No. 9195

Plumbers, Gasfitters and Drainlayers Board

REGISTRATION EXAMINATION, JUNE 2018

CERTIFYING PLUMBER

ANSWER SCHEDULE

ANSWER 1

(a) The supervisee must be able to be seen or heard by their supervisor at all times. (2 marks)

(b) Trainee Limited Certificate (Apprentice)
Exemption holder (1 mark)

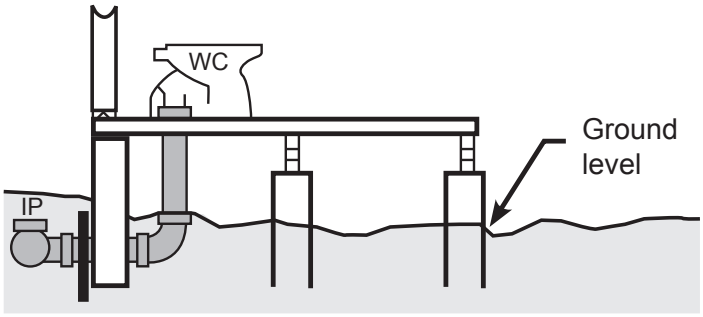
(c) Trainee – 12 months
Exemption holder – 24 months (1 mark)

(d) Certifying Plumber
Tradesman Plumber (2 marks)

Total 6 marks

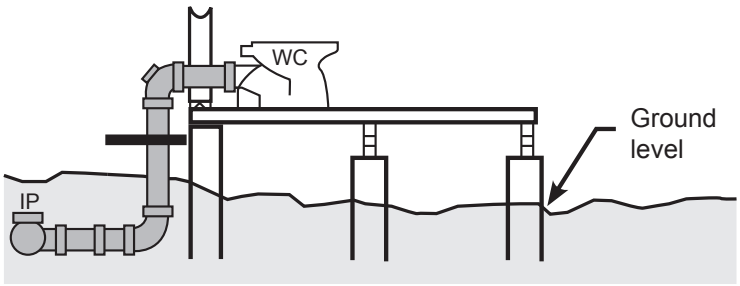
ANSWER 2

(a)



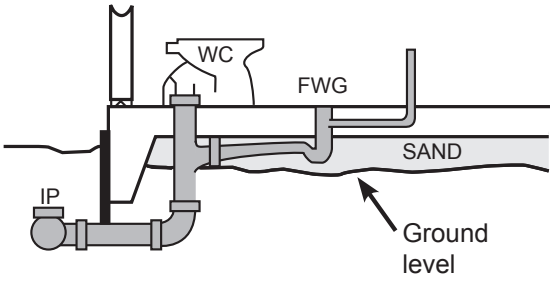
(1 mark)

(b)



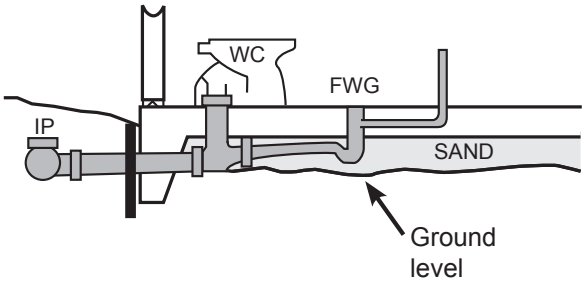
(1 mark)

(c)



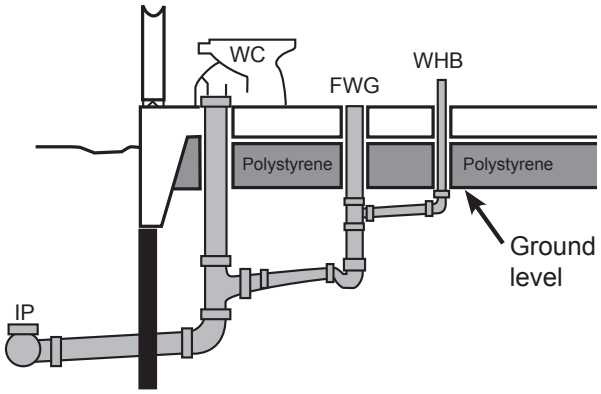
(1 mark)

(d)



(1 mark)

(e)



(1 mark)

Total 5 marks

ANSWER 3

(a) A 56 kPa
B 100 kPa
C 157 kPa (3 marks)

(b) (i) Two tanks separated by three floors shown. (1 mark)

(ii) Inlet to each break tank shown correctly. (1 mark)
Outlet from each break tank shown correctly. (1 mark)
Section of vertical pipework between inlet and outlet for each break tank shown removed. (1 mark)

(4 marks)

Total 7 marks

ANSWER 4

(a) (i) 115 kPa
(ii) 88 kPa
(iii) 74 kPa (3 marks)

(b) 40 mm (1 mark)

(c) Any FOUR (½ mark for type, 1 mark for highest hazard rating each)

Type of valve	Highest hazard rating
Reduced pressure zone device	High
Double check valve assembly	Medium
Pressure type vacuum breaker	High
Atmospheric vacuum breaker	High

(6 marks)

(d) (i) 64 mm (1 mark)

(ii) The float valve outlet and the soffit of the tank overflow.

(2 marks)

Total 13 marks

ANSWER 5

(a) Any FOUR (½ mark each)
Number of people in the home
Collector area
Collector type
Thermostat setting
Environmental factors (climate)
Variable usage
Direction of the collector
Tilt of the collector
Shade
Distance from collector to storage unit
Roof structure
Access for maintenance. (2 marks)

(b) (i) Series or Parallel (1 mark)

(ii) Correct location of panel inlets. (1 mark)
Correct location of panel outlets. (1 mark)
Panels are connected consistently with type of system. (1 mark) (3 marks)

(iii) Parallel
Panels are less likely to overheat.
Additional panels can be joined to the system more easily.

Series
Higher temperatures achievable
Less pipework. (2 marks)

(c) The latitude of the installation. (1 mark)

Total 9 marks

ANSWER 6

If fixtures discharging to ORG – sized and vented correctly
Kitchen sink 40 mm no vent
Scullery to ORG 40 mm needs vent
Scullery to ORG 65 mm no vent req

Venting
Main vent 50 mm diameter
Main vent location

Fixtures to FWG if used
FWG receiving fixtures from another room (minus 3)
FWG receiving waste from kitchen sink/toilet (minus 3)
Fixture discharge pipes to FWG incorrect size (minus 1, max 3)

Main and branches
Main drain not 100 mm
Branch drains not 65 mm

Drainage plan altered (minus 9)
Missed fixtures (minus 1 each)

Total 9 marks

ANSWER 7

(a)

Fixture	Minimum Pipe Diameter
Basin	32 mm
Domestic kitchen sink with waste disposal	40 mm
Floor waste gully	50 mm
Drinking fountain	25 mm

(2 marks)

(b) Minimum gradient is 1.65% = 1:60 (1 mark)
Fall required = 6 ÷ 60 = 0.1 m = 100 mm (1 mark) (2 marks)

Total 4 marks

ANSWER 8

(a) Any SIX (1 mark each)

- Roofing
- Pipe lagging
- Cladding
- Insulation
- Decorative ceilings
- Soffits
- Flues
- Boilers
- Pipes
- Flooring (3 marks)

(b) Friable
Non friable (2 marks)

(c) Any TWO (1 mark each)
Loud noises
Chemicals
Bacteria
Silica dust
Lead (2 marks)

Total 7 marks

ANSWER 9

(a) Any THREE (1 mark each)

Directors
Shareholders
Board Members
Partners
Chief Executive
Owners
Self employed people (3 marks)

(b) Any THREE (1 mark each)

Construction work with a risk of falling 5 metres or more.

Erecting or dismantling scaffolding with a risk falling 5 metres or more.

Work in any pit, shaft, trench, or other excavation in which any person is required to work in a space more than 1.5 metres deep and having a depth greater than the horizontal width at the top.

Work in any drive, excavation, or heading in which any person is required to work with a ground cover overhead.

Work involving the use of explosives, or storage of explosives for use.

Work that in which a person breathes compressed air, or respiratory medium other than air.

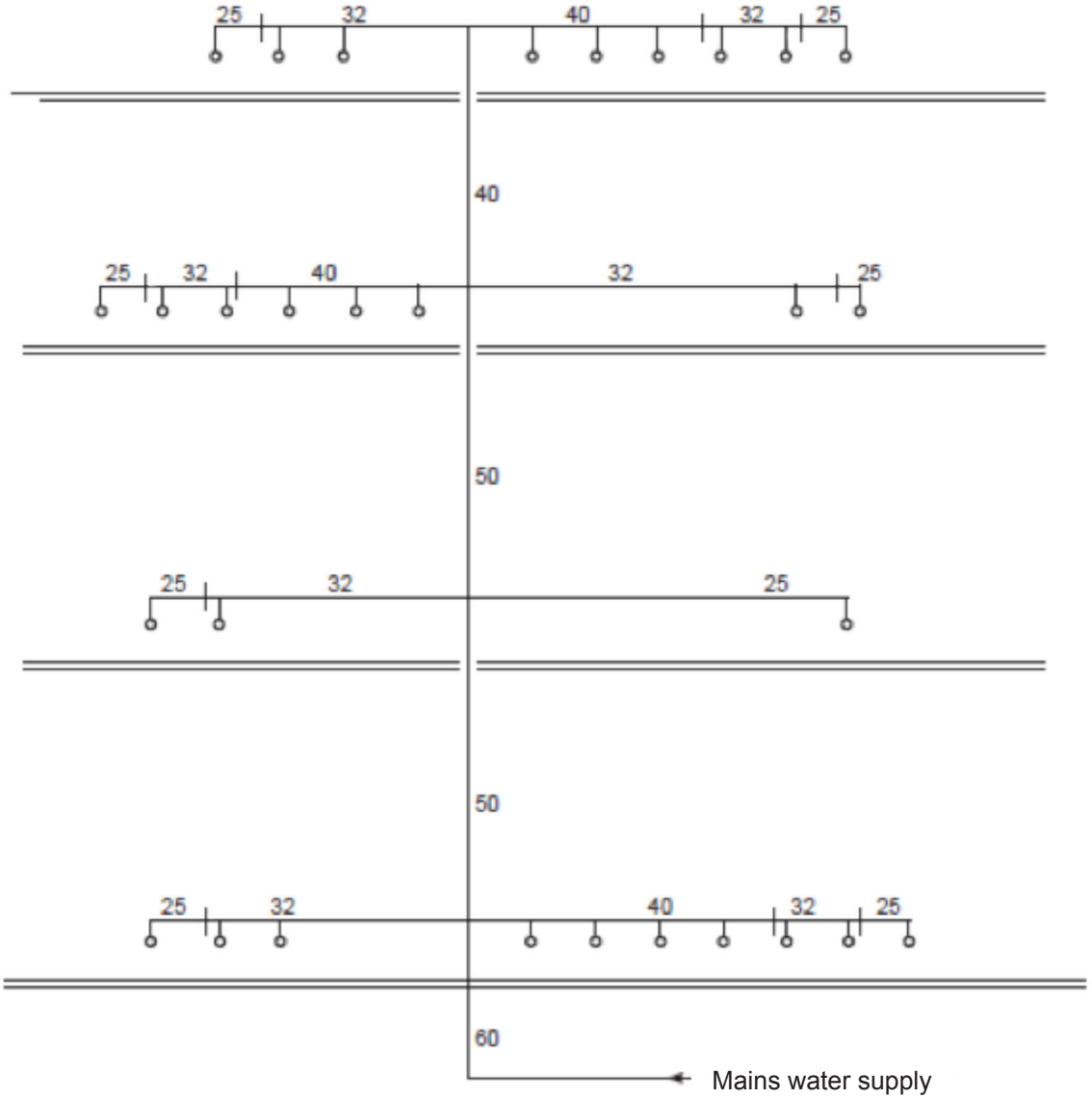
Working with asbestos. (3 marks)

(c) (i) Worksafe NZ (1 mark)

(ii) 24 hours (1 mark)

Total 8 marks

ANSWER 10



Vertical riser correct sizes (2 marks)
Each horizontal lateral correct (1 mark each)

Total 10 marks

ANSWER 11

(a) A preapproved method of construction or installation that will comply with the New Zealand Building Code. (2 marks)

(b) A preapproved test or calculation to ensure an installation design will comply with the New Zealand Building Code. (2 marks)

(c) A construction or installation method that has not been preapproved but that will meet the requirements of the New Zealand Building Code. (2 marks)

Total 6 marks

SECTION B

1. E 45°
2. C 85 mm.
3. D 15 years.
4. B 342.
5. C 27
6. D 125
7. C 3.500 metres.
8. D 625 litres.
9. A In the event of a waste pipe blockage, dirty water from one sink could contaminate clean water in the other.
10. A When the discharge from connected fixtures is expected to be foamy.
11. A 1200 mm.
12. B The sum of the unit ratings of the fixtures discharging into the floor waste gully.
13. D 7
14. E Tundish.
15. A 3 kPa.
16. C 3 minutes stabilisation followed by a 2 minute test.

Total 16 marks