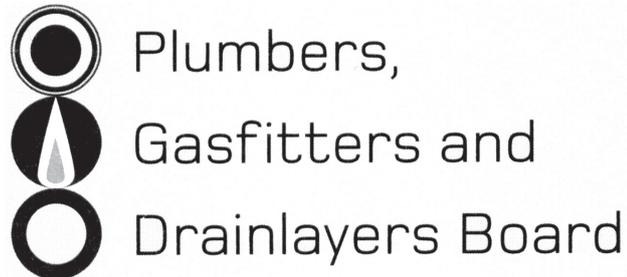


No. 9194



CRAFTSMAN EXAMINATION, JUNE 2009  
**COMMON**

ANSWER SCHEDULE



### ANSWER 1

Volume of air per hour =  $24.2 \times 22.5 \times 3.5 \times 5$   
=  $9528.75\text{m}^3$  (1 mark)

Number of people =  $9528.75 \div 28$   
=  $340.312$  (1 mark)  
= 340 persons (1 mark)

**Total 3 marks**

### ANSWER 2

(a)  $7.60 \times 40.75 = 309.7 \text{ kg}$  (1 mark)

(b)  $4.75 \times 7.60 = 36.1 \text{ kg}$  (½ mark)  
 $36.1 \div 102 = 0.354 \text{ kN}$  (½ mark)  
 $0.354 \times 1.15 = 0.407 \text{ kN}$  (1 mark) (2 marks)

(c) Temperature difference =  $38 - 2$   
=  $36^\circ$  (½ mark)  
Expansion allowance =  $40.75 \times 0.000017 \times 36 \times 1000$  (½ mark)  
=  $24.939\text{mm}$  (1 mark) (2 marks)

**Total 6 marks**

### ANSWER 3

(a)

COMPONENT	AREA m <sup>2</sup>	U VALUE	TEMPERATURE VARIATION	HEAT LOSS (Watts)
FLOOR	36	1.7	14	856.8
CEILING	36	3.2	14	1612.8
WINDOWS	6	5.7	14	478.8
DOORS	4	2.3	14	128.8
WALLS	50	2.5	14	1750.0
TOTAL				Watts 4827.2

(½ mark for temp variation, ½ mark for each heat loss, 1 mark for correct total), (4 marks)

(b) Room volume =  $8 \times 4.5 \times 2.4$   
=  $86.4\text{m}^3$  (1 mark)

Energy =  $86.4 \times 1.2 \times 6 \times 14 \div 3600$   
=  $2.419 \text{ kW}$  (1 mark)

Total energy required =  $2.419 + (4827.2 \div 1000)$   
=  $2.419 + 4.827$   
=  $7.246 \text{ kW}$  (1 mark) (3 marks)

**Total 7 marks**

## ANSWER 4

- (a) If the work is not able to be accurately priced an agreed hourly rate and margins for all the contractor's resources including plant, vehicles and cartage may be used. Labour, material and other costs are recorded on a daily basis for invoicing purposes. An approximate estimate of the cost of the work may have been given. (2 marks)
- (b) No price is given to the customer for the work to be done. The hourly rate for labour is agreed prior to work commencing. The actual costs plus an allowance for overheads and profit are totalled agreed to and charged to the main contractor or owner. (2 marks)
- (c) Rates for items of work are tendered against provisional quantities (provisional schedule of quantities). The work is measured, valued invoiced and paid for as it proceeds. (2 marks)
- (d) The price tendered includes all costs for labour, material, subcontractors, plant hire, overheads and profit. The price would normally be based on the contract documents and can only be varied in accordance with these documents (2 marks)

**Total 8 marks**

## ANSWER 5

Contract price	87,637.00	(½ mark)
Add fluctuations	435.00	(½ mark)
Deduct variations	<u>- 3,750.00</u>	(½ mark)
Amended contract price	84,322.00	(1 mark)
Value of completed work	14,892.00	(½ mark)
Materials on site	<u>23,456.00</u>	(½ mark)
Total value of labour and materials to date	38,348.00	(1 mark)
	<u>-38,348.00</u>	
Total value of contract to date	45,974.00	
Deduct amount previously invoiced	<u>-7,906.00</u>	(½ mark)
Total value for this claim	\$38,068.00	(1 mark)

**Total 6 marks**

## ANSWER 6

ANY EIGHT, 1 mark each

- Details of your company's labour on the site.
- Materials ordered and whether or not they have been received.
- Plant needed and the date required.
- Details of plant and equipment repairs and maintenance.
- Any information requested by others.
- Drawings or plans required, when they were requested and when they are needed.
- Subcontractors required and when they are needed.
- Details of any lost time and the reasons.
- Details of any accidents and the dates they occurred.
- The progress of the contract and the position in relation to the scheduled programme.
- Any other matters that may impact on the company at a later date.

**Total 8 Marks**

## ANSWER 7

- (a) A reverse charge from the main contractor or another subcontractor for repairs or work which should have been carried out under the plumbing or gasfitting subcontract. (1 mark)
- (b) Repairs by others to damaged wall linings. Rubbish having to be removed by others. Damage or consequential damage caused by a leaking pipe or fitting. (1 mark)

**Total 2 Marks**

## ANSWER 8

- (a)  $24 \times 0.015 \times 0.015 \times 0.7854 = 0.00424$  (½ mark)  
 $32 \times 0.025 \times 0.025 \times 0.7854 = 0.01571$  (½ mark)  
 $18 \times 0.050 \times 0.050 \times 0.7854 = 0.03534$  (½ mark)  
Total volume =  $0.00424 + 0.01571 + 0.03534$   
=  $0.05529\text{m}^3$  (½ mark)  
Convert to litres =  $0.05529 \times 1000$  (½ mark)  
= 55.29 litres (½ mark)
- (b) Discharge power 80mm pipe =  $\sqrt{80^5}$   
=  $\sqrt{3276800000}$  (1 mark)  
= 57243.340 (1 mark)  
Discharge power 40mm pipe =  $\sqrt{40^5}$   
=  $\sqrt{102400000}$  (1 mark)  
= 10119.289 (1 mark)
- Therefore comparison =  $\frac{57243.340}{10119.289}$   
= 5.657 (1 mark)

An 80mm pipe will discharge 5.657 times the volume of a 40mm pipe.  
(Accept the answer expressed in other terms e.g. a percentage)

(5 marks)

**Total 8 marks**

## ANSWER 9

- (a) It is a formal notification of a lack of agreement as to whether a situation is hazardous or if it is, how best to manage the situation. (2 marks)
- (b) A trained health and safety representative. (1 mark)
- (c) To the employer. (1 mark)
- (d) No. (1 mark)
- (e) The trained health and safety representative and the employer must discuss the issue in good faith. (1 mark)

**Total 6 marks**

## ANSWER 10

- (a)
- What to do in an emergency (natural or industrial).
  - Hazards the employee may be exposed to in the workplace.
  - Hazards the employee may create while at work (how they might endanger their workmates or the public).
  - How to minimise the possibility of harming someone else.
  - Where the safety equipment is kept.
- (Any 4, 1 mark each)
- (b)
- When purchasing equipment be sure that it complies with accepted safety standards.
  - Make sure the operators are properly trained and competent.
  - Make sure equipment is properly maintained.
  - Ensure the equipment is designed for the job it is being used for.
- (Any 3, 1 mark each)
- (c)
- Identification and listing of positions within the workplace that have specific responsibilities and obligations under the Health and Safety in Employment Act.
  - An outline plan for identifying and assessing hazards in the workplace.
  - The development of remedial plans, including ongoing monitoring, for at least three significant hazards identified in the workplace.
  - The development of outline emergency plans for fire, earthquake and any significant industry related emergency in the workplace.
  - The design of an accident reporting, recording, and investigating system for the workplace.
- (Any 4, 1 mark each)

**Total 11 marks**

## ANSWER 11

- The date and time of the test.
- The period of time the test was applied for.
- The method of testing e.g. Standard.
- The test pressure.
- The personnel present during the test.
- The results of the test e.g. whether sound or not.
- Records of discussions with Inspectors or the Building Services Engineer etc.
- The extent of the installation tested and materials.

(Any 6, 1 mark each)

**Total 6 marks**

## ANSWER 12

- (a) An acceptable solution is any design or method of construction and installation complying with a specified method identified in the New Zealand Building Code approved documents. (2 marks)
- (b) An alternative solution is any design, installation or construction method that does not comply with an approved document but which does satisfy the mandatory requirements of the New Zealand Building Code. (2 marks)
- (c) A producer statement is any statement supplied by or on behalf of any applicant for a Building Consent that certain work will be or has been carried out in accordance with certain technical specifications. (1 mark)

**Total 5 Marks**

## ANSWER 13

- (a) (i) Financial accounting: is a system of recording all payments and receipts, material purchases, wage and salary payments, expenses and invoicing.

This information is used to provide the annual (final) accounts that show the profitability of the business and other relevant information.

(2 marks)

- (ii) Cost accounting: is a system of recording and analysing the cost of each job.

It provides an indication of the profitability of individual jobs allowing remedial action to be taken and assisting with future pricing.

(2 marks)

- (b) • The net profit (or loss) of the company is calculated.
- They provide information on the financial position of the company.
- The tax liability of the company is established.
- They provide a check that taxes such as GST, FBT and PAYE have been correctly calculated and paid during the period.

(Any 3, 1 mark each)

- (c) (i) This provides a direct comparison of the amounts recorded for accounting year against the year previous amounts for the same items.

(1 mark)

- (ii) This compares figures as a percentage or ratio e.g. sales to the cost of sales or sales to purchases.

(1 mark)

**Total 9 marks**

## ANSWER 14

- (a) • Only information necessary for business should be collected from clients or employees.
- No information collected on an individual can be disclosed to another party without that individual's permission.
- Employees have unlimited access to any personal information about them that is held by their employer.
- (3 marks)
- (b) • The work will be done with reasonable care and skill to an acceptable industry standard
- The work must be fit for purpose and provide the result the customer has made known to the supplier
- The work will be completed by the agreed completion date or to an agreed timetable
- The cost of the services will be reasonable where it has not been fixed or decided by the parties.
- (Any 3, 1 mark each)
- (c) • Remedy the failure
- Replacement of the faulty appliance
- Refund of the payment
- Damages for consequential losses where the failure could or should have been foreseen.
- (4 marks)
- (d) • Proven lack of punctuality without reason.
- Proven misuse of drugs or alcohol in the workplace.
- Proven failure to follow health and safety procedures.
- Proven instances of fighting.
- Proven instances of sexual or other harassment in the workplace.
- Possession of company property without authority.
- Failure to perform.
- Proven dishonesty.
- (6 marks)

**Total 16 marks**





