

2016 HSC Construction Marking Guidelines

Section I

Multiple-choice Answer Key

Question	Answer
1	B
2	D
3	C
4	A
5	C
6	B
7	B
8	A
9	B
10	C
11	A
12	A
13	B
14	C
15	C

Section II

Question 16 (a)

Criteria	Marks
• Outlines a use AND an aspect of maintenance issue	2
• Outlines a use OR an aspect of maintenance issue	1

Sample answer:

A mattock is used to break up ground when the ground is too hard for a spade or shovel. Ensure the head is secure to the handle.

Answers could include:

- cutting tree roots
- levelling of trench.

Maintenance issues include:

- sharpness of blade edges
- oiling of timber handle.

Question 16 (b)

Criteria	Marks
• Provides a relevant safety consideration	2
• Provides a relevant consideration	1

Sample answer:

Make sure there are no other workers in the area where the mattock is being swung.

Answers could include:

- manual handling technique, correct posture
- security of head to handle
- Dial Before You Dig.

Question 17 (a)

Criteria	Marks
• Clearly describes an effective communication technique	2
• Provides a relevant communication technique	1

Sample answer:

Establish eye contact with the operator and use non-verbal signals to indicate excessive noise and to stop the power tool.

Question 17 (b)

Criteria	Marks
• Clearly outlines the possible causes of excessive noise	2
• Outlines ONE cause	1

Sample answer:

Possible causes of excessive noise could be a blunt blade or bit on the tool, or using a tool which is unsuitable for the material.

Answers could include:

- loose guards
- faulty motor.

Question 17 (c)

Criteria	Marks
• Clearly describes two hazards and relevant safety controls	4
• Identifies two hazards and a relevant safety control	3
• Identifies a hazard and a safety control	2
• Identifies a hazard	1

Sample answer:

Hazards	Safety controls
1. Noise	Wear ear protection
2. Splinters, chips, flying debris	Wear eye protection; dust collection

Answers could include:

Hazards could also include:

- faulty guards
- dull blade
- faulty power lead.

Safety controls could also include:

- vacuum for dust suppression
- check guards before use and adjust
- tag and test leads, check currency of tag.

Question 18 (a)

Criteria	Marks
• Clearly describes TWO or more considerations	2
• Provides ONE relevant consideration	1

Sample answer:

The builder should secure reliable communication with emergency services and an appropriate first-aid kit. The builder must provide amenities on-site including fresh water and toilets.

Answers could include:

- relevant PPE
- generator for amenities power supply.

Question 18 (b)

Criteria	Marks
• Provides a clear justification of appropriate plant and equipment	3
• Provides a limited justification of plant and equipment	2
• Provides some relevant information	1

Sample answer:

The builder should select portable generators for electrical and/or pneumatic power tools. These could be petrol or diesel powered generators.

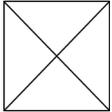
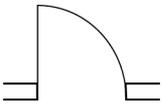
Answers could include:

- battery-operated power tools with spare batteries
- hand tools appropriate for the job.

Question 19 (a)

Criteria	Marks
• Clearly describes FOUR symbols	2
• Describes TWO symbols	1

Answers could include:

Symbol	Description
	Shower
	Masonry wall
	Hinged door Direction door will open Swinging door
	Window

Question 19 (b)

Criteria	Marks
• Accurately calculates the number of tiles needed	2
• Demonstrates some understanding of calculations	1

Sample answer:

$$\text{Floor area: } 2.100 \times 2.100 = 4.41 \text{ m}^2$$

$$\text{Tiles: } 0.2 \times 0.2 = 0.04 \text{ m}^2$$

$$4.41 \div 0.04 = 110.25$$

\therefore 111 tiles needed.

Question 19 (c)

Criteria	Marks
• Accurately calculates volume needed including 10% usage	3
• Accurately calculates volume needed with some errors	2
• Demonstrates some understanding of calculations	1

Sample answer:

$$\text{Floor area} = 5.99 \times 8.75 = 52.4125 \text{ m}^2$$

$$V = 52.4125 \times 0.125$$

$$= 6.55 \text{ m}^3$$

$$\text{Waste } 10\% \times 6.55 = 0.65$$

$$6.55 + 0.65 = \text{total concrete } 7.2 \text{ m}^3$$

Question 20 (a)

Criteria	Marks
• Demonstrates understanding of purpose of the Act	2
• Provides some relevant information	1

Sample answer:

The purpose of the Act is to define discrimination and the promotion of equal opportunity for all people. The Act also outlines how complaints can be made.

Answers could include:

- the Act prohibits discrimination
- areas of discrimination include: sex, disability, marital status, race, age and religion
- outlines ways to make a complaint about discrimination.

Question 20 (b)

Criteria	Marks
• Clearly describes methods to promote effective teamwork	3
• Describes some methods for promoting effective teamwork	2
• Provides some relevant points	1

Sample answer:

The company could promote teamwork by fostering positive working relationships between workers. To do this, they could establish a mentor system which provides encouragement and support for all workers. They could also conduct training programs which encourage mutual respect for all workers.

Answers could include:

- clear aims and purposes
- common goals
- good communication.

Question 21

Criteria	Marks
• Demonstrates extensive knowledge of planning and preparation for manual excavation	6
• Demonstrates some knowledge of planning and preparation	4–5
• Provides limited details of considerations	2–3
• Provides some relevant information	1

Sample answer:

Before the excavation, workers should locate any underground services by using the *Dial Before You Dig* service. If required, services must be turned off before excavation begins. Workers should confirm details and measurements for the pipe by referring to the construction plan. Tools are located and checked for serviceability before use. Signs and barricades are placed around the area to notify and protect the public. Designate an area for placing the spoil with appropriate environmental controls.

Answers could include:

- traffic control
- risk assessments, SWMS, JSA
- sequencing of activities.

Section III

Question 22

Criteria	Marks
<ul style="list-style-type: none"> Shows a detailed knowledge and understanding of the effect of conflict in the construction industry Provides examples of causes, consequences and solutions to conflict in the construction industry Uses correct industry terminology in a well-reasoned response 	13–15
<ul style="list-style-type: none"> Shows a sound knowledge and understanding of the effect of conflict in the construction industry Provides an example of a cause, a consequence AND/OR a solution to conflict in the construction industry Uses appropriate industry terminology 	10–12
<ul style="list-style-type: none"> Shows an understanding of the effect of conflict in the construction industry Provides a general knowledge of a cause OR a consequence OR a solution to conflict in the construction industry Uses appropriate industry terminology 	7–9
<ul style="list-style-type: none"> Shows a basic understanding of the effect of conflict in the construction industry Uses general industry terminology 	4–6
<ul style="list-style-type: none"> Provides an awareness of conflict Uses limited industry terminology 	1–3

Answers could include:

Causes

- poor work ethic
- lack of punctuality
- disagreements over work standards
- pay disputes
- contractual disputes
- cultural differences.

Consequences

- disharmony
- loss of productivity
- building delay
- harassment and bullying
- sabotage
- loss of employment.

Solutions

- dismissal
- legal action
- skill development and training
- conflict resolution eg mediation, arbitration
- improve working conditions.

Section IV

Question 23 (a)

Criteria	Marks
<ul style="list-style-type: none"> Identifies a hazard and clearly outlines the risk to workers 	2
<ul style="list-style-type: none"> Identifies a hazard and/or risk to workers 	1

Sample answer:

The site has uneven ground and formwork ready for concreting creating many trip hazards. The workers could trip over the uneven ground unless clear pathways are made through the site.

Answers could include:

- UV radiation (worker without shirt)
- manual handling – safely carrying materials
- sharp stakes without plastic caps.

Question 23 (b)

Criteria	Marks
<ul style="list-style-type: none"> Demonstrates sound knowledge and understanding of environmental issues which impact on the site and surrounding area Provides examples of environmental issues 	5
<ul style="list-style-type: none"> Shows knowledge of environmental issues Provides an example of an environmental issue 	3–4
<ul style="list-style-type: none"> Shows limited knowledge of environmental issues 	1–2

Sample answer:

The builder can reduce the impact on this site by understanding and complying with the Environmental Protection Authority (EPA). This would include dust suppression by hosing down the excavated soil to prevent dust entering neighbouring properties. Power tools would only be used during allocated hours to reduce site noise. Traffic in and out of the site would be controlled to allow for normal traffic flow in the street. Sediment traps would be used to prevent soil erosion from the site and into stormwater drains.

Answers could include:

- Off-street parking
- vehicle wash-down area
- barrier fencing
- neighbour notification during construction
- correct waste storage and disposal.

Question 23 (c)

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates an in-depth knowledge of daily housekeeping/ clean up • Provides examples of daily housekeeping processes completed • Uses precise industry terminology in a well-structured response 	8
<ul style="list-style-type: none"> • Demonstrates a sound knowledge of daily housekeeping/ clean up • Provides an example of a daily house keeping process completed • Uses appropriate industry terminology 	6–7
<ul style="list-style-type: none"> • Demonstrates some knowledge of housekeeping/ clean up • Uses some industry terminology 	4–5
<ul style="list-style-type: none"> • Provides limited understanding of housekeeping/clean up • Uses limited industry terminology 	2–3
<ul style="list-style-type: none"> • Provides a relevant point 	1

Answers could include:

- store tools and equipment to prevent theft or damage
- place all waste into bins to meet environmental regulations and reduce risks/hazard
- weather-proof materials to prevent damage and deterioration
- lock site gates to provide a secure site and reduce theft and vandalism
- turn off power to the site for safety
- inspect sediment/silt barriers to ensure their efficacy
- check site amenities to ensure they are in working order.

2016 HSC Construction Mapping Grid

Section I

Question	Marks	Unit of competency / Element of competency	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
1	1	CPCCCM1014A Conduct workplace communication – Element 1 – page 38	X	X			X			X
2	1	CPCCCM2005B Use construction tools and equipment – Element 1 – page 68								X
3	1	CPCCCM1013A Plan and organise work – Element 2 – page 31	X							
4	1	CPCCCM2001A Read and interpret plans and specifications – Element 1 – page 57–58			X					
5	1	CPCCCOHS1001A Work safely in the construction industry – Element 3 – page 84					X			
6	1	CPCCCM1012A Work effectively and sustainably in the construction industry – Element 1 – page 14							X	
7	1	CPCCCOHS2001A Apply WHS requirements, policies and procedures in the construction industry – Element 2 – page 99			X					
8	1	CPCCCM1015A Carry out measurements and calculations – Element 3 – page 52			X	X				
9	1	CPCCCOHS2001A Apply WHS requirements, policies and procedures in the construction industry – Element 2 – page 99							X	
10	1	CPCCCM2005B Use construction tools and equipment – Element 2 – page 70								X
11	1	CPCCCM2005B Use construction tools and equipment – Element 2 – page 70							X	X
12	1	CPCCCOHS2001A Apply WHS requirements, policies and procedures in the construction industry – Element 1 – page 95 & 98							X	
13	1	CPCCCOHS2001A Apply WHS requirements, policies and procedures in the construction industry – Element 4 – page 103			X					
14	1	CPCCCM2005B Use construction tools and equipment – Element 2 – page 71								X
15	1	CPCCCM1015A Carry out measurements and calculations – Element 3 – page 52			X					

Section II

Question	Marks	Unit of competency / Element of competency	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
16 (a)	2	CPCCCM2005B Use construction tools and equipment Element 2 – page 70								X
16 (b)	2	CPCCCM2005B Use construction tools and equipment – Element 2 – page 70			X					X
17 (a)	2	CPCCCM1014A Conduct workplace communication – Element 1 – page 39	X							
17 (b)	2	CPCCCM2005B Use construction tools and equipment – Element 2 – page 71–72								X
17 (c)	4	CPCCCOHS2001A Apply WHS requirements, policies and procedures in the construction industry – Element 1 – page 94–95			X		X			
18 (a)	2	CPCCCOHS2001A Apply WHS requirements, policies and procedures in the construction industry – Element 1 – page 94					X			
18 (b)	3	CPCCCM2005B Use construction tools and equipment – Element 4 – page 72					X		X	X
19 (a)	2	CPCCCM2001A Read and interpret plans and specifications – Element 3 – page 60							X	
19 (b)	2	CPCCCM1015A Carry out measurements and calculations – Element 3 – page 52			X					
19 (c)	3	CPCCCM1015A Carry out measurements and calculations – Element 3 – page 52			X					
20 (a)	2	CPCCCM1012A Work effectively and sustainably in the construction industry – Element 1 – page 15					X		X	
20 (b)	3	CPCCCM1012A Work effectively and sustainably in the construction industry – Element 3 – page 19	X	X	X		X			
21	6	CPCCCM1013A Plan and organise work – Element 3 – page 33	X	X	X		X	X		X

Section III

Question	Marks	Unit of competency / Element of competency	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
22	15	CPCCCM1012A Work effectively and sustainably in the construction industry – Element 3 – page 21 CPCCCM1014A Conduct workplace communication – Element 2 – page 43 CPCCCM1013A Plan and organise work – Element 1 – page 31	X	X	X	X	X	X	X	

Section IV

Question	Marks	Unit of competency / Element of competency	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
23 (a)	2	CPCCCOHS1001A Work safely in the construction industry – Element 2 – page 82					X		X	
23 (b)	5	CPCCCM1012A Work effectively and sustainably in the construction industry – Element 5 – page 22–23			X		X			
23 (c)	8	CPCCCM1012A Work effectively and sustainably in the construction industry – Element 5 – page 22–23	X	X	X	X	X	X	X	X