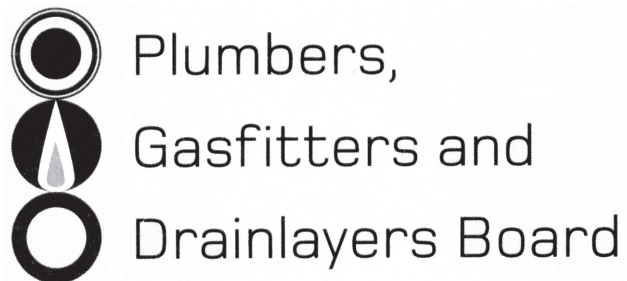


No. 9194



REGISTRATION EXAMINATION, JUNE 2010
CERTIFYING COMMON

ANSWER SCHEDULE

ANSWER 1

- (a) The length of time an element or component can withstand the effect of a fire and prevent the spread of fire while still performing its load bearing function. (2 marks)
- (b) Fire resistance materials foams or sealants installed to prevent the spread of fire when pipes penetrate the components of a fire cell, walls floors roof or fire separation system. (2 marks)
- (c) A space or a group of spaces that will contain a fire for sufficient time to allow safe evacuation of occupants and prevent the fire from spreading to other fire cells or other buildings. (2 marks)

Total 6 Marks

ANSWER 2

Materials	Quantity	Unit	Rate \$	Net cost \$
75mm copper pipe	8.5	m	73.20	622.20
65mm copper pipe	14.6	m	48.60	709.56
50mm copper pipe	18.7	m	46.70	873.29
40mm copper pipe	22.3	m	34.70	773.81
32mm copper pipe	16.7	m	26.80	447.56
25mm copper pipe	34.2	m	15.65	535.23
75mm copper bends	2	Number	88.70	177.40
65mm copper bends	3	Number	39.45	118.35
50mm copper bends	5	Number	14.20	71.00
40mm copper bends	3	Number	9.50	28.50
32mm copper bends	1	Number	7.00	7.00
25mm copper bends	6	Number	6.80	40.80
Total number of copper tees	12	Number	30.20	362.40
75mm valves	1	Number	333.10	333.10
65mm valves	0	Number	207.30	–
50mm valves	2	Number	81.80	163.60
40mm valves	3	Number	51.30	153.90
32mm valves	3	Number	34.20	102.60
25mm valves	10	Number	22.90	229.00
SUBTOTAL				5749.30
Add 12.5% GST				712.66
TOTAL				6467.96

Pipe quantities 1½ marks each, 9 marks
Other quantities ½ mark each, 6½ marks
Net costs ½ mark each, 8½ marks
Sub-total / GST / Total, 1 mark

Pipe quantities must be within +/- 5% for full marks

Total 25 Marks

ANSWER 3

- (a) Any THREE:
- Furnace rating (output)
 - Fan capacity
 - Sound attenuation
 - Duct sizing (supply)
 - Return air-ducting size
- (3 marks)
- (b) The objective is to safeguard people from illness or loss of amenity due to lack of fresh air.
- (1 mark)
- (c) Spaces within buildings shall have means of ventilation with outdoor air that will provide an adequate number of air changes to maintain air purity.
- (2 marks)
- (d) $12 \times 6.4 \times 2.9 \times 1.2 \times 2.5 \times 17$ (1 mark)
- $= 11358.72 \text{ kJ}$ (1 mark)
- Therefore $\frac{11358.72}{1000}$
- $= 11.359 \text{ MJ/hr}$ (1 mark)
- (3 marks)

Total 9 marks

ANSWER 4

- (a) Any SIX:
- 1 The available supply pressure.
 - 2 The pressure required at individual fixtures and/or appliances.
 - 3 Static pressure losses due to height.
 - 4 Demand in the total system and each of its parts.
 - 5 Pressure losses due to friction.
 - 6 Velocity limitations (due to noise, erosion and freezing).
 - 7 Flow rates required at fixtures or appliances
- (6 marks)
- (b) $Q = V \times A$
- $= 15 \times 0.05 \times 0.05 \times 0.7854$ (1 mark)
- $= 0.02945$
- $= 0.030 \text{ cubic metres per second}$ (1 mark)
- $= 0.030 \times 1000$
- $= 30 \text{ litres per second}$ (1 mark)
- (3 marks)

Total 9 marks

ANSWER 5

- (a) Every employer must provide reasonable opportunities for their employees to participate effectively in ongoing processes for the improvement of health and safety in the workplace. (1 mark)
- (b) The employer (½ mark)
Employees who wish to be involved (½ mark)
The union representing them. (1 mark) (2 marks)
- (c) If an employer has more than 30 employees or
If an employer has fewer than 30 employees and one or more of these requires the development of an employee participation system. (2 marks)
- (d) (i) The election of health and safety representatives.
(ii) Developing processes for ensuring regular and co-operative interaction between employers and employees on health and safety issues. (2 marks)
- (e) The employees and their representatives. (1 mark)

Total 8 marks

ANSWER 6

- (a) Any TWO:
A description of the hazard and possible outcome.
A description of how it can cause harm to the employee, including maximum exposure levels and the number of times they will be exposed to the hazard.
Any other information arising from the monitoring. (2 marks)
- (b) So that a professional can assess the effects of a health hazard.
To allow early remedial action to be put in place for the employee's benefit and prevent further harm. (2 marks)
- (c) Any FOUR:
Only their health in relation to the specific hazard is to be monitored.
Any information will be treated in confidence.
The results of the monitoring will be made available to them.
They must give their consent to the monitoring.
Health monitoring may be of benefit in the prevention of harm to other employees. (4 marks)

Total 8 marks

ANSWER 7

- (a) Implications are that the wall loadings are affected and the original consent approval requires a variation to the plans. A variation order to your original contract is required. (2 marks)
- (b) You are to advise the foreman that this is a variation and can only be approved or authorised by the principal or their agent. (2 marks)
- (c) The amended plans must be forwarded to the territorial authority for the alterations to be approved.

You as a contractor use these plans to price the work required in the variation and submit this to the principal or their agent.

No work is to commence until the variation agreement between you as the contractor and the principal or their agent has been signed.

The amended plans must be available on site.

(6 marks)

Total 10 Marks

ANSWER 8

- (a) Any SEVEN:

- 1 When the work is to be done.
- 2 The work you already have in hand.
- 3 Other tenders you may have already submitted, in case they are accepted.
- 4 The work content of the job. It may be very specialised or need extra plant and personnel.
- 5 The date tenders close, because you must have enough time to prepare your tender carefully.
- 6 The financial risk involved, such as the need for an overdraft.
- 7 The contract conditions that apply to the job.
- 8 Ensure owner or client is able to fund the project.
- 9 Ensure performance to contract programme requirements can be met.
- 10 The business reputation of the main contractor.
- 11 Retention times

(7 marks)

- (b)
- 1 You know exactly what your cash position is each day.
 - 2 You should be able to see at a glance where your funds are being spent and from where they are being generated.
 - 3 Accurate records save your accountant time, which therefore minimises accountancy fees.

(3 marks)

Total 10 Marks

ANSWER 9

(a) Any FOUR:

Company directors.
Shareholder employees.
Persons receiving wages, salaries or withholding payments.
Past, present or future employees.
The spouse and children of employees.

(4 marks)

(b) (i) Not liable for FBT.

(ii) Not liable for FBT.

(1 mark)

(c) Value of the benefit = $\frac{76 \times (38750 \times 6\%)}{90}$ (1 mark)

= $\frac{76 \times 2325}{90}$ (1 mark)

= \$1963.33 (1 mark)

(3 marks)

Total 8 marks

ANSWER 10

(a) Any THREE:

E.g.

Sex
Age
Disability
Race
Religion
Membership of employee organisations
Marital status

(3 marks)

(b) Any FOUR:

Answers to be treated on merit under the following categories

- 1 Misleading and deceptive conduct.
- 2 False representations
- 3 Unfair practices.
- 4 Unsafe goods/products

(4 marks)

Total 7 Marks

