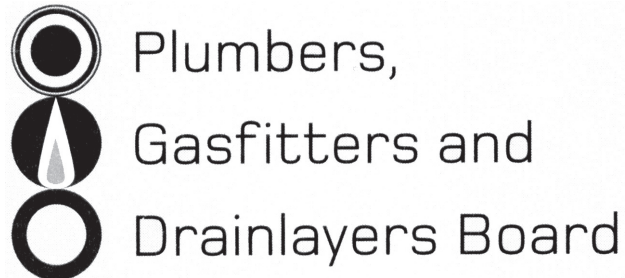


No. 9195



REGISTRATION EXAMINATION, NOVEMBER 2020
CERTIFYING PLUMBER

ANSWER SCHEDULE

ANSWER 1

(a)

Action	Minimise	Eliminate
Replacing a noisy machine		✓
Using earmuffs or earplugs	✓	
Using edge protection when working at heights	✓	
Training staff in the correct use of equipment	✓	
Wearing safety glasses	✓	
Fitting safety guards to machinery	✓	
Providing screens around an area where welding is taking place	✓	
Completing work, usually performed at heights, on ground level		✓

(4 marks)

(b) Any SIX (½ mark each)

- Any of the following injuries or illnesses that require the person to have immediate treatment (other than first aid).
- The amputation of any part of his or her body.
- A serious head injury.
- A serious eye injury.
- A serious burn.
- The separation of his or her skin from an underlying tissue (such as degloving or scalping).
- A spinal injury.
- The loss of a bodily function.
- Serious lacerations.
- An injury or illness that requires, or would usually require, the person to be admitted to a hospital for immediate treatment.
- An injury or illness that requires, or would usually require, the person to have medical treatment within 48 hours of exposure to a substance.
- Any serious infection.

(3 marks)

Total 7 marks

ANSWER 2

Any fixtures discharging to ORG correct size.
System vented in correct location(s) and size(s).
Any FWGs correctly charged.
Underfloor pipework and branches sized correctly.
All fixtures allowed for.
FWG not receiving fixtures from another room.
No significant change(s) to drainage plan.

Total 9 marks

ANSWER 3

- (a) • Must not connect directly to the drain or stack.
• There must not be a urinal in the same room.
• The floor waste must have a removable grate ≥ 40 mm.
• The floor waste must discharge via a ≥ 40 mm graded discharge pipe.
• If terminating internally it must discharge over a tundish connected to a floor waste gully.
• If terminating externally it must terminate with 100 mm above the finished surface level and have a flap to prevent vermin entering the pipe.
- (½ mark each, 3 marks)

(b) 45°. (1 mark)

(c) 120 mm. (2 marks)

(d) 1:40 or 2.5% (2 marks)

Total 8 marks

ANSWER 4

(a)

Section	Diameter
A – B	65
B – C	65
C – D	65
E – F	50
E – G	50
H – I	40

(1 mark each row) (6 marks)

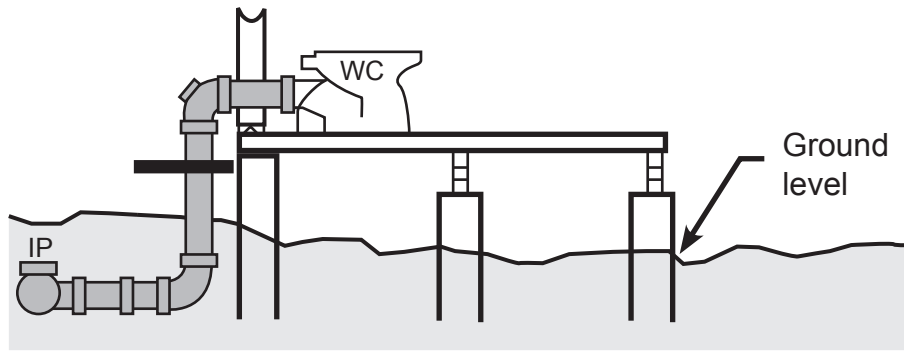
- (b) Finding correct values in AS3500 part 1 Water services. (1 mark)
27 × WC @ 45 litres each = 1215 litres (1 mark)
12 × Urinals @ 30 litres each = 360 litres (1 mark)
1215 + 360 = 1575 litres (1 mark)

(4 marks)

Total 10 marks

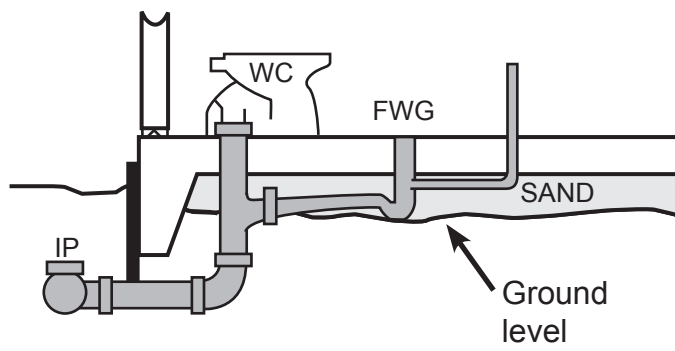
ANSWER 5

(a)



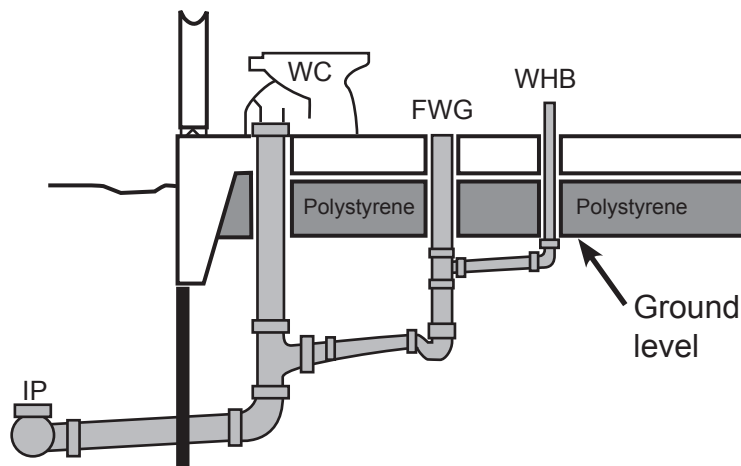
(1 mark)

(b)



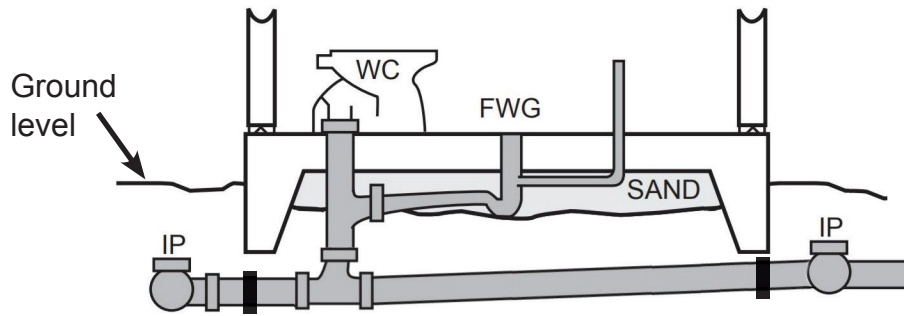
(1 mark)

(c)



(1 mark)

(d)



Total 4 marks

ANSWER 6

- (a) (i) 300 mm. (1 mark)
- (ii) Points indicated at the highest outlet to the lowest part of the valve body. (1 mark)

- (b) (i) Any ONE
PVB has a spring.
PVB has test points.
- (ii) No isolating valve on the outlet of an AVB.
Minimum distance of installation height above highest outlet different (AVB 150 mm, PVB 300 mm). (2 marks)

- (c) AVB cannot be pressurised for longer than 12 hours. (1 mark)

- (d) The valve has no spring to help it to close. If it is held open for too long there is a higher probability that it could be jammed or seized in the open position and no longer protect against backflow. (2 marks)

- (e) (i) High hazard has the potential to cause death.
- (ii) Medium hazard has the potential to endanger health.
- (iii) Low hazard has the potential to cause a nuisance but not endanger health or cause injury. (3 marks)

Total 11 marks

ANSWER 7

Index length of installation	Pressure drop
42 (2 marks)	45.3 (3 marks)

Pipe Section	Probable simultaneous demand (L/s)	Nominal pipe size (DN)
A – B	1.17 (1 mark)	25 (1 mark)
B – C	1.03 (1 mark)	25 (1 mark)
C – D	0.70 (1 mark)	25 (1 mark)
D – E	0.48 (1 mark)	20 (1 mark)
C – F	0.70 (1 mark)	25 (1 mark)
F – G	0.48 (1 mark)	20 (1 mark)

Total 17 marks**ANSWER 8**

- (a) $125 \times 6 = 750$
 $750 \times 2 = 1500$ (litres) (1 mark)
- (b) $8000 / 1000 = 8 \text{ m}^3$ (1 mark)
 $A = \pi r^2 = 3.142 \times 1.3^2 = 5.31 \text{ m}^2$ (2 marks)
 $H = \frac{V}{A} = \frac{8}{5.31} = 1.51 \text{ m}$ (1 mark)
 (4 marks)
- (c) Any TWO (1 mark each)
 Height of the overflow.
 The location of the access lid.
 The location of the outlet. (2 marks)
- (d) 50 litres (1 mark)

Total 8 marks

ANSWER 9

Pipe section	Number of clips
A – B (20 mm)	11
B – C (20 mm)	12
C – D (15 mm)	3
C – E (15 mm)	14
B – F (20 mm)	8
F – G (15 mm)	14
F – H (15 mm)	13

(1 mark each row)

Total 7 marks

ANSWER 10

Point	Diameter
A	65
B	50
C	50
D	65
E	80
F	100

(1 mark each row)

Total 6 marks

SECTION B

1. B Health and Safety at Work Act.
2. C To recover plant and equipment from the site.
3. D Plumber B.
4. B 12 months.
5. D 3 months.
6. B WorkSafe.
7. A 24 hours.
8. E When the employee provides his/her own suitable PPE gear.
9. C 45°C.
10. D 1500 kPa.
11. E When the bypass has a device of the same rating as the device on the main supply.
12. D The building owner.
13. E 50 years.

Total 13 marks