

7905-001/501 Level 3 Bricklaying

Version 1.1 – September 2017

Sample Mark Scheme

The correct responses to the multiple questions are in **BOLD**

- 1 What insulation is most commonly used on a concrete suspended ground floor?
- a) Sheeps wool.
 - b) Multi-foil roll.
 - c) Fibre glass quilts.
 - d) Polyisocyanurate sheets.**
- 2 What term is used to describe money held back on a project to cover the cost of any possible defects?
- a) Penalty clause.
 - b) Investment sum.
 - c) Staged payment.
 - d) Retention sum.**

Duration W/C	9 th May	16 th May	23 rd May	30 th May	6 th June	13 th June	20 th June	27 th June	4 th July	11 th July	18 th July
Activity											
Preliminaries/site set up											
Foundation											
Walls											
Roof											
Windows, Doors											
Plumbing											
Electric											
Painting											
External works											

Figure 1

- 3 Referring to Figure 1, a lead time of three weeks is required when ordering roof trusses. What is the last date they can be ordered?
- a) 9 May.
 - b) 30 May.**
 - c) 2 June.
 - d) 9 June.
- 4 What is the **main** purpose of a toolbox talk?
- a) To provide information on staff benefits.
 - b) To provide information on salary issues.
 - c) To provide information on safety issues.**
 - d) To provide information on career goals.
- 5 What is the **main** reason to have cartridge guns serviced regularly?
- a) They are expensive and will last longer.
 - b) They are dangerous and could injure someone.**
 - c) They will void warranty if not looked after.
 - d) They speed up progress and need to be reliable.



Figure 2

6 What is the component shown in Figure 2?

- a) Flue.
- b) Cowl.
- c) Fire back.
- d) Throat unit.**

7

Identify the **main** Health and Safety regulation that is applied to the following

- a) scaffolding. (1 mark)
- b) reporting an accident. (1 mark)
- c) working with flammable materials. (1 mark)

Answers

One mark for each of the following

- a) Working at Height Regulations
- b) Reporting Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- c) Control of Substances Hazardous to Health (COSHH)

8

- a) Explain **two** advantages and **one** disadvantages of Computer Aided Design (CAD) programs to traditional manual methods. (3 marks)
- b) Explain why written dimensions should be prioritised over scaled dimensions on a drawing. (2 marks)

Answers

- a) Explanation covering **two** advantages and **one** disadvantage for **three marks**
 - Easier to make alterations to a CAD drawing as opposed to manual methods.
 - CAD drawings are more accurate than traditional drawings.
 - CAD drawings can easily duplicated as opposed to manual methods.
 - Manual drawings do not require computer software as opposed to CAD methods.
- b) Explanation could include any **one** of the below for **two** marks.
 - Written dimensions always take priority
 - Paper drawings can shrink or stretch
 - Scaled drawings can be copied incorrectly which would give a false reading and would give a false size.

9

Identify **four** common defects found in masonry structures. (4 marks)

Answer could include any **four** answers from the list below, **one** mark for each

- Bulging
- Dampness
- Staining
- stone/brick erosion
- spalling
- cracking
- mortar failure
- efflorescence
- lime leaching
- sulphate attack
- dry and wet rot
- metal corrosion
- settlement
- subsidence

10

Describe how strongboys can be used when forming an opening in a masonry structure. (2 marks)

Answer

Description could include a similar answer as below for **two** marks.

- Strongboys are positioned in a cut out horizontal mortar joint to support the weight of the structure over the proposed opening.

11

Explain how to setting out a diagonal basket panel. (10 marks)

Answer

Explanation could include the points below for **ten** marks, **one** mark for each explaining in detail the sequence of operations.

- Use a suitable setting out board.
- Measure, square and mark the external line of the panel.
- Check diagonals.
- Measure and mark the inside line of the panel.
- Draw in diagonals.
- Draw the pattern on the setting out board starting from the centre point.
- Dry lay the bricks to pattern.
- Mark cuts.
- Cut the bricks and return to the setting out board.
- Lay the panel bricks from the base checking the angle, gauge, face and square as the work proceeds.

12

An external wall has a vertical crack as shown in Figure 3. Discuss the probable causes, investigation method and monitoring and suggest a suitable remedy and repair. (12 marks)



Figure 3

Indicative content

- probable causes: tree roots, foundation failure, poor workmanship.
- investigation method and monitoring: checking other parts of the building, vicinity to river, quarries, mines etc.
- suitable remedy and repair: appropriate matches to materials, careful removal and replacement of damaged bricks, ensuring joints are filled.

Band 1 (1-4 marks)

Basic discussion showing some understanding of the problem and the remedy. Could include foundation failure, subsidence, settlement and mortar mix, gives little reference to investigation and monitoring. Cut out affected material and re-build.

In order to access higher marks

In order to access higher marks, discussion is lacking any considerations of the broader picture. Some attempt made to list a few causes.

Band 2 (5-8 marks)

Adequate discussion, showing reasonable understanding of the problem and solutions. Could include subsidence, settlement and mortar mix. Use of tell tales to monitor movement, further survey of property, decision on the problem. Including subsidence, cut out affected material and re build with some reference to matching materials.

In order to access higher marks

In order to access higher marks, discussion shows structure and reasoning, considerations of causes shown in response and some methods of remedying the causes thought about.

Band 2 (9-12 marks)

Clear discussion, showing a sound understanding of the probable causes, methods of monitoring and the most effective solution. Should include subsidence, settlement and mortar mix. Use of tell tales to monitor the movement, further survey of property, decision on the problem. Discussion should mention foundation investigation, including discussion on probable causes, underpinning. Discussion should also mention the colour, type and strength of mortar and matching the bricks and mortar to the existing wall. Recommendations made on how to remedy/repair the problems.

In order to access higher marks

Thorough discussion which includes all aspects listed with consideration of the broader picture including listing a number of causes, remedies and solutions.