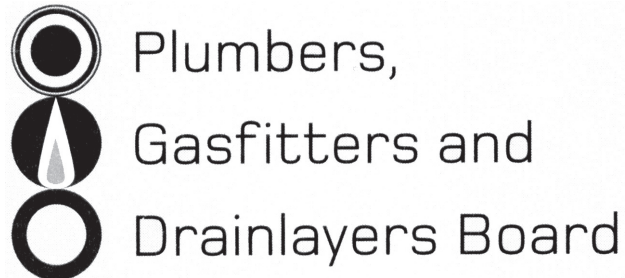


No. 9197



REGISTRATION EXAMINATION, NOVEMBER 2016
LICENSED DRAINLAYER

ANSWER SCHEDULE

ANSWER 1

- (a) • The owner of the drain. (1 mark)
- (b) • It is a drain that serves several properties. (1 mark)
- (c) • Disposing effluent to ground.
• Discharging surface water into a natural water course.
• Disturbing an archaeological site. (1 mark)

(d)

Situation	Drainlaying work Y / N
Plunging a gully trap	N
Connecting a surface water sump to a surface water drain	Y
Installing a subsoil drain	N
Installing a domestic effluent disposal field	Y
Renewing a damaged gully trap	Y
Working on a foul water sewer	N

(3 marks)

Total 6 marks

ANSWER 2

Section	Total length of the section (m)	Fall of the section (mm)
A - B	12.9 (½ mark)	322.5 (1 mark)
B - C	8.9 (½ mark)	222.5 (1 mark)
C - D	4.5 (½ mark)	112.5 (1 mark)
D - E	9 (½ mark)	225 (1 mark)

Total 6 marks

ANSWER 3

- (a) • A grate (1 mark)
- (b) • Sloping back towards the culvert opening (1 mark)
- (c) • Floating debris will rise up the grate and be supported by the grate allowing water to flow below trapped debris. (1 mark)
- (d) • The position of the sewer connection from any side boundary peg.
• The depth of the sewer connection invert level. (2 marks)
- (e) Any THREE (1 mark each)
- Water test.
 - Low pressure air test.
 - High pressure air test.
 - Vacuum test.

(3 marks)
Total 8 marks

ANSWER 4

Section	Fall
A – B	50 mm (½ mark)
B – C	67 mm (½ mark)
C – D	75 mm (½ mark)
D – E	1500 mm (½ mark)
E – F	100 mm (½ mark)
F – G	33 mm (½ mark)
G – H	58 mm (½ mark)

Point	Depth
B	750 mm (1 mark)
C	817 mm (1 mark)
D	892 mm (1 mark)
E	2392 mm (1 mark)
F	2492 mm (1 mark)
G	784 mm (1 mark)
H	725 mm (1 mark)

Total 10 marks

ANSWER 5

- (a) Any FOUR (1 mark each)
- Within the boundaries of the property.
 - External to the building.
 - So that the top of the gully is accessible.
 - Where the discharge will be noticeable.
 - With clear access for more than two metres above the top of gully grate.
 - Not be enclosed by building elements.
 - 150 mm below the overflow/flood point of the lowest fixture. (4 marks)
- (b) Any THREE (1 mark each)
- Install an access chamber
Install an inspection chamber
Install a drop chamber
Install a jump up.
Install angle fittings or junctions. (3 marks)
- (c) On all drains.
When a boundary trap is installed.
Septic tank.
Pump. (3 marks)

Total 10 marks

ANSWER 6

- (a)
- Benching.
 - Safe slope.
 - Shoring.
 - Trench shield. (3 marks)
- (b)
- The asbestos crumbles.
 - The asbestos does not crumble. (2 marks)

Total 5 marks

ANSWER 7

- To notify the Plumbers, Gasfitters and Drainlayers Board should he or she change physical address.
- To show the licence on demand.
- To relicence annually. (3 marks)

Total 3 marks

ANSWER 8

- (a) Not less than twice the diameter of the pipe. (1 mark)
- (b) 300 mm (1 mark)
- (c) No more than two floors. (1 mark)

Total 3 marks

ANSWER 9

- (a) Volume of the tank = 0.504 m^3 (2 marks)
- Volume of the excavation = 8.162 m^3 (2 marks)
- Volume of excavation to fill = 7.658 m^3 (1 mark)

Total 5 marks

ANSWER 10

- (a) Inlet shown.
Outlet shown.
Cascade shown.
Lids shown.
Inspection opening shown at the inlet. (5 marks)
- (b) Layers shown correctly labelled.
• Scum.
• Effluent.
• Sludge. (3 marks)
- (c) (i) • The change of a liquid into a vapour at a temperature below the boiling point. (2 marks)
- (ii) • Process by which water that is absorbed by plants, usually through the roots, is evaporated into the atmosphere from the plant. (2 marks)
- (iii) • The process of a liquid slowly passing through the ground. (2 marks)

Total 14 marks

ANSWER 11

(a) Any SIX (1 mark each)

- Aldehydes.
- Ammonia.
- Nitrous fumes.
- Hydrogen sulphide.
- Carbon monoxide.
- Carbon Dioxide.
- Methane.
- Hydrocarbons, petrol, LPG, Natural Gas.

(3 marks)

(b) Any TWO (½ mark each)

- Explosive
- Poisonous
- Asphyxiation

(1 mark)

- (c)
- Breathing.
 - Cuts or punctures in the skin.
 - Consuming food without washing hands.
 - Eyes.

(2 marks)

Total 6 marks

ANSWER 12

No.	Component	No.	Component
1	Gully trap	7	Inspection opening
2	Main drain vent	8	Main drain vent
3	Gully trap	9	Fresh air inlet
4	Fresh air inlet	10	Inspection opening
5	Inspection	11	Inspection junction
6	Sullage tank	12	Distribution box

(½ mark each)

Total 6 marks

ANSWER 13

- (a) Bubble up chamber. (1 mark)
Where insufficient fall is available for a storm-water system. (1 mark)
Raise the level of the drain to maintain minimum fall on a drain. (1 mark)
- (b) Surface water sump. (1 mark)
Large open area to remove surface water. (1 mark)
Trap silt and grit before it enters the system. (1 mark)

Total 6 marks

ANSWER 14

Yellow: Gas.

Blue: Water.

Total 2 marks

SECTION B

1. E
2. A
3. A
4. B
5. A
6. D
7. C
8. D
9. B
10. D

Total 10 marks