

2001 HSC Notes from
the Examination Centre
Construction

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Contents

Section I – Multiple-choice Questions	6
Section II	6
Section III	7

2001 HSC NOTES FROM THE EXAMINATION CENTRE CONSTRUCTION

Introduction

This document has been produced for the teachers and candidates of the Stage 6 course Construction. It provides comments with regard to responses to the 2001 Higher School Certificate Examination, indicating the quality of candidate responses, and highlighting the relative strengths and weaknesses of the candidature in each section and each question.

It is essential for this document to be read in conjunction with the relevant syllabus, the 2001 Higher School Certificate Examination, the marking guidelines, and other support documents which have been developed by the Board of Studies to assist in the teaching and learning of Construction.

In 2001, a total of 1148 candidates sat the Construction Higher School Certificate examination.

Section I – Multiple-choice Questions

Question	Correct Response
1	C
2	B
3	B
4	C
5	D
6	A
7	A
8	C

Question	Correct Response
9	B
10	A
11	D
12	B
13	A
14	C
15	D

Section II

Question 16

The majority of candidates were able to give a correct response to this question. Many candidates used the terminology offered in the stimulus material for Question 28 as a response, eg ‘ground line’ was cited as the answer to the earth symbol.

Question 17

Candidates displayed quite a narrow understanding of the terms and their application to the construction field. Signage was often confused with ‘hand signals’ and drawing confused with ‘safety sign’ drawings. Many did not see a working drawing as a building site communication medium.

Question 18

Most candidates attempted to identify all parts of the trench shown. Areas where candidates had difficulty included the waterproof membrane and particularly the use of ‘reo’ or ‘mesh’ for ‘trench mesh’.

Question 19

Quite a well-answered question with the majority of candidates able to list two or three factors that can affect water level accuracy. Several candidates cited (incorrectly) ‘human error’ as being a critical factor.

Question 20

A reasonably well-answered question with some candidates including a ‘fire blanket’ as a type of fire extinguisher. The citing of ‘colours’ was often given for distinguishing types.

Question 21

The majority of candidates were able to attempt this question by giving some explanation of correct lifting techniques. It was recognised that to lift safely, a straight back and bent knees was critical, and as such, should be part of instruction to manual lifting.

Question 22

This was a difficult question for most candidates. Part (c) tested the better candidate. Many candidates had trouble in selecting the correct units to use throughout the calculations and very few had the correct calculation in part (c) (the excavated volume). Many candidates carried out a range of calculations using information of unclear source. Some candidates assumed the ‘outside’ boundary was the slab to be poured. Many candidates simply multiplied the answer found in part (b) by one (1) to determine the excavated volume, part (c). This made the answers to parts (b) and (c) similar.

Question 23

It should be noted that respiratory PPE is the most critical equipment for the removal of asbestos cement (A/C) sheeting. A range of PPE equipment was cited with many candidates not recognising the importance of the respiratory area. Few candidates understood the correct removal procedure from a site.

Question 24

This question proved quite difficult for the majority of candidates due to their limited understanding of the term ‘offsite sector’. Candidates considered the areas of OH&S, Architecture and WorkCover as appropriate responses rather than wall frames, trusses, kitchen units, windows or pre-hung doors. Few candidates were able to explain why the ‘offsite sector’ has an increasingly important role within the industry.

Question 25

The majority of candidates attempted most parts of this question, with part (c) being the most challenging. In part (b) many candidates cited CFM for air compressor capacity, rather than the metric alternative, litres per second (L/s). Metric units should be considered rather than imperial.

Section III

Question 26

A large proportion of candidates attempted this optional question. The question itself provides a framework or scaffold for candidates to follow in their responses. The question asked for TWO things; one, an explanation of the OH&S training and two, the application of the saw to each level. Some candidates provided sound answers to both aspects, others to one aspect only and some were not able to respond.

With OH&S training being an integral part of the VET Construction framework, most candidates were able to answer at least ONE of the three training areas displaying some knowledge and understanding. The marking guidelines provided sufficient scope for candidates to show what they know and understand.

Most candidates generally understood and described the three levels of training, but inadequate terminology prevented access to higher marks. Many candidates failed to link OH&S and the saw through all levels. The majority of candidates were able to link the saw to work training.

Question 27

A large proportion of candidates attempted this optional question. The majority of candidates attempted to address only the immediate actions in treating the spillage. Many candidates cited a range of information sourced from the MSDS, without indicating an actual sequence for the procedure. These candidates were unable to give adequate justification to suggested actions.

This question allowed candidates to demonstrate their understanding of OH&S, risk assessment and worker entitlements. Candidates interpreted the MSDS sheet quite well and many cited DRABC in their response. Candidates did not understand the extent of injuries suffered by the worker and hence could not develop a suitable strategy.

Question 28

A relatively small number of candidates attempted this question, which may have been due to the initial impression upon viewing the stimulus material and the significant reading that was required. The question provided many different opportunities for candidates to display their knowledge and skills. It probed candidates' ability to read a set of plans and identify specific pieces of information. Based on this information, candidates were then further tested and therefore discriminated on their ability to perform calculations, reason, organise, synthesise and evaluate. A full range of responses was achieved.

The majority of candidates found the question very difficult. The extraction of information required was not clear to candidates while most struggled with the calculations. Most candidates had difficulty in relating characteristics of the materials to those stated and were unable to come to terms with appropriate reasons for their selection. Better candidates were rewarded for showing mathematical ability, seeking out relevant data and relating this to material characteristics.

Construction

2001 HSC Examination Mapping Grid

Question	Marks	Unit of Competency
1	1	BCG 1002A Plan and organise work
2	1	BCG 1003A or BCC 2000A Read and interpret plans
3	1	BCG 1003A or BCC 2000A Read and interpret plans
4	1	BCG 1008A Use simple levelling devices
5	1	BCG 1000A Carry out interactive workplace communications
6	1	BCG 1001A Carry out OH&S requirements
7	1	BCG 1000A Carry out interactive workplace communications
8	1	BCG 1003A or BCC 2000A Read and interpret plans
9	1	BCG 1005A or BCC 1005A Use hand and power tools
10	1	BCG 1000A Carry out interactive workplace communications
11	1	BCG 1001A Carry out OH&S requirements BCG 1006A or BCC 1006A Use small plant and equipment
12	1	BCG 1002A Plan and organise work
13	1	BCG 1001A Carry out OH&S requirements
14	1	BCG 1006A or BCC 1006A Use small plant and equipment
15	1	BCG 1004A Carry out measurements and calculations
16	2	BCG 1003A or BCC 2000A Read and interpret plans
17	3	BCG 1000A Carry out interactive workplace communications
18	2	BCG 1003A or BCC 2000A Read and interpret plans
19	3	BCG 1008A Use simple levelling devices
20	2	BCG 1001A Carry out OH&S requirements
21	2	BCG 1001A Carry out OH&S requirements
22 (a)	1	BCG 1004A Carry out measurements and calculations BCG 1003A or BCC 2000A Read and interpret plans
22 (b)	2	BCG 1004A Carry out measurements and calculations BCG 1003A or BCC 2000A Read and interpret plans
22 (c)	4	BCG 1004A Carry out measurements and calculations BCG 1003A or BCC 2000A Read and interpret plans
23 (a)	2	BCG 1011A Handle construction materials and safe disposal of waste
23 (b)	2	BCG 1011A Handle construction materials and safe disposal of waste
24	4	BCG 1000A Carry out interactive workplace communications
25 (a)	3	BCG 1006A or BCC 1006A Use small plant and equipment
25 (b)	1	BCG 1006A or BCC 1006A Use small plant and equipment
25 (c)	2	BCG 1006A or BCC 1006A Use small plant and equipment
26	15	BCG 1000A Carry out interactive workplace communications BCG 1001A Carry out OH&S requirements
27	15	BCG 1001A Carry out OH&S requirements BCG 1002A Plan and organise work BCG 1011A Handle construction materials and safe disposal of waste
28	15	BCG 1003A or BCC 2000A Read and interpret plans BCG 1011A Handle construction materials and safe disposal of waste BCG 1004A Carry out measurements and calculations

2001 HSC Construction Marking Guidelines

Question 16 (2 marks)

Units of competency assessed: BCG 1003A, BCC 2000A

MARKING GUIDELINES

Criteria	Marks
• 2 correct responses	2
• 1 correct response	1

Question 17 (3 marks)

Unit of competency assessed: BCG 1000A

MARKING GUIDELINES

Criteria	Marks
• 3 correct responses	3
• 2 correct responses	2
• 1 correct response	1

Question 18 (2 marks)

Units of competency assessed: BCG 1003A, BCC 2000A

MARKING GUIDELINES

Criteria	Marks
• 4 parts labelled correctly	2
• 2 or 3 parts labelled correctly	1

Question 19 (3 marks)*Unit of competency assessed: BCG 1008A***MARKING GUIDELINES**

Criteria	Marks
• 3 appropriate factors listed	3
• 2 appropriate factors listed	2
• 1 appropriate factor listed	1

Question 20 (2 marks)*Unit of competency assessed: BCG 1001A***MARKING GUIDELINES**

Criteria	Marks
• Two different portable fire extinguishers listed with the type of fire appropriate for each	2
• 1 correct combination One portable fire extinguisher listed with the type of fire appropriate for this extinguisher	1

Question 21 (2 marks)*Unit of competency assessed: BCG 1001A***MARKING GUIDELINES**

Criteria	Marks
• Provides a clear description of safe lifting procedure	2
• Identifies some features of safe lifting	1

Question 22 (a) (1 mark)*Units of competency assessed: BCG 1003A, BCG 1004A, BCC 2000A***MARKING GUIDELINES**

Criteria	Marks
• Correct answer (5.5 m. Accept 5.4–5.6 m)	1

Question 22 (b) (2 marks)*Units of competency assessed: BCG 1003A, BCG 1004A, BCC 2000A***MARKING GUIDELINES**

Criteria	Marks
• Calculation and correct answer (Accept 26.5–27.5 m ²)	2
• Formula and correct or consistent with inaccurate measurement substitution	1
• Incorrect reading of scale with consistent calculations	
• Incorrect units used	

Question 22 (c) (4 marks)*Units of competency assessed: BCG 1003A, BCG 1004A, BCC 2000A***MARKING GUIDELINES**

Criteria	Marks
• Correctly calculates volume ($\pm 0.5 \text{ m}^3$) by dividing area into 3 rectangles using average height within each area	4
• Correct approach (eg. 3 rectangles) with incorrect calculations in one	3
OR	
• Correctly calculates using 2 rectangles or answer from section (b)	
• Correct approach (eg. 3 rectangles) with incorrect calculations in two or in totalling	2
• Attempts 2 rectangle method but has incorrect calculations	1
• Correct methodology for 3 rectangles but incorrect scaling or calculations throughout	

Question 23 (a) (2 marks)*Unit of competency assessed: BCG 1011A***MARKING GUIDELINES**

Criteria	Marks
• Gives 3 items of PPE that are appropriate for removing A/C sheets	2
• Gives 2 items of PPE that are appropriate for removing A/C sheets	1

Question 23 (b) (2 marks)*Unit of competency assessed: BCG 1011A***MARKING GUIDELINES**

Criteria	Marks
• Outlines all key steps in preparing A/C sheets for removal from site	2
• Outlines two key steps in preparing A/C sheets for removal from site	1

Question 24 (4 marks)

Unit of competency assessed: BCG 1000A
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • Explains how offsite construction is more cost effective or efficient • Gives TWO appropriate examples of construction products that are manufactured offsite • Examples demonstrate clear understanding of the offsite sector 	4
<ul style="list-style-type: none"> • Explains why offsite sector has an increasingly important role • Gives ONE appropriate example of construction area that is manufactured offsite <p>OR</p> <ul style="list-style-type: none"> • Gives TWO appropriate examples, but explanation is vague/general/incomplete 	3
<ul style="list-style-type: none"> • Explains why offsite sector has increasingly important role <p>OR</p> <ul style="list-style-type: none"> • Gives TWO appropriate examples of the construction areas manufactured offsite <p>OR</p> <ul style="list-style-type: none"> • Gives incomplete/general/vague explanation with ONE appropriate example 	2
<ul style="list-style-type: none"> • Vague/incomplete/general explanation given <p>OR</p> <ul style="list-style-type: none"> • ONE appropriate example given 	1

Question 25 (a) (3 marks)

Units of competency assessed: BCG 1006A, BCC 1006A
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • 3 correct responses 	3
<ul style="list-style-type: none"> • 2 correct responses 	2
<ul style="list-style-type: none"> • 1 correct response 	1

Question 25 (b) (1 mark)*Units of competency assessed: BCG 1006A, BCC 1006A***MARKING GUIDELINES**

Criteria	Marks
• Litres per second (L/s) OR equivalent – Cubic Feet Minute	1

Question 25 (c) (2 marks)*Units of competency assessed: BCG 1006A, BCC 1006A***MARKING GUIDELINES**

Criteria	Marks
• Explains 2 or more appropriate reasons	2
• Identifies an appropriate reason	1

Question 26 (15 marks)*Units of competency assessed: BCG 1000A, BCG 1001A***MARKING GUIDELINES**

Criteria	Marks
<ul style="list-style-type: none">• Describes features relevant to each level of training, and links levels of training with skills and procedures essential for safe operation of indicated context• Indicates a precise and extensive understanding of the level of training required in the construction industry• Correctly uses precise industry terminology in well-organised, cohesive response	13–15
<ul style="list-style-type: none">• Some correct responses across all levels of training• Is able to link requirements to levels of training• Uses specific industry terminology to clearly present understanding	10–12
<ul style="list-style-type: none">• Is aware of safety requirements to operate this equipment• Has a basic understanding of the levels of training necessary to operate the equipment• Communicates using basic industry terminology in context	7–9
<ul style="list-style-type: none">• Demonstrates a basic knowledge of some safety aspects related to training levels• Indicates a working understanding of the safe operation of the equipment• Communicates using some correct industry terminology in context	4–6
<ul style="list-style-type: none">• Limited understanding of safe operation of the equipment• Answer indicates a cursory knowledge of training levels as required in the construction industry• Uses some industry terminology	1–3

Question 27 (15 marks)

Units of competency assessed: BCG 1001A, BCG 1002A, BCG 1011A
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • Develops an appropriate response to deal with the situation, providing arguments supporting choice of actions, both short term and long term • Interprets and uses information from the MSDS in developing a course of action appropriate to the scenario • Communicates ideas and information by integrating correct industry terminology with construction concepts in a cohesive response 	13–15
<ul style="list-style-type: none"> • Outlines a viable response to deal with the situation, demonstrating a detailed knowledge and understanding of the short and long term • Demonstrates knowledge of the interpretation of information from the MSDS into workplace practice • Communicates ideas and information by using correct industry terminology with construction concepts in a cohesive response 	10–12
<ul style="list-style-type: none"> • Demonstrates a sound knowledge of the short and/or long term actions • Correctly relates some of the information from the MSDS to workplace practice • Communicates ideas and information using a range of industry terminology in context 	7–9
<ul style="list-style-type: none"> • Demonstrates a basic knowledge of the short and/or long term actions • Recognises a relationship of the MSDS in workplace practice • Communicates ideas and information using some industry terminology and construction concepts 	4–6
<ul style="list-style-type: none"> • Only able to demonstrate a limited understanding of actions in response to the scenario • Demonstrates a limited interpretation of the MSDS to workplace practice • Uses some basic industry terminology and/or construction concepts 	1–3

Question 28 (15 marks)

Units of competency assessed: BCG 1003A, BCG 1004A, BCG1011A, BCC 2000A
MARKING GUIDELINES

Criteria	Marks
<ul style="list-style-type: none"> • Completes the table correctly • Correctly applies the necessary skills required to interpret plans, calculate dimensions, quantities and costs • Correctly communicates using precise industry terminology • Demonstrates critical judgment and reasoning to select, organise, synthesise and evaluate relevant information from a variety of sources • Describes relevant physical characteristics of each material and explains why the material is a suitable choice 	13–15
<ul style="list-style-type: none"> • Substantially correct completion of table • Demonstrates a detailed ability to interpret plans and calculate dimensions, quantities and costs • Communicates using specific industry terminology • Demonstrates sound judgement and reasoning to select, organise and evaluate relevant information from a variety of sources • Correctly identifies characteristics of materials and is able to link this information to the context 	10–12
<ul style="list-style-type: none"> • Some correct responses across all fields of the table • Demonstrates a basic ability to interpret plans and calculate dimensions, quantities and costs • Communicates using industry terminology • Frames written responses in a descriptive manner, with some understanding of relevant characteristics related to use 	7–9
<ul style="list-style-type: none"> • Some correct responses in limited fields • Demonstrates a limited ability to interpret simple plans and perform some calculations of dimensions and quantities • Communicates using basic industry terminology • Identifies some relevant characteristics unrelated to the context 	4–6
<ul style="list-style-type: none"> • Limited correct responses across the table • Demonstrates a limited ability to interpret simple plans • Communicates using non industry-specific terms • Written responses used unsupported generalisations and few relevant characteristics 	1–3