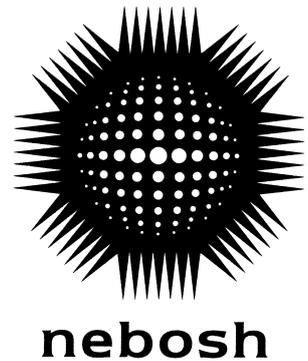


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NEBOSH

**UNIT NC1:
MANAGING CONSTRUCTION SAFETY**



For: NEBOSH Health and Safety Management for Construction (UK)

Open Book Examination

Date available: [dd Month yyyy] - [dd Month yyyy] (00:00-23:59 UCT Universal Co-ordinated Time)

Guidance to learners

This is an open book examination. It is not invigilated, and you are free to use any learning resources to which you have access, eg your course notes, or the HSE website, etc.

By submitting your completed examination for marking, you are declaring it is entirely your own work. Knowingly claiming work to be your own when it is someone else's work is malpractice, which carries severe penalties. This means that you must **not** collaborate with or copy work from others. Neither should you 'cut and paste' blocks of text from the Internet or other sources.

The examination begins with a realistic scenario to set the scene. You will then need to complete a series of tasks based on this scenario. Each task will consist of one or more questions.

Your responses to **most** of these tasks should wholly, or partly, draw on relevant information from the scenario. The task will clearly state the extent to which this is required.

The marks available are shown in brackets to the right of each question, or part of each question. This will help guide you to the amount of information required in your response. In general, one mark is given for each correct technical point that is clearly demonstrated. Avoid writing too little as this will make it difficult for the Examiner to award marks. Single word answers or lists are unlikely to gain marks as this would not normally be enough to show understanding or a connection with the scenario.

The examination will take you approximately 8 hours to complete. This includes reading, researching, and completing the tasks. You are not expected to write more than 6 000 words in total.

Try to distribute your time and word count proportionately across all tasks.

It is recommended that you use the available answer template. You will receive further instructions on how to submit your assessment.

Please attempt **ALL** tasks.

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SCENARIO

You have just started a new job as the Assistant Site Manager on a construction site, with responsibilities for overseeing health and safety during a construction project.

The project involves the piecemeal demolition of a large 70-year-old derelict factory building to allow for future building works. The project is scheduled to last for a total of 60 days (excluding weekends and public holidays).

The factory building is 1150 metres (m) long, 600m wide and 15m high. The factory building is steel framed construction with brick in-fill. It has 1m deep pile-driven concrete foundations which will need excavating.

The topography of the site is mostly flat grassland. The site is in a relatively secluded location, close to a large fast-flowing river and public footpath which will remain accessible to the public throughout the project. During heavy rainfall, the stream can flood onto the site area.

Existing uninsulated high-voltage overhead transmission lines at 400kV run west/east over the site. These cannot be diverted or switched off and will remain in place throughout the works. Large vehicles and plant will need to travel underneath the lines during the project.

Prior to these works, a demolition method statement and soft strip of the building were completed, leaving the outer shell of the factory ready for demolishing.

Pre-demolition surveys have identified the following:

- The factory has pipes which contain asbestos lagging. The asbestos has been identified in poor condition (fibrous and flaking)
- The roof is asbestos cement sheeting
- The building is in a dilapidated state and may collapse unexpectedly
- Buried services lie underneath the factory building. They have already been isolated before the demolition work.

The site is accessed by a 1 mile (1.6 kilometre) long uneven dirt track which connects to a busy main road. The main road provides good access to a town centre and hospital 8 miles (approximately 13 km) away. The site rules state that there is a one-way system on the site and all vehicles entering the site must only reverse their vehicles into designated reversing areas.

The following workers will be on site for the duration of the building works:

Number	Job
1	Site manager
1	Assistant site manager
1	Engineer
1	Surveyor
2	General foremen
2	Supervisors
6	General workers

All workers will be on site from 07:00 – 16:00, Monday to Friday. Many staff will be living in temporary accommodation units on site for the duration of each working week.

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Once the project starts, one of your tasks is to act as a “non-working supervisor”. This involves walking around the site observing the construction work to ensure that health and safety measures are being observed, particularly important because of recent high winds and icy conditions. On one occasion, you see a younger worker carrying heavy roof tiles up a ladder onto the roof of the building near the power line. The ladder is not secured and one rung is missing near the base. Once the worker reaches the ground, you inspect the ladder and speak to them privately about their unsafe behaviour.

The worker is initially quiet and reluctant to give you a reason why they used the ladder. Eventually, when prompted they say that they had been pressured by their supervisor to use a ladder. The worker had suggested to the supervisor that a Mobile Elevating Work Platform (MEWP) should have been used but it would have taken 24 hours to bring a MEWP on site, and the supervisor wanted the job done quickly before the end of their shift. When they asked their supervisor for a MEWP, the supervisor responded “it will take too long and you will only be up there for a minute. If you won’t do it, I can always find someone to replace you who will do it”. The worker even admits that they hoped that you would not catch them breaking the rules so they had someone (who seemed to disappear as you approached) stood near the ladder on the ground keeping a look out for you...

The worker is worried about getting into trouble for speaking to you and begs you not to speak to their supervisor. They explain that it was their first job and they have only been working here for a few weeks. You decide to issue a verbal warning to the worker for unsafe behaviour, which is in line with the site’s disciplinary policy.

The following day, you write a near miss report to formally document this incident. You return to the area where the ladder was placed to gather more information, You realise the ladder was placed in a designated vehicle reversing area which was not clearly signposted or segregated with barriers. You decide to privately speak to the supervisor about the near miss. During the discussion, the supervisor admits that they are feeling very stressed due to project delays and the pressures of an upcoming deadline. This has led to them feeling like they need to cut corners to meet the project timelines, as any delay will result in them staying on site longer and not returning home to their family.

Task 1: Foundations of construction health and safety

- 1 Explain whether the project is notifiable to the Health and Safety Executive under the Construction (Design and Management) Regulations 2015. (3)

Task 2: Developing safe systems of work (SSOW)

- 2 As part of preparing a construction phase plan, you need to think about the first-aid arrangements.

What do you need to consider so that the first-aid needs are realistic and proportionate for the site?

(8)

Note: You should support your answer, where applicable, using relevant information from the scenario.

Task 3: Human factors

- 3 You try to understand why the worker used the unsafe ladder.
- Based on the scenario only, what individual human factors could have influenced the behaviour of the young worker on the ladder? (6)

Task 4: Safety culture

- 4 Based on the scenario only, comment on the health and safety culture on site. (10)

Task 5: Working at height

- 5 When questioned, the young worker said that they knew the ladder was unsafe for the roof tiles task because they had recently completed their working at height training.
- What safety considerations should the worker therefore have made regarding the suitability of the ladder for the task? (12)
- Note:** You should support your answer, where applicable, using relevant information from the scenario.

Task 6: Psychological health

- 6 Based on the scenario only, what could have contributed to the supervisor allowing the unsafe use of the ladder? (3)

Task 7: Risk assessment

- 7 You have been asked to complete a risk assessment of the site.
- Outline how you would carry out the risk assessment. You may want to include: (6)
- the sources of information that you would consult;
 - who you would speak to; and
 - the process you would use to identify the hazards on site.
- 8 Produce a risk assessment which covers **six** major hazards that have been mentioned in the scenario only. (60)
- You should identify who might be harmed, how they might be harmed, and what **additional** control measures are needed to effectively control the site hazards.
- You should use the table provided in the answer template to structure your answer.

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End of examination

Now follow the instructions on submitting your answers in the *Open Book Examination Learner Guide*.

Note: This Learning Partner example is shorter than the actual paper but gives a flavour of what it will be like. It incorporates typical examples of tasks and questions that may form the assessment.

SAMPLE