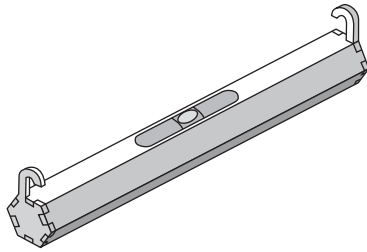
Use the multiple-choice answer sheet for Questions 1–15.

1 To what category does the sign shown belong?



- (A) Action required
 - (B) Hazard warning
 - (C) Mandatory restriction
 - (D) Emergency information
- 2 What is the purpose of manual handling standards?
- (A) To prevent and reduce serious injuries
 - (B) To provide opportunities for workers to lift when at work
 - (C) To encourage all workers to lift manually if machinery is not available
 - (D) To ensure that industries are aware of the importance of lifting to a standard
- 3 To whom must you first report a minor accident on a small construction site?
- (A) The union representative
 - (B) The owner of the construction site
 - (C) The officer in charge of maintenance
 - (D) The foreman in charge of the workers

4 Which type of levelling device is shown?



- (A) Line level
 - (B) Laser level
 - (C) Spirit level
 - (D) Water level
- 5 What does a regulator allow you to do when you are using pneumatic (air) tools connected to a compressor?
- (A) Read oil pressure
 - (B) Adjust air pressure
 - (C) Connect tools to the compressor
 - (D) Read the temperature of the motor
- 6 What is the minimum height off the ground for an electrical extension lead outside the work area?
- (A) 1.5 m
 - (B) 1.8 m
 - (C) 2.1 m
 - (D) 2.4 m
- 7 What is the most appropriate application of a 10 m retractable metal tape?
- (A) To measure the depth of a housing
 - (B) To measure the internal size of a bedroom
 - (C) To measure the distance a wall is out of plumb
 - (D) To measure the length of a boundary fence line

- 8** When should pictures or symbols be used in workplace signage?
- (A) When the work area is poorly lit
 - (B) When the use of colour improves what is being communicated
 - (C) When there is not enough space to fit all the words on the sign
 - (D) When the message is required to reach workers from all backgrounds
- 9** What is the unit of measurement used to identify the intensity of noise on a construction worksite?
- (A) Decibels
 - (B) Hertz
 - (C) Kilowatt
 - (D) Megahertz
- 10** What class of extinguisher should be used on a LPG (Liquid Petroleum Gas) fire?
- (A) A
 - (B) B
 - (C) C
 - (D) E
- 11** Which type of plan would allow you to determine the floor and ceiling heights of a building?
- (A) Construction
 - (B) Longitudinal
 - (C) Project
 - (D) Site
- 12** Which practice will most likely lead to successful teamwork on a construction worksite?
- (A) Sharing knowledge of particular tasks
 - (B) Using the appropriate number of workers
 - (C) Reporting of procedures and requirements
 - (D) Referring to environmental impact statements

- 13** What would indicate the poor performance and inefficiency of a power tool?
- (A) Depth of specific tool induction
 - (B) Selection of the appropriate tool
 - (C) Regular servicing and maintenance schedule
 - (D) Level of consumption of fuel and other consumables
- 14** Apart from the use of standardised drawing layouts, how is technical drawing language expressed?
- (A) As standardised words spoken by builders
 - (B) As standardised words used when communicating with an architect
 - (C) As standardised symbols and standardised abbreviations of terms used
 - (D) As drawing concepts and standardised equipment in the production of drawings
- 15** What is the surface area of the side of a cylindrical water tank having a height of 2.4 m and a base radius of 775 mm?
- (A) 11.7 m²
 - (B) 18.6 m²
 - (C) 116.9 m²
 - (D) 186.0 m²

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Construction

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Centre Number

Section II

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Student Number

35 marks

Attempt Questions 16–24

Allow about 45 minutes for this section

Answer the questions in the spaces provided.

Marks

Question 16 (5 marks)

- (a) Complete the table by providing an appropriate example for each of the communication methods used in the construction industry. 2

<i>Communication method</i>	<i>Example of information communicated</i>
Written	Work method statements
Email	
Face-to-face	

- (b) What factors impede effective communication? 3

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Question 17 (4 marks)

- (a) Outline the procedure you would follow to provide basic first aid to a fellow worker suffering from heat exhaustion. **2**

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- (b) Outline the benefits that workers' compensation insurance provides to an injured worker. **2**

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Question 18 (2 marks)

Give reasons for safety/lockout tagging. **2**

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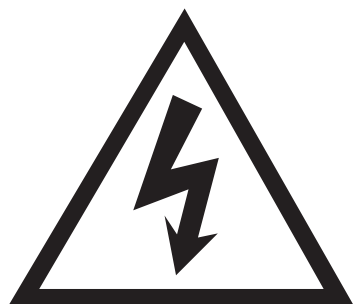
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Question 19 (2 marks)

Describe a situation on a building site where each of the following signs would be used.

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Question 20 (3 marks)

Describe how the construction industry utilises Material Safety Data Sheets (MSDS).

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Construction

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Centre Number

Section II (continued)

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Student Number

Marks

Question 21 (5 marks)

- (a) On a construction site, a wheelbarrow is to be used to move waste material 20 metres. **3**

Identify the safety issues and describe the procedures a worker would need to consider in completing this task.

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- (b) What are the advantages of regular site clean-ups? **2**

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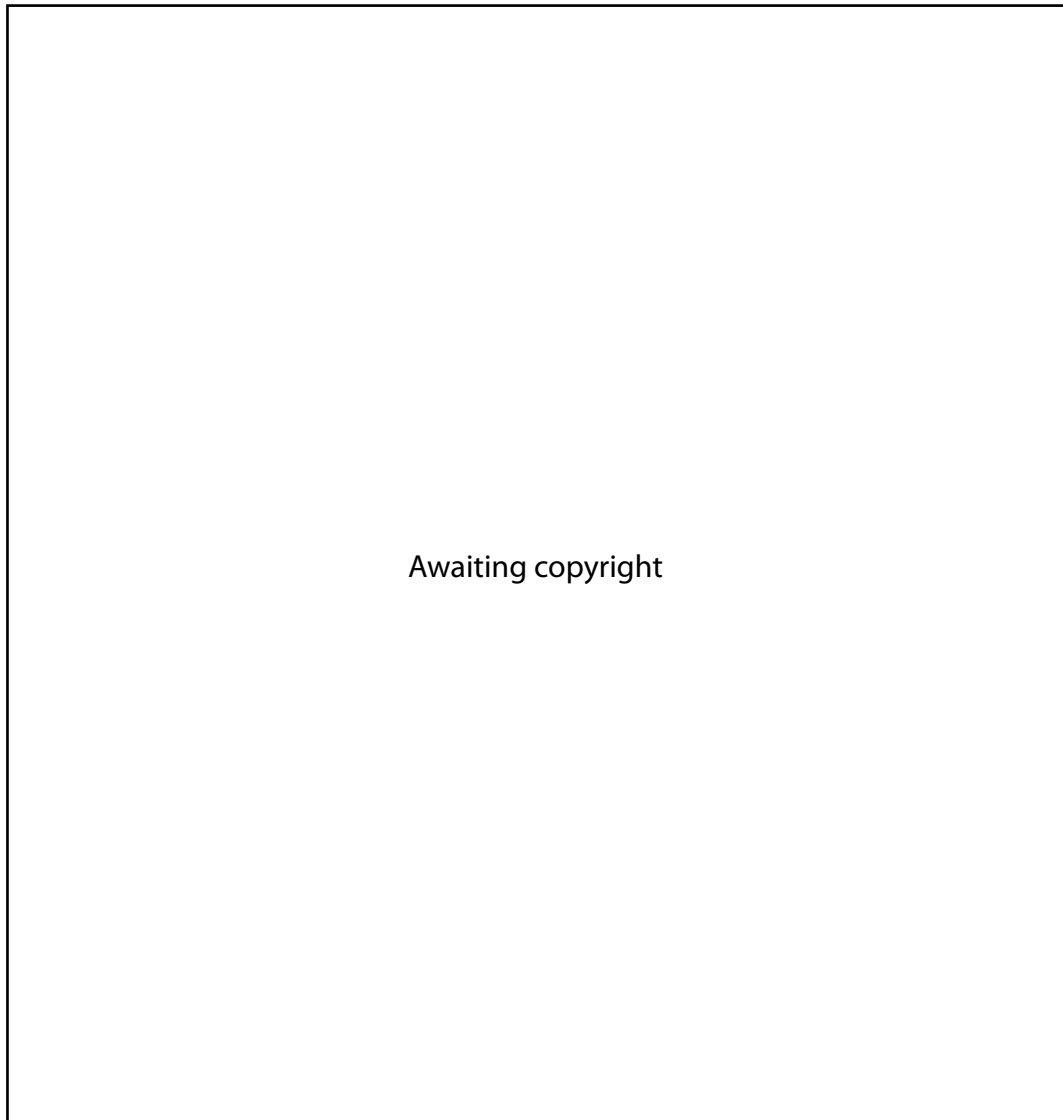
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Question 22 (5 marks)

A risk assessment table such as the one shown assists employees to rank the severity of risks.



Question 22 continues on page 15

Question 22 (continued)

- (a) Using the HAZPAK Risk Assessment table, complete the table for the given risk rankings. 2

<i>Risk ranking</i>	<i>Activity</i>	<i>Example of potential accident</i>
1	eg Working on a roof without a safety harness	Falls from a height onto the ground
3		
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- (b) Describe the process that management would use to reduce the risk of injury for people working on a roof. 3

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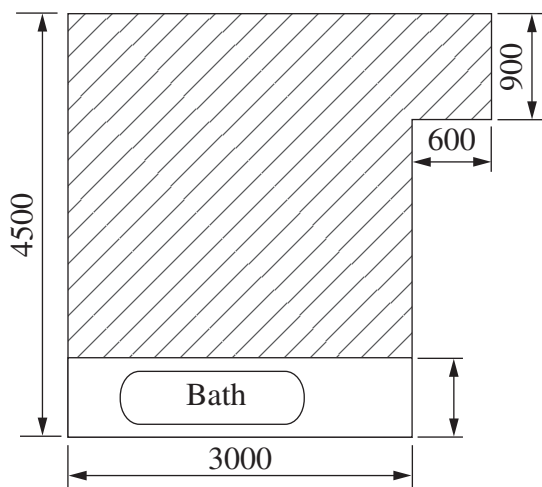
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End of Question 22

Question 23 (5 marks)

The dimensions of a bathroom and the costs of tiling are shown.

5



NOT TO SCALE

<i>Items</i>	<i>Cost/cover</i>
Tiles	\$45.50 per box 2.5 square metres per box
Adhesive	\$29 per 4 litre tub 0.75 square metres per litre
Labour	\$75 per square metre

Calculate the cost to supply and install tiles for the hatched area. Show all working.

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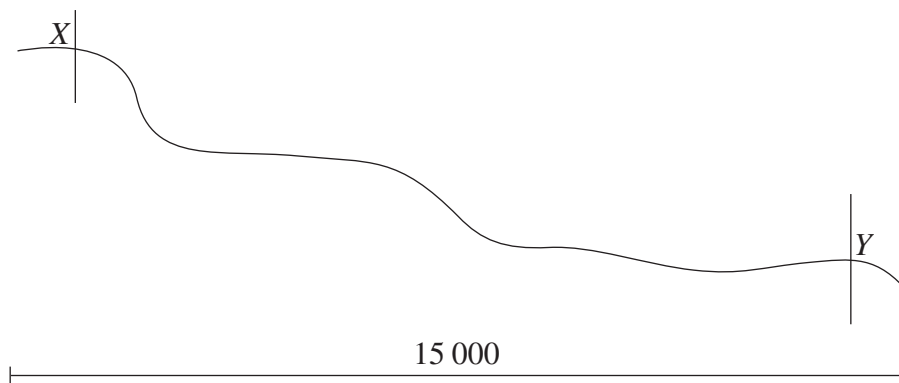
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Question 24 (4 marks)

A builder needs to determine the fall between points *X* and *Y* on the slope shown.

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Explain how, by using a spirit level and other relevant equipment, the builder could determine the fall.



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Construction

Section III

30 marks

Attempt TWO questions from Questions 25–27

Allow about 1 hour for this section

Answer each question in a SEPARATE writing booklet. Extra writing booklets are available.

In your answers you will be assessed on how well you:

- demonstrate relevant knowledge and understanding
 - communicate ideas and information, using precise industry terminology and appropriate workplace examples
 - organise information in a well-reasoned and cohesive response
 - solve proposed issues or problems
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Question 25 (15 marks)

The construction industry is required to work within environmental protection legislation.

Explain, using examples, how the construction industry addresses this legislation during planning and constructing.

Question 26 (15 marks)

Describe and justify the information that management would need to address when inducting workers on the safe use, maintenance and operation procedure for a portable electric power saw.

Question 27 (15 marks)

Construction materials have been delivered on the footpath outside a construction site. The delivery includes bags of cement, pallets of brick and sheets of formply.

Describe and justify procedures involved in the manual handling and site storage of these materials.

End of paper

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