

Construction

General Instructions

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

Total marks – 80

Section I Pages 2–6

15 marks

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

Section II Pages 9–16

35 marks

- Attempt Questions 16–21
- Allow about 50 minutes for this section

Section III Page 17

15 marks

- Attempt Question 22
- Allow about 25 minutes for this section

Section IV Page 18

15 marks

- Attempt Question 23
- 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.

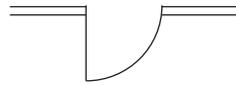
1 What type of hammer is shown?



- (A) Claw
 - (B) Lump
 - (C) Ball pein
 - (D) Warrington
- 2 A builder works 18 hours on a construction project and charges \$990.00.
- What is the builder's rate of pay per hour?
- (A) \$30.00
 - (B) \$40.00
 - (C) \$55.00
 - (D) \$60.00
- 3 What is the main purpose of a site induction for new employees?
- (A) To locate the evacuation point
 - (B) To discuss union matters and awards
 - (C) To locate the site office and amenities
 - (D) To explain site procedures and requirements

- 4 What is the clearest way to communicate a work sequence?
- (A) Checklist
 - (B) Database
 - (C) Gantt chart
 - (D) Column chart
- 5 An employee is required to use the correct posture when lifting a 20 kg bag of cement.
- The employee should stand with
- (A) a straight back and legs.
 - (B) an arched back and bent knees.
 - (C) a straight back and bent knees.
 - (D) an arched back and straight legs.
- 6 A 1.65 m length of timber is required for a job. The supervisor wants a standard length ordered.
- Which of the following should be ordered?
- (A) 1.7 m
 - (B) 1.8 m
 - (C) 2.0 m
 - (D) 2.2 m
- 7 What is the most commonly used scale for a site plan?
- (A) 1:10
 - (B) 1:20
 - (C) 1:100
 - (D) 1:200

8 What does this symbol used in building drawings represent?

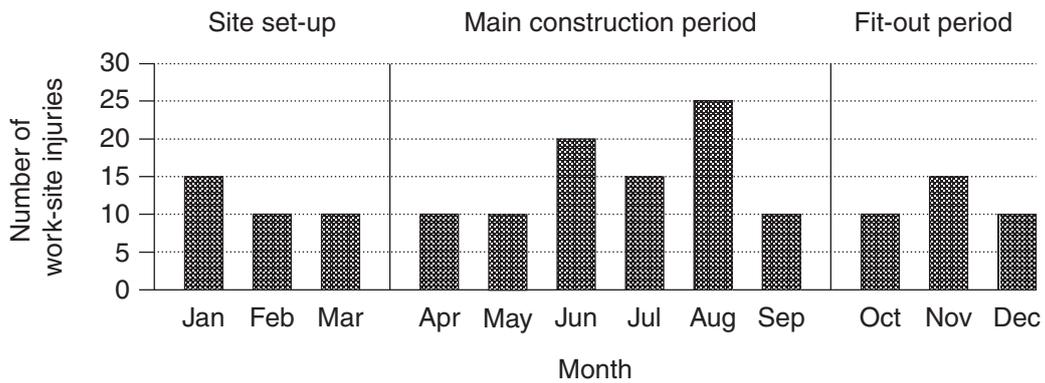


- (A) A bifold door
 - (B) A single hinged door
 - (C) A single sliding door
 - (D) A double hinged door
- 9** What is the purpose of an earth leakage device?
- (A) To recharge batteries
 - (B) To provide on-site power
 - (C) To prevent electric shocks
 - (D) To convert the power supply
- 10** Which of the following fasteners should be used to attach a metal bracket to brickwork?
- (A) Dynabolt
 - (B) Toggle bolt
 - (C) Pan head screw
 - (D) Bugle head screw
- 11** Which of the following fence types is used to prevent hazardous substances running off into nearby waterways from a construction site?
- (A) Brick
 - (B) Sediment
 - (C) Temporary
 - (D) Fabric sheet

12 What is the main reason why workplace accidents should be reported?

- (A) To reduce the cost of insurance
- (B) To provide records for WorkCover
- (C) To provide statistics to the union
- (D) To improve hazard identification on the work site

13 The graph displays the number of injuries that occurred on a work site for each month in 2014.



What is the average number of injuries per month that occurred during the main construction period?

- (A) 10
- (B) 12
- (C) 15
- (D) 18

- 14** The construction of a new building involves coordinating the work of many different trades.

What would be the correct sequencing of trades for constructing a new building efficiently?

- (A) Concreters, roofers, plasterers, carpenters
- (B) Concreters, carpenters, roofers, plasterers
- (C) Concreters, formworkers, carpenters, plasterers
- (D) Formworkers, concreters, plasterers, roofers

- 15** The following specifications are given:

- Section: 90 × 90 mm pine
- Length: 2.4 m
- Amount: 125 lengths

Based on these specifications, which of the following is the minimum number of cubic metres of timber required?

- (A) 2.0
- (B) 2.3
- (C) 2.5
- (D) 2.9

BLANK PAGE

BLANK PAGE

--	--	--	--	--

Centre Number

Section II

35 marks

Attempt Questions 16–21

Allow about 50 minutes for this section

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

Student Number

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

Question 16 (4 marks)

The picture shows a carpenter using a spirit level to set up a doorjamb.



Courtesy of the Family Handyman

- (a) Outline the correct process for using the spirit level in this situation. **2**

.....
.....
.....

- (b) How can the door opening be checked for squareness?

.....
.....
.....
..... **2**

Question 17 (7 marks)

(a) Describe the possible implications of building construction delays for builders. **3**

.....
.....
.....
.....
.....
.....
.....

(b) Describe the possible consequences of poor maintenance of construction tools and equipment for a building company. **4**

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

--	--	--	--	--

Centre Number

Section II (continued)

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

Student Number

Question 18 (4 marks)

A picture of a 20 V cordless drill is shown.



- (a) Outline the adjustment settings that can be made to this drill. 2

.....

.....

.....

.....

- (b) Outline an important issue to consider when using the drill shown to drill into a concrete floor. 2

.....

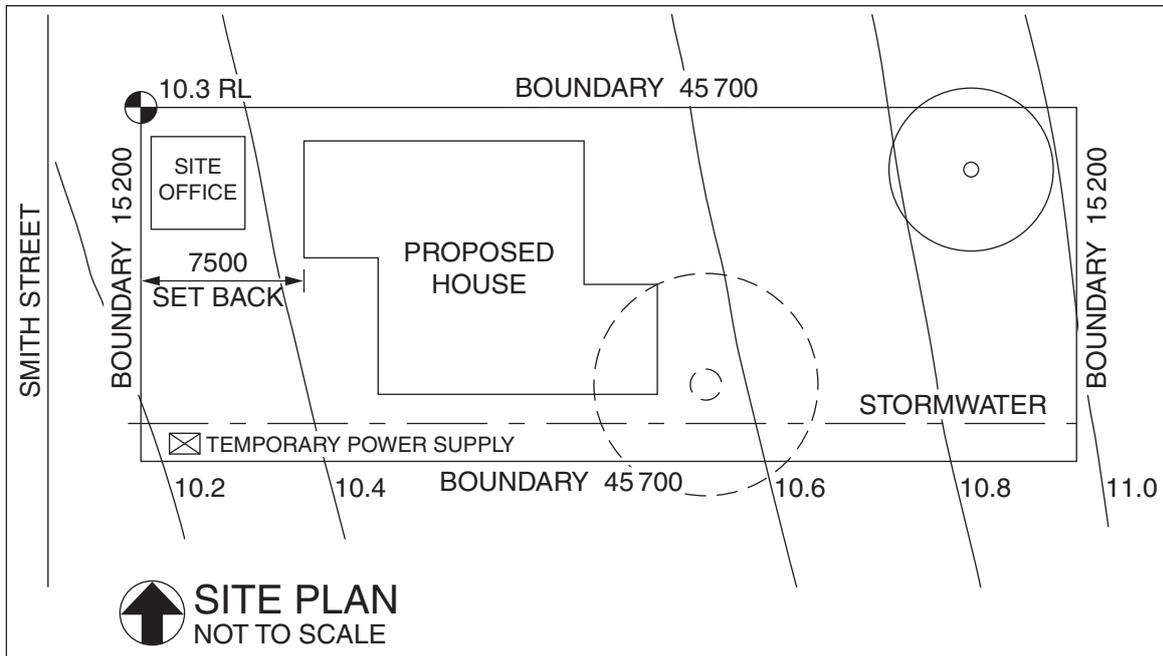
.....

.....

.....

Question 19 (7 marks)

A construction site plan is shown.



- (a) Identify ONE symbol or feature from the site plan and outline its purpose. **2**

.....

.....

.....

.....

- (b) Using the table, calculate the total cost of labour to set up temporary fencing for the construction site. Show all working. **2**

<i>Labour</i>	<i>Hours to be worked</i>	<i>Cost per hour</i>
Leading hand	16	\$65.00
Apprentice	12	\$24.00

.....

.....

.....

.....

Question 19 continues on page 13

Question 19 (continued)

(c) Outline how a builder would use the site plan to establish the site set-up. **3**

.....

.....

.....

.....

.....

.....

.....

End of Question 19

BLANK PAGE

--	--	--	--	--

Centre Number

Section II (continued)

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

Student Number

Question 20 (6 marks)

Describe strategies that can be used to deal with harassment and discrimination in the construction industry workplace.

6

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

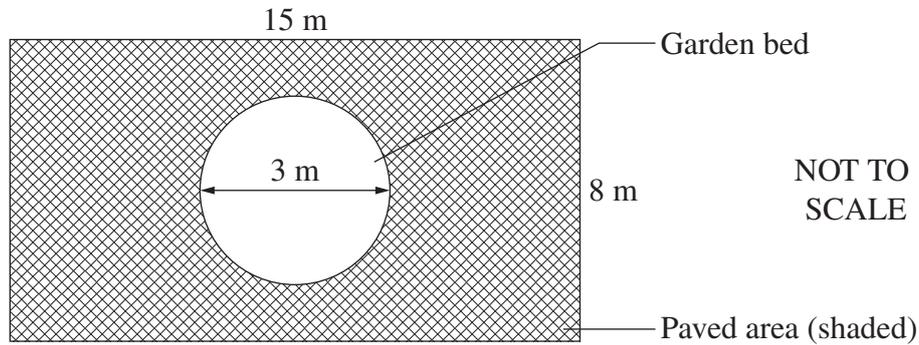
.....

.....

.....

Question 21 (7 marks)

The diagram shows a sketch of a proposed backyard garden.



The formula for finding the circumference of a circle is $C = \pi d$ and for the area of a circle is πr^2 .

- (a) Calculate how many lengths of $1.8 \times 90 \times 19$ treated pine timber are needed to form and bend an edge for the garden bed. **2**

.....

.....

.....

.....

- (b) Calculate the volume of sand needed to form a 50 mm sand bed for the paving. **2**

.....

.....

.....

.....

- (c) How many 400×400 pavers are required for the paved area? **3**

.....

.....

.....

.....

.....

Construction

Section III

15 marks

Attempt Question 22

Allow about 25 minutes for this section

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

Your answer 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 22 (15 marks)

Describe how builders and tradespeople can ensure quality work standards and ethical work practices on a construction site.

Please turn over

Section IV

15 marks

Attempt Question 23

Allow about 25 minutes for this section

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

Question 23 (15 marks)

The photograph shows a pedestrian pathway on a construction site.



©ELCOSH, Mount Sinai/CHEP

- (a) Identify ONE hazard and its potential risk to workers on this pedestrian pathway. **2**
- (b) How would you communicate work-site information to workers and visitors on this work site? **5**
- (c) Explain a method for assessing the risks and hazards on this work site by: **8**
- assessing potential risks
 - prioritising the most dangerous hazards.

End of paper