

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

2011

**HIGHER SCHOOL CERTIFICATE
EXAMINATION**

Construction

General Instructions

- Reading time – 5 minutes
- Working time – 2 hours
- Write using black or blue pen
Black pen is preferred
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of pages 9, 11, 13 and 15

Total marks – 80

Section I Pages 2–5

15 marks

- Attempt Questions 1–15
- Allow about 20 minutes for this section

Section II Pages 9–16

35 marks

- Attempt Questions 16–19
- Allow about 50 minutes for this section

Section III Page 17

15 marks

- Attempt Question 20
- Allow about 25 minutes for this section

Section IV Page 18

15 marks

- Attempt Question 21
- Allow about 25 minutes for this section

Section I

15 marks

Attempt Questions 1–15

Allow about 20 minutes for this section

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

- 1 Why is a site meeting most commonly held?
 - (A) To order materials
 - (B) To plan the work schedule
 - (C) To discuss future wage rates
 - (D) To communicate changes to work practices

- 2 What does a work plan include?
 - (A) Costings, materials and suppliers
 - (B) Council approval to commence work
 - (C) A list of tools, equipment and reporting procedures used on site
 - (D) An overview of safety equipment and a work method statement for each task

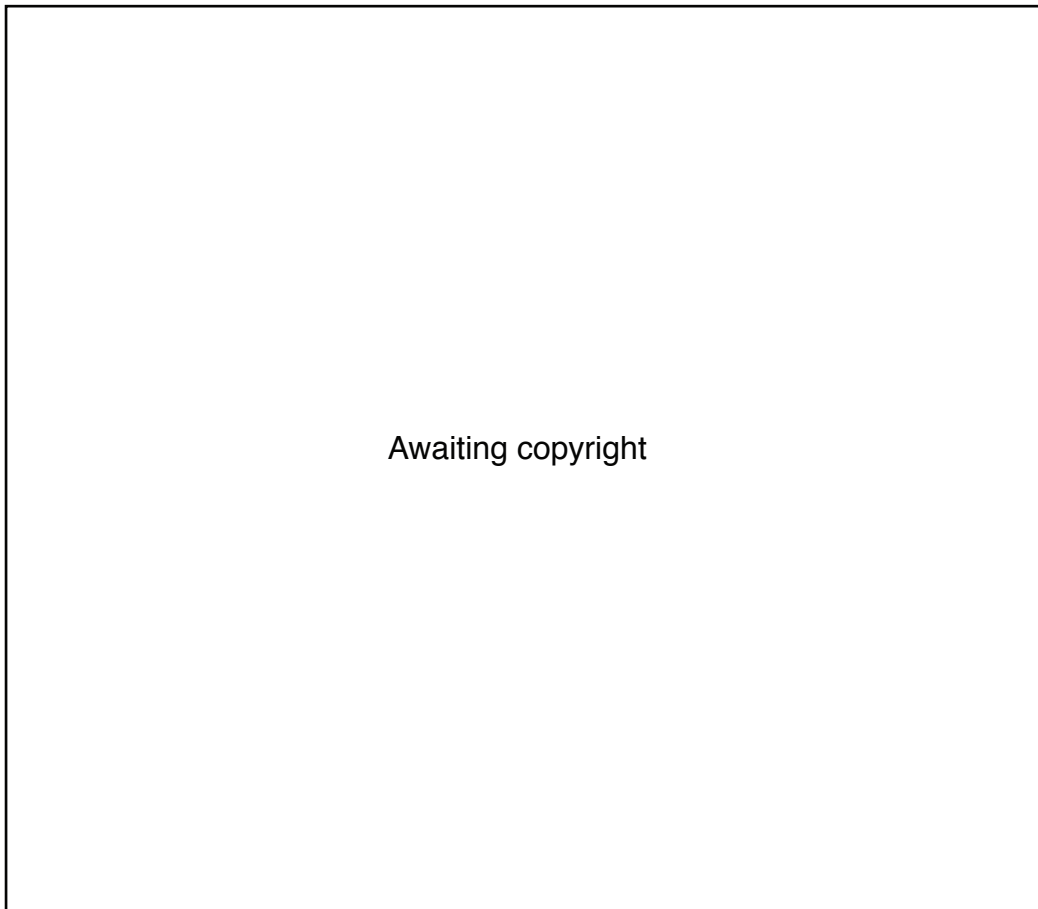
- 3 What material is added to a drill bit for masonry application?
 - (A) Titanium
 - (B) Tool steel
 - (C) High speed steel
 - (D) Tungsten carbide

- 4 What is the meaning of the term *scale*?
 - (A) The ratio of a pictorial drawing
 - (B) The ratio used when calculating the volume of concrete
 - (C) The ratio of length on a drawing to the corresponding real length
 - (D) The ratio to determine the volume of chemicals used to prevent hazards

- 5** What indicates the inefficiency and poor performance of an electric plane?
- (A) Cracks to the outer casing
 - (B) A faulty switch mechanism
 - (C) Over consumption of materials
 - (D) Excessive vibration through the hands
- 6** What is the most common cause of workplace injuries?
- (A) Poor maintenance
 - (B) Poor economic management
 - (C) Inefficient assigning of personnel to work tasks
 - (D) Reduction in the number of union meetings on the work site
- 7** A trench 26.0 m long by 300 mm deep and 450 mm wide is excavated.
What is the approximate volume of soil excavated allowing for 15% bulking?
- (A) 3.51 m³
 - (B) 4.04 m³
 - (C) 35.10 m³
 - (D) 40.40 m³
- 8** How many flooring sheets should be ordered to cover an area measuring 14.6 m × 9.0 m?
The size of flooring sheets is 3.6 m × 0.9 m.
- (A) 40.0
 - (B) 40.5
 - (C) 41.0
 - (D) 41.5
- 9** What is a purpose of a chalk string line?
- (A) To mark a level line
 - (B) To mark a line on sheeting
 - (C) To check for plumb or level
 - (D) To make the line smooth on sheetings

- 10** What is an appropriate method of monitoring for occupational health and safety (OHS)?
- (A) Submitting safety inspection reports
 - (B) Having a union meeting with all employees
 - (C) Supplying personal protection equipment (PPE)
 - (D) Providing training updates for all employees every year
- 11** What best contributes to successful teamwork?
- (A) Open communication skills
 - (B) Sound qualifications and work history
 - (C) An understanding of the role of each individual
 - (D) An ability of workers to speak several languages
- 12** What is the main purpose of work sequencing?
- (A) To use qualified tradespeople
 - (B) To organise and carry out a task
 - (C) To delegate roles to each individual on site
 - (D) To develop a Safe Work Method Statement
- 13** What is the major reason for safety/lockout tagging?
- (A) To authorise use
 - (B) As evidence of serviceability
 - (C) To indicate a machine has been checked
 - (D) As a category of safety and risk identification

- 14** What is the major factor that would contribute to the accuracy of the piece of equipment shown in the diagram?



- (A) The absence of air bubbles
 - (B) The distance between 'A' and 'B'
 - (C) The addition of food dyes to the liquid
 - (D) The number of operators using the equipment
- 15** What is the primary role of the Master Builders Association (MBA)?
- (A) To promote the viewpoints and interests of building and construction industry workers
 - (B) To promote the skills of workers registered in the building and construction industry
 - (C) To develop additional work practices and techniques using new technologies and current materials
 - (D) To develop a common body of knowledge for organisations to access when placing construction applications with government bodies

BLANK PAGE

BLANK PAGE

BLANK PAGE



Construction

--	--	--	--	--

Centre Number

Section II

--	--	--	--	--	--	--	--	--

Student Number

35 marks

Attempt Questions 16–19

Allow about 50 minutes for this section

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 16 (9 marks)

- (a) Why is clear and concise communication important when working on a construction site? 1

.....

.....

- (b) Identify ONE form of written communication and explain its use when working on a construction site. 3

.....

.....

.....

.....

.....

.....

.....

Question 16 continues on page 10

--	--	--	--	--

Centre Number

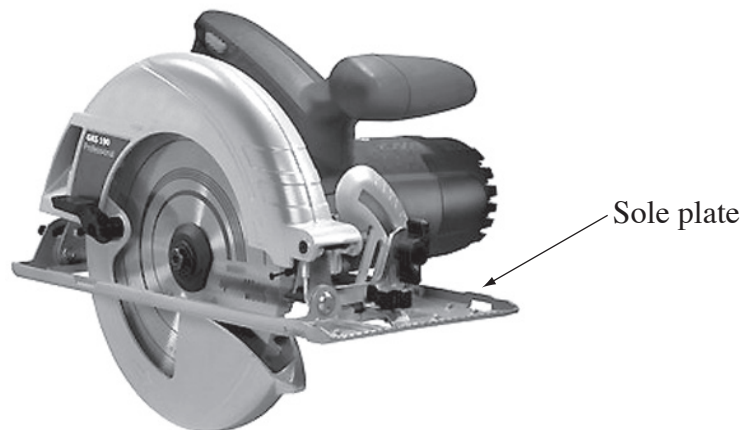
Section II (continued)

--	--	--	--	--	--	--	--	--

Student Number

Question 17 (8 marks)

An illustration of a 240 V portable circular saw is shown.



© Robert Bosch (Australia) Pty Ltd. <http://www.bosch-pt.com.au/papocs-au/Trade+and+Industry/Tools/AU/en/gw/Saws/131408/index.htm>

- (a) What are TWO adjustments that can be made to the sole plate? 2

.....

.....

.....

.....

- (b) What features of the blade should be considered when purchasing a replacement? 2

.....

.....

.....

.....

Question 17 continues on page 12

Question 17 (continued)

(c) Describe the routine maintenance checks for this type of saw.

4

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

End of Question 17



--	--	--	--	--

Centre Number

Section II (continued)

--	--	--	--	--	--	--	--	--

Student Number

Question 18 (8 marks)

Use the Floor Plan on page 20 to answer Question 18.

- (a) Calculate the combined floor area of the dining and living rooms. **3**

.....

.....

.....

.....

.....

.....

.....

.....

.....

Question 18 continues on page 14

Construction

--	--	--	--	--

Centre Number

Section II (continued)

--	--	--	--	--	--	--	--	--

Student Number

Question 19 (10 marks)

- (a) What is the purpose of the hierarchy of risk control? **2**

.....

.....

.....

.....

- (b) What criteria can an employer use when evaluating the work performance of employees? **3**

.....

.....

.....

.....

.....

.....

Question 19 continues on page 16

Construction

Section III

15 marks

Attempt Question 20

Allow about 25 minutes for this section

Answer the question in a writing booklet. Extra writing booklets are available.

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

- demonstrate knowledge and understanding relevant to the question
 - communicate ideas and information using relevant workplace examples and industry terminology
 - present a logical and cohesive response
-

Question 20 (15 marks)

Use the Site Plan on page 19 and the information provided to answer this question.

15

The quantities of building materials listed in the table are to be delivered to point X at 7 am. These materials must be moved to point Y at the rear of the site before 4 pm.

<i>Building Material</i>	<i>Quantity</i>
Bricklayer's sand	30 m ³
Cement – 20 kg bags	40
Reinforcing mesh — sheet 6 m × 2.4 m	10

Describe the issues the site supervisor must consider when completing a Safe Work Method Statement for moving the materials.

Please turn over

Section IV

15 marks

Attempt Question 21

Allow about 25 minutes for this section

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

Question 21 (15 marks)

The construction industry has a number of ways of addressing occupational health and safety (OHS) requirements on construction sites.

- (a) Identify the features and actions required for mandatory and prohibition signage. **3**

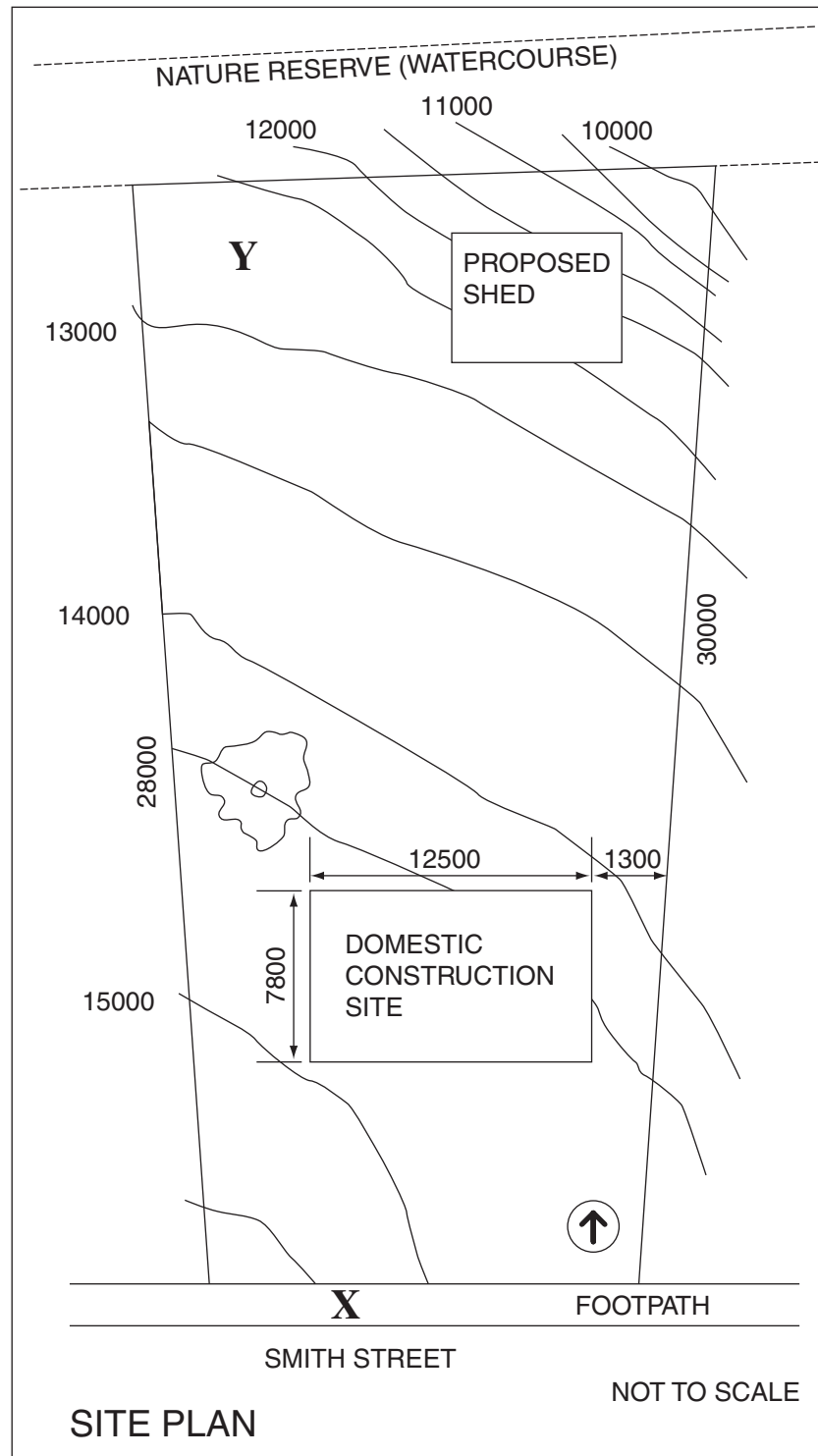
- (b) Describe the process that management could follow to monitor the level of risk on a large construction site. **5**

- (c) Explain the information that needs to be included in a site specific induction for a large construction site. **7**

End of paper

Construction

Detach this sheet and use the information to answer Questions 18 and 20.



Please turn over

