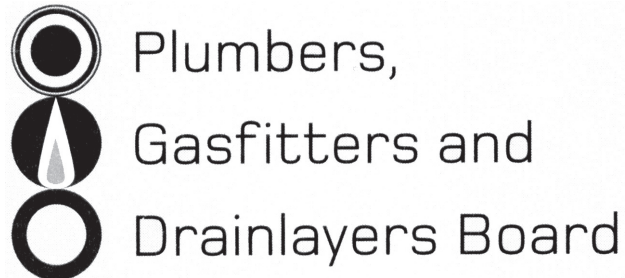


No. 9196



REGISTRATION EXAMINATION, NOVEMBER 2020  
**CERTIFYING GASFITTER**

**ANSWER SCHEDULE**



## ANSWER 1

(a) • Certifying Gasfitter (1 mark)

(b) Any SIX (½ mark each)

- 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.
- Describe 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.
- Be signed and dated by the person issuing the certificate.
- Display the Authentication Mark.
- Include 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).

(3 marks)

- (c) • Gas Safety Certificate (GSC).  
• Entry into the High Risk Data Base.

(2 marks)

**Total 6 Marks**

## ANSWER 2

Appliance	Daily operating time	Total daily consumption (m <sup>3</sup> )
Natural gas, package burner 95 kW	8 hours	68.43
LPG, cooker 140 MJ/hr	3 hours	4.66
Natural gas, furnace 113,750 BTU	5 hours	15
Natural gas, space heater 35 MJ/hr	4 hours	3.5

**Total 8 Marks**

### ANSWER 3

- (a) • Leakage test. 5 kPa (2 marks)
- Pipework test on new pipework. 7.5 kPa (2 marks)
- Installation or leakage test. 5 kPa (2 marks)
- Final connection test. 5 kPa (2 marks)
  
- (b) • Retest the pipework at higher pressure.
- Check the appliance regulators are rated for the pressure increase.
- Check the appliance operating pressures/re-commission. (3 marks)

**Total 11 Marks**

### ANSWER 4

Diagram to show:

- 1st and 2nd stage regulators.
- Pigtails.
- Excess flow in pigtails.
- Test point or plug on drip leg.
- Drip leg located correctly.
- Regulator located above the cylinders.
- Rain cover.

**Total 7 Marks**

### ANSWER 5

- (a) •  $450 \times 0.3 = 135$
- $60 \times 0.5 = 30$
- $135 + 30 = 165$  litres/s
- $165 \times 3600 = 594,00$  litres/h
- $594,000 \div 1000 = 594$  m<sup>3</sup>/h (5 marks)
  
- (b) •  $450 + 30 + 30 = 510$  MJ
- $510 \times 150 = 76,500$  mm<sup>2</sup> (2 marks)
  
- (c) •  $594$  (or answer from a)  $\div 4 = 148.5$  m<sup>3</sup>/hr (1 mark)
  
- (d) • Fan interlock (1 mark)

**Total 9 Marks**

## ANSWER 6

- (a) Any FOUR ( $\frac{1}{2}$  mark each)
- Measurement systems.
  - Gas quality.
  - Gas type.
  - Normal and emergency operating conditions.
  - Environment/temperature. (2 marks)
- (b)
- Type of gas being used.
  - Inlet or upstream pressure.
  - Outlet or downstream pressure.
  - Maximum flow anticipated.
  - Size of pipe work. (5 marks)

**Total 7 Marks**

## ANSWER 7

- Measurement 'X' correct (130 mm). (2 marks)
- Corrugations crossed according to the wind zone (2 crests finish in trough). (1 mark)
- Dektite on angle. (1 mark)
- Soaker flashing terminating under ridge flashing or cover sheet (250 mm). (2 marks)
- Fixing of dektite to soaker flashing. (1 mark)
- Support shown. (1 mark)

**Total 8 Marks**

**ANSWER 8**

Pipe Section	Length (m)	Main run (m)	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 20 Marks**

## ANSWER 9

(a)

Description of work	Notifiable Work Y/N
Working in an area where the temperature exceeds 45°C	No
Working in a confined space	No
Working on a scaffold that is over 5 metres high	Yes
A trench that is 2 metres deep and 4 metres wide at the top	No
Work on the roof of a 2 storey residential building that is 6 metres high	No
Work in which a person wears a face mask with filter canisters	No
Using a 3.5 meter high mobile scaffold on a commercial site	No
Working on a residential property that is known to contain asbestos containing materials	No

(4 marks)

(b) Any THREE (1 mark each)

- Is large enough for a worker to enter and perform assigned work.
- Has limited entries and exits.
- May contain a hazardous atmosphere, arising from chemicals, sludge or sewage.
- Is constructed so that anyone who enters could be asphyxiated or trapped by walls or floor that converge to a small cross-section, such as a hopper.
- Contains a material, such as sawdust or grain that could engulf anyone who enters.

(3 marks)

**Total 7 Marks**

## ANSWER 10

(a)  $0.05 \times 42 \times 3600 \div 95 = 79.57 \text{ MJ/hr} \div 3.6 = 22.10 \text{ kW}$  (4 marks)

(b) Correction factor =  $\frac{101.3 + 10}{101.3} = 1.098$

Correct volume =  $4.52 \text{ m}^3 \times 1.098 = 4.96 \text{ m}^3$

(2 marks)

**Total 6 Marks**

## SECTION B

1. D 24 months.
2. B 6 months.
3. D 4000 mm<sup>2</sup>.
4. E 25%.
5. B 6 mm.
6. D 150 mm.
7. E 20 mm.
8. D 1.8 m.
9. E 1000 mm<sup>2</sup>.
10. C 1.0 m.
11. D Two 15 kg cylinders.

**Total 11 Marks**