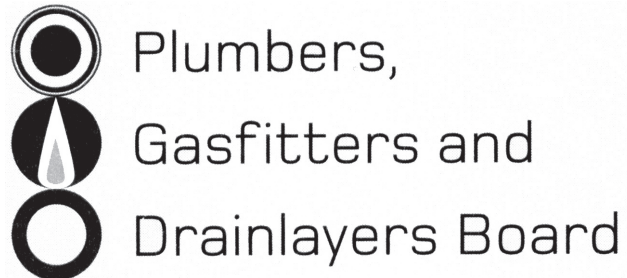


No. 9194



CRAFTSMAN EXAMINATION, NOVEMBER 2009
COMMON

ANSWER SCHEDULE

ANSWER 1

- Enable people to leave the building safely
- Reduce the time it takes people to reach a safe place.
- Provide protection for fire-fighters during fire-fighting operations.
- Limit the size of the fire.
- Delay the collapse of structural elements.
- Prevent the spread of fire between buildings/fire cells.
- Reduce the likelihood of fires starting.

(Any 5, 1 mark each)

Total 5 marks

ANSWER 2

- (a)
- The total value of work completed and invoiced prior to the current account.
 - The value of work done in the current period.
 - The value of materials on site.
 - The value of off-site payments, provided they are approved under the contract conditions.
 - Advances for temporary materials and plant.
 - Cost fluctuations.
 - Contract variations.
 - Retentions or performance bond requirements.

(Any 5, 1 mark each)

- (b)
- Inclement weather including wind.
 - Strike, lockout or other industrial action by site workers or parties off-site.
 - Damage not due to the fault of the contractor/subcontractor e.g. fire, wind or snow.
 - Variations additional to the contract.
 - Late or non supply of client supplied materials.
 - Suspension of the contract works due to site conditions or design changes.

(Any 4, 1 mark each)

- (c) (i) If a contractor or subcontractor fails to complete the work within the specified time frame they will be liable to pay the client damages. The amount is listed in the contract documents and forms part of the conditions of contract.

(2 marks)

- (ii) The damages are normally calculated on a daily, or some other time basis. They are a realistic estimate of the losses suffered by the client if the contract is not completed in the set time.

(2 marks)

Total 13 Marks

ANSWER 3

- (a)
- Cooking fumes and odours,
 - Moisture from laundering, utensil washing, bathing and showering,
 - Odours from sanitary and waste storage spaces,
 - Gaseous by-products and excessive moisture from commercial or industrial processes,
 - Poisonous fumes and gases,
 - Flammable fumes and gases,
 - Airborne particles,
 - Bacteria, viruses or other pathogens,
 - Products of combustion.

(Any six, 1 mark each)

(b) Total volume of air required $= 65 \times 28$
 $= 1820\text{m}^3$

Room volume $= 10.5 \times 12.25 \times 2.7$
 $= 347.288\text{m}^3$

Number of air changes $= 1820 \div 347.288$
 $= 5.240$ air changes per hour.

(3 marks)

Total 9 marks

ANSWER 4

- (a)
- (i) A contingency sum covers any non specified items that may occur during the contract. (1 mark)
- (ii) A prime cost or net sum is to cover the supply of materials and fittings. (1 mark)
- (ii) A provisional sum relates to further items of work that may or may not be included in the contract. (1 mark)
- (b) Sums are included in contracts to cover items that cannot be described accurately at the time of tender. (1 mark)
- (c) When the final account is submitted the sums are deducted from the contract price and the actual value including allowances is added back to give an adjusted total. (2 marks)

Total 6 Marks

ANSWER 5

- (a) (i) 1. The pipe.
2. The fittings.
3. The supports.
4. The labour. (2 marks)
- (ii) 1. The pipe.
2. The supports.
3. The labour. (1½ marks)
- (b) (i) The architect.
- (ii) The building services engineer.
- (iii) The plumber and/or gasfitter. (1½ marks)

Total 5 Marks

ANSWER 6

$$\begin{array}{ll} 63 \times 1.2 \div 100 = 0.756 & (1 \text{ mark}) \\ 124 \times 1.3 \div 100 = 1.612 & (1 \text{ mark}) \\ 44 \times 1.5 \div 100 = \underline{0.660} & (1 \text{ mark}) \\ & \underline{3.028\text{m}} \quad (1 \text{ mark}) \end{array}$$

Total 4 Marks

ANSWER 7

- (a) (i) • Noise levels.
• Light levels.
• Air conditions. (3 marks)
- (ii) • To help identify hazards.
• To evaluate the effectiveness of controls.
• To check that required standards are being met.
• To assess the significance of the hazard.
(Any 3, 1 mark each, 3 marks)
- (b) • The relative density of the fluid
• The volume of fluid moving through the pipe
• The cross sectional area of the pipe bore
• The length of the pipe
• The friction between the fluid and the wall of the pipe
• Turbulence caused by restrictions or changes of direction.
(Any 5, ½ mark each, 2½ marks)
- (c) • The index length
• The pressure drop
• The volume of fluid required at the outlets or the input rating of the appliances
• The available pressure
• The pipe material
• Environment (Any 5, ½ mark each, 2½ marks)

Total 11 Marks

ANSWER 8

- (a) (i) The Inspector's notice is a warning that the Act is not being complied with. There are penalties for non compliance.
- (ii) The Improvement notice gives a set time for improvements to be made in order to comply with the Act.
- (iii) The Prohibition notice is issued when an Inspector believes that serious harm may eventuate. This notice may be used to close down all or part of an operation or to prohibit the use of a place or piece of machinery. The notice must be attached to, or near, the hazard and a copy supplied to the person in charge. The Inspector will return to ensure that the problem has been fixed.
- (iv) The Suspension notice is issued if continuing to work would endanger health or a worker refuses to be examined for a work related illness. An OSH doctor may also issue the notice.
- (v) The Infringement notice can be issued by an Inspector within 14 days of discovering that the Act is not being complied with. The notice attracts a fee (fine). The notice may be used as evidence against the recipient but are not entered into the criminal record of the recipient.

(1 mark each, 5 marks)

- (b) Only the Improvement and Prohibition notices can be appealed.

(1 mark)

Total 6 marks

ANSWER 9

- (a) (i) 101.325Pa
- (ii) Gauge pressure is the pressure of a system measured by a gauge which excludes atmospheric pressure.
- (iii) Absolute pressure is the sum of gauge pressure and local atmospheric pressure.
(Gauge pressure + 101.325Pa at sea level)

(1 mark each)

- (b)
- Provide a first aid kit which meets the minimum requirements of the regulations.
 - Provide first aid care to anyone who is injured in the workplace.
 - Have someone trained in first aid if there is more than fifty staff.
 - Keep a register of any treatment given.

(Any 3, 1 mark each)

Total 4 marks

ANSWER 10

- (a) (i) A prescriptive code or standard typically describes materials, and design and construction methods, often without stating goals and objectives. It focuses on the desired characteristics of the final product rather than the processes to produce it. (2 marks)
- (ii) A performance based code or standard states goals and objectives to be achieved and describes methods that can be used to demonstrate whether or not products and services meet the specified goals and objectives. (2 marks)
- (b) (i) Verification is to prove that materials or processes are fit for purpose. (1 mark)
- (ii) Verification can be achieved by tests, examinations, calculations or a combination of these methods. (2 marks)
- (c) The company can apply to the Department of Building and Housing. (1 marks)

Total 8 marks

ANSWER 11

- Chargeable hours $45 \times 52 = 2340$ (1 mark)
- Deduct holidays $\frac{240}{2100}$ (1 mark)
- Deduct non-chargeable time $\frac{315}{1785}$ hours per annum (1 mark)
- Overheads \$44,600.00 per annum (1 mark)
- Charge out rate:
- $$\frac{75000 + 44600}{1785}$$
- $$= \frac{119600}{1785}$$
- (1 mark)
- $$= \$67.00$$
- (1 mark)
- Add profit margin:
- $$67 \times 1.1$$
- $$= \$73.70$$
- (1 mark)

Total 7 marks

ANSWER 12

- The salvage value and the number of working years of the item are calculated.
- The salvage value is deducted from the original cost.
- The remaining balance is divided by the number of years of the estimated working life of the asset, and deducted in equal amounts over this period from the original cost price.
- Any increase or decrease in the salvage value is taxable or deductible at the time of sale.

Total 5 marks

ANSWER 13

- (a) Variations are changes to the contract works as directed by the principal or their agent in writing.
- (b) Sectional completion means the practical completion of a section of the contract works as defined in the contract documents.
- (c) Time for practical completion is the time within which the work must be finished. The contract states this time as a number of days after access to site is given or a calendar date.
- (d) Fluctuations are changes in costs. They can be an increase or a decrease in the cost of any material that forms part of the contract works or in the cost of labour expended in carrying out the contract works.

(2 marks each)

Total 8 marks)

ANSWER 14

- On every written communication sent by, or on behalf of the company
- Every contract document issued or signed by, or on behalf of the company that creates a legal obligation on the company.

(1 mark each)

Total 2 marks)

ANSWER 15

- Safety in the workplace,
- Training,
- Good working conditions,
- Fair allocation of work,
- The chance to negotiate wages and conditions,
- Employer loyalty.
- Financial security
- Understanding and consideration
- To have loyalty and value to the business recognised.

(Any five, 1 mark each)

Total 5 marks

