



MARKING SCHEME

**LEVEL 1 AND LEVEL 2 AWARD IN
CONSTRUCTION**

**CONSTRUCTING THE BUILD ENVIRONMENT
UNIT 1: SAFETY AND SECURITY**

SUMMER 2017

INTRODUCTION

This marking scheme was used by WJEC for the 2017 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

Safety and Security Examination 2017

- Q.1 (a) Back injuries (1) injuries resulting from dropping the bricks (1) or falling (1)
(b) Wheelbarrow (1) Brick carrier (1) Mechanical brick carrier (1) brick hod not acceptable (0)
(c) HASAWA 1974 or Manual Handling Operations Regulations 1992 (dates not required) (1)
- Q.2 (a) Water (1)
(b) The fire blanket (1) – All extinguishers are a problem with pan fires as they can force the burning oil out of the pan thereby causing more problems (1)
- Q.3 Triangular sign means Warning (1) of fire (1) (accept danger or risk of fire or flammable/burning/no naked flames) (1)
- Q.4 (a) First aid (1)
(b) Accident Report Book or Form or statement of what happened or RIDOR (1)
(c) Where the first aid kit(s) are located (1)
Who are designated First aiders (1)
How to report accidents (1)
Location of the first aid room (1)

- Q.5 Risk (A) – Site vehicles running over exposed chamber entrance and injuring employee (1).

Control measure (A) – provide a barrier around the area (1) with a clear warning to others on site that there is danger present (1).

Risk (B) – the employee(s) could fall or get into difficulty (1)

Control measure (B) – they should be wearing a harness (1) which would minimise the results of a fall (1) They should have a member of staff overseeing the work from above(1) so that they can take appropriate action if anything happens (1).

Risk (C) – As this is a live foul drain, there is the risk of respiratory problems occurring (1)

Control measure (C) – The member of staff should be wearing breathing apparatus (1) they should be trained to work using such apparatus (1) They should have received training in issues associated in working in such environments (1) They should have a member of staff monitoring them in case of accident or issues (1) They should be in radio contact with other staff outside the chamber (1)

Plus any reasonable response.

Control measure must relate to the response identified as risk in order to gain marks.

Q.6 (a) Working at height

Risks – up to two marks available - There is no platform and the worker is not wearing a harness (1). The most likely risk is from falling which, given the lack of safety considerations, is very high (1). Whilst the working at height issues of the individual worker are the most obvious, there is also a potential risk to fellow workers or other individuals of falling debris. (2)

Also - the worker is not wearing any PPE – this could lead to injuries in the same way as if they worker was carrying out the same tasks with a platform – clearly no goggles or hard hat. (2)

- (i) Severity of risk – up to three marks available - Given the working height and lack of platform and harness,(1) the severity of risk is very high (1) – a fall from this height is likely to be fatal for the worker(1). The risk to the worker generated by the lack of PPE is of a lower level than that of a fall, however, there is still the potential for serious injury (1). There is also a high risk for anyone walking at ground level below where this work is being carried out, potentially fatal too.(1)

Laying drainage

- (ii) Risks – up to two marks available – There is a lack of a physical barrier and lack of warning signs/tape(1) the most likely risk is from construction staff and members of the public falling into the drainage channel (1) there is also a potential risk to drivers of vehicles of driving in to the channel.(1) There is a significant amount of debris which pedestrians may be forced to walk on, especially if a vehicle passes. (1) This increases the potential for a fall (1) it also generates the possibility of a fall over items of the debris (1).

Severity of risk – up to three marks available – given the depth of the drainage channel,(1) the likely outcome of a fall is of serious injury(1). The likely risk of driving a car into the drainage channel is also of serious injury (1). Tripping over the debris without falling into the drainage channel could potentially result in serious injury (1) but is less likely than through a fall into the drainage channel (1).

(b) Working at height

They are likely to immediately stop all work on the site (1) and ensure that it does not start again until a platform is built which offers a safe working environment (1) – prohibition notice (1). They are likely to issue an improvement notice (1) considers not only the main issue of lack of platform, but also the lack of PPE (1). They will insist on these issues being rectified and that this happens within a set timescale (1). They will check that the company has complied on both counts and they may decide to prosecute (1).

max 3 marks

Laying drainage

They are likely to immediately stop work taking place on the site (1) and ensure that it does not start again until a barrier is erected along with warning signage which will lead to a safer environment (1) – prohibition notice (1). They may include the issue of the debris to the side of the channel within their improvement notice and insist that this is also addressed (1). They will insist that the works are carried out and within a set timescale (1). They may also insist on the creation of a separated pedestrian walkway (1). They will check that the company has complied on all counts and they may decide to prosecute (1).

- Q.7 The company could ensure that the site perimeter is fenced, secure and offers a proper deterrent (1). It could ensure the entrance(s) to the site is(are) secure and that it(they) can prevent the easy passage of vehicles.(1) Security staff could be employed at all times.(1) Vehicles could be fitted with alarms,(1) cabbed vehicles should have cabs locked when not in use.(1) Keys to cabs and starter keys could be kept in a secure location on site.(1) CCTV cameras which cover locations where vehicles are located could be employed (control measure as cameras are visible.(1) Vehicles could have GPS trackers (with signs on vehicles confirming this) to allow for them to be located in the event of theft.(1)

max 3 marks

- Q.8 (a) **Hazard 2 Risk (Three marks maximum)**

The lack of goggles could see eye injury resulting especially of masonry dislodged by the hammer blows (1)

The lack of hard hat could result in head injuries – potentially as a result of flying masonry as a result of hammer blows (1) or from falling masonry in this unstable environment (1)

The lack of hi vis vest means that workers are not as visible as they should be – in an environment where large hammers are being used, this could result in injuries as a result of hammer blows to/from fellow workers (1)

Control measures 2 (Three marks maximum)

Members of staff are required to wear hard hat, goggles and hi vis vest at all times (1) Training is provided which highlights the need to wear PPE in such situations (1) Signage around the site enforces the need to wear PPE (1)

Risk 3 (Three marks maximum)

There is risk of falling as floor is unstable with loose debris (1) There is a risk of falling from the working area forwards to the ground (1) There is a risk of losing balance when using one of the large hammers and injuring self or colleague (1) There is a risk of collapse of the unstable floor (1)

Control measures 3 (Three marks maximum)

A proper working platform could be erected (1) The platform could include a barrier to prevent falling to ground (1) Training could be given to ensure no work of this nature can be carried out without the presence of a proper platform (1)

8. (b) Hazard identified by candidate - approach responses from photos 1-4 will be deemed acceptable. The following is not exhaustive.

Identification of hazard (one mark maximum)

Photo 3 and 4 - The building has not been 'propped' the lack of such props supporting the changing structure of the building means it is unstable and unsafe (1)

Photo 2 – The building materials left in an unorganised manner provides a hazard (1)

Associated risk (three marks maximum)

Example of lack of propping/support – the structure could fall from overhead and injure the workers (1) the structure could collapse below the workers causing injury from falling (1) the structure is not safe for individuals walking next to it and could injure anyone if it collapsed (1)

Example of site materials left in an unorganised manner – this provides a tripping hazard to staff which could lead to injuries ranging from cuts and bruises to broken limbs. This could present a potential risk to site vehicles which could be damaged driving over the debris.(1) This could also present opportunities for vandals or thieves to cause damage on the site or illegally remove materials (1)

Control Measures (four marks maximum)

Example of lack of propping/support

The structure could have an assessment by a structural engineer with experienced in temporary works and actions taken as a result of the outcomes (1) The structure could have props installed to ensure the stability of the work for the appropriate duration (1) The props must be installed by a competent person (1) The structure could potentially benefit from scaffolding (1)

Example of site materials left unorganised

A proper storage area for materials should be available and used (1) a system should be in place to ensure materials are stored and not left unorganised (1) Training should be given to new and existing staff to ensure they are aware of the need to store materials (1) signs could be placed around the site to remind staff they need to store materials (1) rubbish needs to be removed and disposed of appropriately (1) training could be provided to make staff aware of the need to dispose of rubbish and how (1)