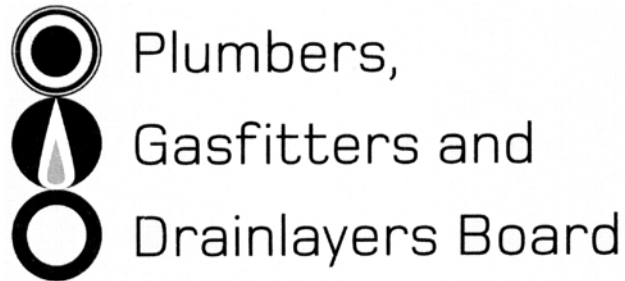


No. 9196



REGISTRATION EXAMINATION, JUNE 2021  
**CERTIFYING GASFITTER**

**ANSWER SCHEDULE**



## ANSWER 1

- (a)
- Leakage test. 6 kPa (2 marks)
  - Pipework test on new pipework. 9 kPa (2 marks)
  - Installation test. 6 kPa (2 marks)
  - Final connection test. 6 kPa (2 marks) (8 marks)
- (b) Any THREE (1 mark each)
- Written testing procedure is required.
  - Different test gear may be required.
  - Inert gas used for purging.
  - Purge area outdoors.
  - Greater clearances to ignition sources and openings. (3 marks)

**Total 11 Marks**

## ANSWER 2

- (a) 12 months (1 mark)
- (b) 24 months (1 mark)
- (c)
- Tradesman
  - Journeyman (2 mark)
- (d) A suitably qualified person who performs the physical supervision on behalf of the certifier. (2 marks)

**Total 6 Marks**

## ANSWER 3

Unit 1			
Pipe Section	Section Length (m)	MJ/h	Diameter (mm)
A – B	2.7	242	25
B – C	3.5	30	15
B – D	2.3	212	25
D – E	6.5	188	25
D – F	9.5	24	15

Unit 3			
Pipe Section	Section Length (m)	MJ/h	Diameter (mm)
A – B	17.5	242	32
B – C	5.1	30	15
B – D	2.3	212	32
D – E	8	188	25
D – F	11	24	15

**Total 15 Marks**

#### ANSWER 4

- (a) A – B 40.4 litres.  
B – C 6 litres.  
B – D 9.12 litres.  
D – E 7.11 litres.  
Total 62.63 litres.

(4 marks)

- (b) 0.1 kPa (or consistent with answer to (a)).

(1 mark)

**Total 5 Marks**

#### ANSWER 5

- (a) Ensure personal safety.

(1 mark)

- (b) Any FOUR (½ mark each)

- Call emergency services.
- Alert others on site.
- Administer first aid.
- Complete relevant paper work.
- Assess safety procedures to prevent future occurrences.

(2 marks)

**Total 3 Marks**

#### ANSWER 6

- (a) Volume of hallway =  $8 \div 0.4 = 20 \text{ m}^3$

(2 marks)

Area of hallway =  $20 \div 2.7 = 7.4 \text{ m}^2$

(1 mark)

- (b) Volume of room =  $6.1 \times 3.3 \times 2.85 = 57.37 \text{ m}^3$

(1 mark)

Heat input =  $57.37 \times 0.38 = 21.8 \text{ MJ}$

=  $21.8 \div 3.6 = 6.06 \text{ kW}$

(2 marks)

**Total 6 Marks**

## ANSWER 7

- (a) Any FOUR (1 mark each)
- A substance escaping.
  - Gas or steam escaping.
  - An implosion, explosion or fire.
  - The collapse of a structure.
  - Electric shock.
  - The fall or release from height of anything.
  - Other incidents outlined in other regulations. (4 marks)
- (b) Any TWO (1 mark each)
- Preserve the site.
  - Notify WorkSafe.
  - Keep records. (2 marks)
- (c) Any TWO (1 mark each)
- Notifiable illness.
  - Notifiable injury.
  - Death. (2 marks)

**Total 8 Marks**

## ANSWER 8

- (a)
- Cross at an angle of not less than 45%.
  - Have the required vertical separation. (2 marks)
- (b)
- Within the middle third of the joist.
  - Diameter not exceeding 20% the depth or 32 mm whichever is less (32 mm).
  - Not more than three times the depth of joist from joist support (600 mm). (3 marks)

**Total 5 Marks**

## ANSWER 9

Any FOUR (1 mark each)

- 9 kg maximum.
- Approved cylinder connection.
- Cylinder compartment ventilated directly to outside.
- Hose 1 m maximum with no jubilee clips.
- No electrical appliance or source in the cylinder compartment.

**Total 4 Marks**

## ANSWER 10

(a)

Pipe Section	Number of clips	Rod hanger size (mm)
A – B 150 mm diameter pipe	11	20
B – C 50 mm diameter pipe	6	10
B – D 65 mm diameter pipe	4	12
D – E 40 mm diameter pipe	8	10
D – F 32 mm diameter pipe	5	10
F – G 25 mm diameter pipe	10	10

(9 marks)

- (b)
- Expansion, contraction/thermal.
  - Earthquake.
  - Vibration.

(3 marks)

**Total 12 Marks**

## ANSWER 11

- (a) Any TWO (1 mark each)
- Room carbon monoxide testing.
  - Pressure and soundness testing.
  - Flue spillage testing.
  - Combustion testing.

(2 marks)

- (b) Any TWO (1 mark each)
- Documentation.
  - Interview.
  - Visual inspection.
  - Testing.
  - Questionnaire.

(2 marks)

(c)

Situation	Category
Replacing a gas valve on an oven in a restaurant.	Low
Replacing a gas hob by another one of the same model.	Low
Adding a gas space heater to an existing installation in a house.	High
Installing a gas water heater in a single storied house under construction.	General

(4 marks)

**Total 8 Marks**

## ANSWER 12

(a) Any ONE (1 mark)

- Incinerator.
- Pottery kiln.

(1 mark)

(b) Any TWO (1 mark each)

- Cost (it may keep the flue size down).
- Space restrictions.
- Minimum required flue height for the appliance.

(2 marks)

(c) • Use next size up flue connector.

• Increase connector rise by 300 mm.

• Deduct 10% from the table listed capacity for each change of direction.

(3 marks)

**Total 6 Marks**

## SECTION B

1. A 200 mm.
2. D 150 mm.
3. C E2.
4. E 25 litres.
5. D 4000 mm<sup>2</sup>.
6. E 14.0 kPa.
7. C 3 kPa..
8. C 19 mm.
9. A 20 litres/second.
10. D 50 mm.

**Total 10 Marks**