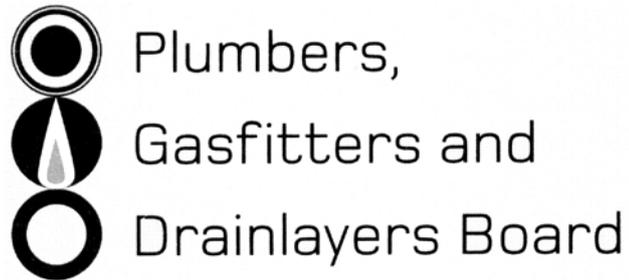


No. 9194



CRAFTSMAN EXAMINATION, JUNE 2007  
**COMMON**

ANSWER SCHEDULE



## ANSWER 1

(a) Any THREE:

No opening occurs beneath the end support of a bearer

The footing is continuous beneath all openings

Any opening exceeding 300 mm wide in any direction is provided with a trimmer bar on each side of the opening

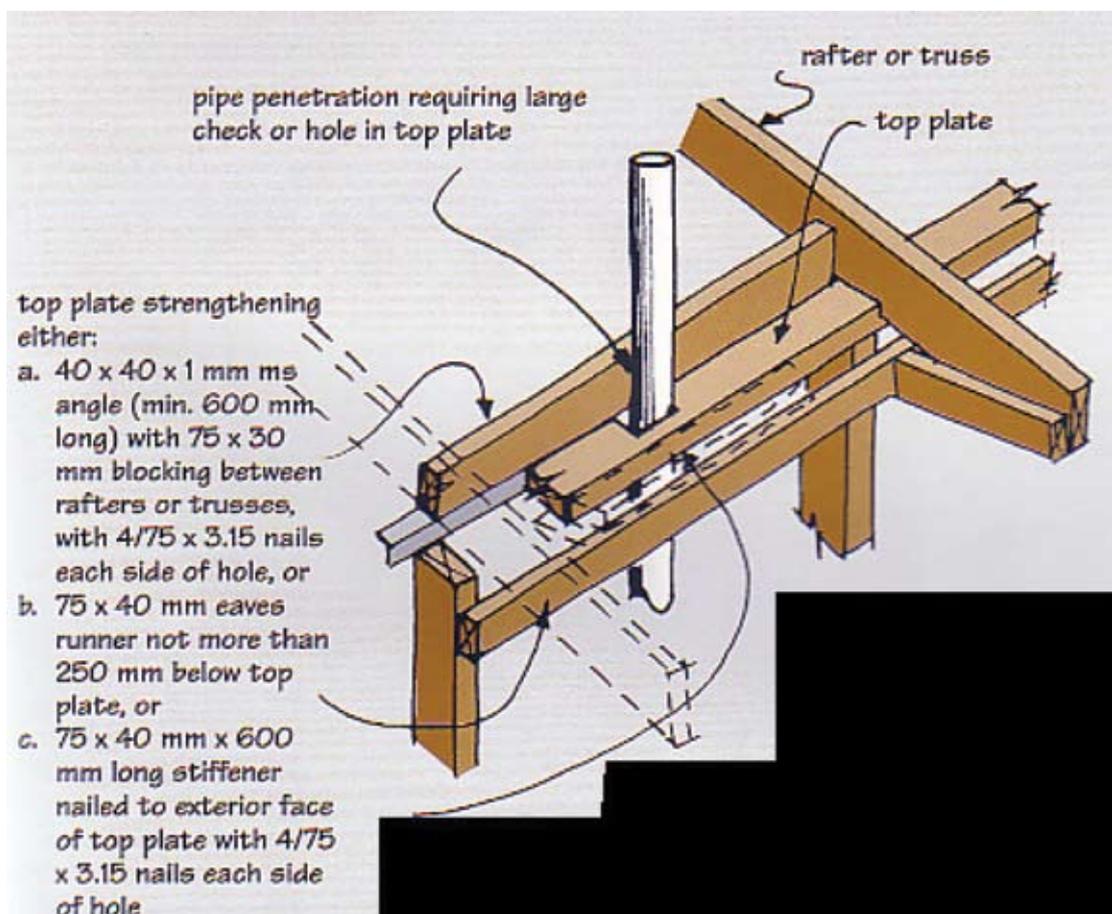
Any opening more than 600 mm wide is no closer than 600 mm to any wall or corner

No steel to be cut

(3 marks)

(b) Any TWO Extract from NZS 3604

(2 marks)



Total 5 marks

## ANSWER 2

(a)	Bedroom 1	$4 \times 4 \times 2.4 \times 40 \div 199 = 7.718$	8 sections
	Bedroom 2	$3 \times 3 \times 2.4 \times 40 \div 199 = 4.342$	5 sections
	Bedroom 3	$4 \times 3 \times 2.4 \times 40 \div 199 = 5.789$	6 sections
	Lounge	$6 \times 4 \times 2.4 \times 50 \div 199 = 14.47$	15 sections
	Kitchen/Dining	$6 \times 3 \times 2.4 \times 50 \div 199 = 10.854$	11 sections

(1 mark each) (5 marks)

(b) Total sections

$$8 + 5 + 6 + 15 + 9 = 45 \quad (1 \text{ mark})$$

$$45 \times 199 = 8955 \text{ watts} \quad (1 \text{ mark})$$

$$\frac{8955}{1000} = 8.955 \text{ kW} \quad (1 \text{ mark})$$

$$\text{Boiler input} = \frac{8.955 \times 100}{83} \quad (2 \text{ marks})$$

$$= 10.789 \text{ kW} \quad (5 \text{ marks})$$

**Total 10 marks**

## ANSWER 3

(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. (3 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.

(5 marks)

(10 marks)

**Total 10 Marks**

## ANSWER 4

- (a) Each part of the contract work is divided into its component parts and each of these parts is assessed for the amount of labour that it will take to complete that part. At the conclusion of this process all of the component parts are added together to give the total labour estimate for the project. (2 marks)
- (b) (i) The proposed work to be performed by the contractor is measured.  
(ii) The quantities of work taken off are sorted and listed into each of the work types.  
(iii) Prices for the required labour, equipment and materials are entered against the quantities.  
(iv) Prices are obtained from sub-trades who quote to perform the work.  
(v) The costs of the anticipated project overheads are calculated and added to the estimate.  
(vi) All the estimated prices are summarised, the contractor's mark-up is added and the tender documents are completed. The bid can then be submitted. (6 marks)
- (c) Preliminary estimates are prepared to validate the feasibility of the construction cost established by the conceptual estimate which forms the basis of the project budget. (1 mark)

**Total 9 marks**

## ANSWER 5

- (a) Any FIVE:  
Extra finance.  
Extra staff.  
Can the completion date be met.  
Is there a need for special equipment.  
Are materials required for the work obtainable.  
What impact will it impose on present workload.  
Contracts already tendered for but not yet notified of outcome.  
Expansion of premises.  
Insurance cover. (5 marks)
- (b) Fixed price  
Re-measure  
Cost plus (3 marks)

**Total 8 marks**

## ANSWER 6

- (a) circulator pipes 20mm diameter  
(b)  $(76 \div 10) + 1 = 8.6$   
(c) 78 kPa  
(d)  $76 + 36 = 112$  kPa

(4 marks)

**Total 4 Marks**

## ANSWER 7

$$Q^2 \times 25L = D^5 \times H$$

$$D^5 = \frac{Q^2 \times 25L}{H}$$

$$H = \frac{350}{10} - 11$$

$$= 35 - 11$$

$$= 24.000 \text{ m}$$

$$Q = \frac{36}{60}$$

$$= 0.600 \text{ L/s}$$

$$D = 5 \sqrt{\frac{0.600 \times 0.600 \times 25 \times 62.000}{24}}$$

$$= 5 \sqrt{\frac{558}{24}}$$

$$= 5 \sqrt{23.250}$$

$$= 1.876 \text{ cm}$$

$$= 1.876 \times 10$$

$$= 18.760 \text{ mm (20 mm pipe required)}$$

(5 marks)

**Total 5 Marks**

## ANSWER 8

- (a) To prevent the foundation wall moving or collapsing into the excavation. (1 mark)
- (b) (i) Labour Department/OSH Occupational Safety & Health  
(ii) Seven days (2 marks)
- (c) The Plumber (1 mark)
- (d) The Plumber (1 mark)
- (e) Eliminate, Isolate or Minimise the hazard. (3 mark)

**Total 8 marks**

## ANSWER 9

- (a) Any TEN:
- Ensure employee safety
  - Provide a safe working environment
  - Ensure plant and equipment is safe to use
  - Provide amenities
  - Identify hazards and monitor them
  - Eliminate hazards
  - Isolate workers from hazards that cannot be eliminated
  - Ensure safe work methods
  - Provide safety equipment and training
  - Involve employees in safety procedure development
  - Minimise hazards
  - Appoint a safety officer if required
- (½ mark each) (5 marks)
- (b) Positively identify the pipe
- Identify and notify effected users
  - Shut down supply
  - Fit earth bonding strap
- (½ mark each) (2 marks)

**Total 7 marks**

## ANSWER 10

- (a) The owner will have to provide evidence that the material does comply as an alternative solution.

Seek a determination from the Department of Building and Housing.

(2 marks)

- (b) Continuous series of audit and inspection of their manufacturing and quality control systems

(2 marks)

- (c) Any FOUR:

Produce and maintain the NZ Building Code

Advise the Minister of Internal Affairs on matters relating to the building controls

Approving Building Certifiers

Accrediting proprietary building product and processes

Monitoring the performance of Territorial Authorities and Building Certifiers

Produce and maintain approved documents

(4 marks)

**Total 8 marks**

## ANSWER 11

- (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.

(7 marks)

- (b) 1 Recover your wage bill.
- 2 Recover your overheads.
- 3 Gain a profit margin.

(3 marks)

**Total 10 marks**

**ANSWER 12**

- (a) 1 Set skill standards for industry that are capable of being registered on the National Qualifications Framework.
- 2 Develop arrangements for the delivery of training.
- 3 Make arrangements for monitoring the training and assessment of the trainees.
- 4 Be responsible for most of the administration of apprenticeships and training.
- 5 Develop Unit Standards.
- 6 Maintain Unit Standards.
- 7 Moderate training providers.
- 8 Carry out training needs analysis.
- 9 Assess the training capability of employers.
- 10 Register training agreements.

(5 marks)

(b) Any FIVE:

- 1 Past record as a trainer.
- 2 Workshop equipment and facilities.
- 3 Range of work available.
- 4 Pass success rate of previous apprentices.
- 5 Qualification and experience of staff available to train apprentices.
- 6 Ability to instruct and supervise apprentices.

(5 marks)

**Total 10 marks**

### QUESTION 13

- 1 Membership can lend prestige to a business.
- 2 The public tends to accept the quality of a tradesman's workmanship when he is a member of a trade association, particularly if the association offers a guarantee.
- 3 Government Departments acknowledge trade associations as representative of an industry, particularly when considering industry related legislation.
- 4 Negotiation of employment contracts may be undertaken by representatives of trade associations on behalf of member employers.
- 5 Dialogue resulting from meetings and conferences on issues common to the group are beneficial to all involved.
- 6 Advice is generally available from associations on all industry related issues.
- 7 Associations generally can arrange access to discount group insurance or superannuation schemes or special trading arrangements for the benefit of members.

(1 mark each for any FIVE)

**Total 5 marks**



