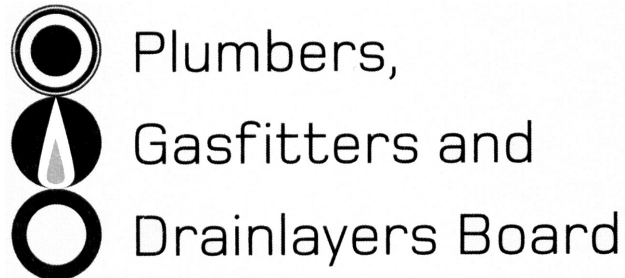


No. 9196



REGISTRATION EXAMINATION, NOVEMBER 2013
CERTIFYING GASFITTER

ANSWER SCHEDULE

ANSWER 1

(a) Any TWO (1 mark each)

- The chimney is not adequately sealed.
- Debris from the chimney has fallen into the heater, blocking the flue spigot.
- The chimney has down draught.

(2 marks)

(b) Any TWO (1 mark each)

- Seal the chimney.
- Remove all loose debris from the inside of the chimney.
- Install a liner through the chimney.

(2 marks)

Total 4 Marks

ANSWER 2

- (a)
- Excessive heat loss reduces the motive force of the flue products.
 - Causes condensation.

(2 marks)

(b) Any TWO (1 mark each)

- Single or double skin / flue material.
- Location/position of the flue.
- Termination point.
- Length of time.

(2 marks)

- (c)
- Appliance requirements.
 - Flue restrictions (laterals, bends etc)
 - Length of flue.
 - Location of flue.

(½ mark each), (2 marks)

Total 6 Marks

ANSWER 3

Pipe Section	Number of clips	Rod hanger size
A – B 100 mm diameter pipe	9	16 mm
B – C 32 mm diameter pipe	8	10 mm
B – D 65 mm diameter pipe	4	12 mm
D – E 40 mm diameter pipe	4	10 mm

Total 8 Marks

ANSWER 4

- (a) Interlock. It must be installed in ventilation system / gas line to ensure ventilation system is operating – otherwise gas is not supplied. (2 marks)
- (b) (i) $650 \div 3.6 = 180.6 \text{ kW}$ (1 mark)
 $80 \div 3.6 = 22.2 \text{ kW}$ (1 mark)
 $180 \times 3.6 = 650$ (1 mark)
 $22.2 \times 7.2 = 159.9$ (1 mark)
 $650 + 159.9 = 809.9 \text{ m}^3/\text{h}$ (1 mark)
- (ii) $180.6 + 22.2 = 202.8$ (1 mark)
 $202.8 \times 600 = 121,680 \text{ mm}^2$ (1 mark)
- (iii) $270 \text{ m}^3/\text{h}$ ($\frac{1}{3}$ of answer to (i)) (1 mark)

Total 10 Marks

ANSWER 5

- (a) • Data plate.
• Aeration.
• Operating pressure.
• Regulator.
• By-passes.
• Injectors. (6 marks)
- (b) • Size/diameter.
• Labelling. (2 marks)
- (c) Any FIVE (1 mark each)
• Type of gas being used.
• Inlet or upstream pressure.
• Outlet or downstream pressure.
• Maximum flow anticipated.
• Size of pipe work.
• Location of regulator. (5 marks)

Total 13 marks

ANSWER 6

- (a) Any TWO (½ mark each)
- Excessive condensation.
 - Build-up of products of combustion or other toxic conditions.
 - Accumulation of LP from leakage. (1 mark)
- (b) $6 \times 2 \times 3.6 = 43.2$ (1 mark)
 $(610 \times 43.2) = 26,352$ (1 mark)
 $(650 \times 5) = 3,250$ (1 mark)
 $26,352 + 3,250 = 29,602 \text{ mm}^2$ (1 mark)
- (c) Any TWO (½ mark each)
- Wind-actuated self-trimming cowls.
 - Rotary exhauster heads.
 - Interlocked, fan assisted ventilation. (1 mark)
- Total 6 Marks**

ANSWER 7

Main/Longest run	17.25 m (½ mark)
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Pipe Section	Length (metres)	Gas flow (MJ/h)	Nominal size
A – B	7.5 m	270	25 mm
B – C	5 m	43.2	15 mm
B – D	2 m	226.3	20 mm
D – E	2.5 m	162	20 mm
D – F	5 m	64.8	15 mm
F – G	1 m	28.8	10 mm
F – H	2.75 m	36	10 mm

½ mark each

1 mark each

1 mark each

Total 18 Marks

ANSWER 8

Diagram to show:

- Correct coverage at base of flashing (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 9

- (a) Ministry of Business, Innovation and Employment. (1 mark)
- (b) 24 hours. (1 mark)
- (c) Any FIVE (1 mark each)
- Nature of work.
 - Address of worksite.
 - Contractor details.
 - Brief description of work.
 - Due date of commencement.
 - Estimated time to complete. (5 marks)
- (d) Any EIGHT (½ mark each)
- Name and address of employer.
 - Signature and name of the person completing the form.
 - Job title of person completing the form.
 - The location of the accident.
 - The name, address and date of birth of the injured person.
 - The role of the injured person –job title, employee, contractor, etc.
 - Period of employment of injured person.
 - Treatment of injury.
 - Time and date of accident.
 - Hours worked before accident occurred.
 - Type of injury occurred.
 - Equipment involved in accident, if any. (4 marks)

Total 11 Marks

ANSWER 10

- (a) (i) Safety Mesh
A permanent fitting over the roof frame.
- (ii) Safety Net
A temporary fitting. Fitted so that it hangs below the roof framing. (4 marks)
- (b) Any FOUR (½ mark each)
- Sunlight.
 - Heat.
 - Moisture.
 - Chemicals.
 - Sharp edges and abrasives.
 - Incorrect storage (not hung up etc)
 - Amount of use
 - Incorrect use.
- (2 marks)

Total 6 Marks

SECTION B

1. B 25 mm.
2. D 150 mm.
3. D 1200 mm.
4. A 2%
5. B 2.5 m.
6. A 19 mm.
7. E 450 mm
8. C When the notification is received by the Board.
9. E Hydrogen sulphide.
10. B A custom designed method that is not included in the Building Code but will fulfil the requirements of the code.

Total 10 Marks