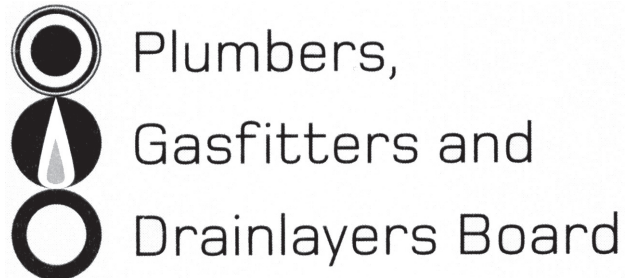


No. 9196



REGISTRATION EXAMINATION, JUNE 2015
CERTIFYING GASFITTER

ANSWER SCHEDULE

ANSWER 1

(a)

Pipe Section	Number of supports
A - B	2
B - C	2
C - D	3
B - E	9
E - F	3
F - G	5

(6 marks)

- (b)
- Prefabricated clips of either the same material as or of a material compatible with, the pipe and
 - Fastened with nuts and bolts, rivets or screws.

(2 marks)

Total 8 Marks

ANSWER 2

Main run	18.4
Allowable pressure drop	0.29 kPa

Pipe Section	Length Meters	Main Run m (from above)	Gas Flow MJ/h	Nominal Size
A - B	3.5	18.4	2095	50
B - C	1.5		880	40
C - D	1.8		220	25
C - E	1		660	32
E - F	1.8		220	25
E - G	4		440	25
G - H	1.8		220	25
G - I	3		220	25
B - J	5.7		1215	40
J - K	4		135	20
K - L	2		45	15
K - M	1		90	20
M - N	2		45	15
M - O	3		45	15
J - P	1.5		1080	40
P - Q	1.7		360	25
P - R	5		720	32
R - S	1.7		360	25
R - T	2.7		360	25

Total 21 Marks

ANSWER 3

- (a) • 2098 MJ ÷ 155 = 13.5
• 14 × 90 kg cylinders (2 marks)
- (b) • 14 (1 mark)
- (c) • Where 100 kg or more is present for more than 18 hours. (2 marks)

Total 5 Marks

ANSWER 4

- (a) • $14\text{m} \times 0.79 = 11.06$
• $8.9\text{m} \times 0.50 = 4.45$
• $6.6\text{m} \times 0.28 = 1.848$
• $6.6\text{m} \times 0.13 = 0.858$
• 18.216 Litres (5 marks)
- (b) • 0.25 kPa (1 mark)

Total 6 Marks

ANSWER 5

- (a) • $101.3 + 9 = 110.3$
• $110.3 \div 101.3 = 1.088$ (1 mark)
• $14.65 \times 1.088 = 15.93$ (1 mark)
• $15.93 \times 40 = 637.2 \text{ MJ}$ (2 marks)
- (b) • $637.2 \times 76\% = 484.27$ (4 marks)
(1 mark)
- (c) • $15.93 \times 10 = 159.3 \text{ m}^3/\text{h}$ (of air) (1 mark)
• $159.3 \times 20\% = 31.86 \text{ m}^3$ (1 mark)

(2 marks)

Total 7 marks

ANSWER 6

- (a) A pre-approved method of compliance with the Building Code, (2 marks)
- (b) Calculations or test to show a building design complies with the Building Code. Approved by the building consent authority. (2 marks)
- (c) A custom designed method that differs completely or partially from those described in the compliance documents, but that will comply with the Building Code of the code. May need approved by the building consent authority. (2 marks)
- (d) Publications including acceptable solutions/alternative solutions/verification methods (Codes of practice are not compliance documents.) (2 marks)

Total 8 Marks

ANSWER 7

Any THREE (1 mark each)

- Licensed gasfitter
- Trainee gasfitters who hold limited certificates to undertake gasfitting (“trainee gasfitters”)
- Exemption holders
- Provisional licence holders
- Exempted persons

Total 3 Marks

ANSWER 8

(a) Any ONE (1 mark)

- Certifying Gasfitter
- Employer licence

(1 mark)

(b) Any SIX (1 mark)

- that the work has been done lawfully and safely, and the information on the certificate is correct
- That the work has been done in accordance with means of compliance in AS/NZS 5601, Part 1 or 2
- Whether the work has been done in accordance with the certified design for the gas installation
- Which other Standards were complied with (if this was required)
- Whether the work done relied on any manufacturer’s instructions
- The type of gas the installation is safe to connect to
- The gas pressure that the installation is safe to connect to
- Which parts of the installation, if any, are safe to connect to a gas supply
- The location of the gas installation
- Description of the work done and who did what, if different work was done by different people
- The name and registration number of the person issuing the certificate
- The name and registration number of any other person who did any of the gasfitting work under supervision
- The date(s) on which the work was done.
- Signature of the person issuing the certificate and dates of installation and issue
- The Authentication Mark

A copy or reference to the manufacturer’s instructions and certified design used for the work. This may be a reference to where the documents can be found by electronic means (e.g. a website).

(6 marks)

- (c)
- Gas Safety Certificate (GSC)
 - High Risk Gas Record

(2 marks)

Total 9 Marks

ANSWER 9

- (a) • Room carbon monoxide testing
• Pressure and soundness testing
• Flue spillage testing
• Combustion testing (2 marks)
- (b) Any ONE
• The verifier
• The installation owner (1 mark)
- (c) • Documentation
• Interview
• Visual inspection
• Testing
• Questionnaire (2 marks)

Total 5 Marks

ANSWER 10

(a)

	Notifiable work Yes / No
Assembling a scaffold which is over 5 metres high	Yes
Working in a confined space	No
Working on a scaffold which is over 5 metres high	Yes
Work in which a person wears a face mask with filter canisters	No
Work on a 2 storey residential building which is 6 metres high	No
A trench which is 1.8 metres deep and 1.5 metres wide at the top	Yes

(6 marks)

- (b) Any SIX (1 mark each)
- Category/nature of work being carried out.
 - Address of work site.
 - Employer details.
 - Description of work being undertaken.
 - Certificate holder details.
 - Date work due to commence.
 - Date work due to be completed.
- (6 marks)

Total 12 Marks

ANSWER 11

- (a)
- Appliance has reached equilibrium or steady state operation.
 - Burner is operating at full fire.
 - Readings are taken in the centre of the flow of products of combustion.
 - Take measurements as close as possible to the appliance. (3 marks)
- (b)
- Flue gas temperature.
 - Carbon dioxide CO₂ ratio to air
 - Oxygen percentage (3 marks)

Total 6 Marks

SECTION B

1. A Burner injector sizes.
2. C E2.
3. C Oxygen depletion pilot.
4. A Appliances with atmospheric burners joined to the same flue as appliances with forced draught burners.
5. C 0.4 MJ/h/m³.
6. E 440°C.
7. D 75 mm.
8. A 200 mm.
9. D 10 kPa.
10. D The owner/occupier and Energy Safety.

Total 10 Marks