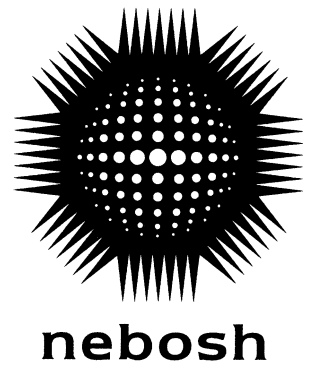




General note about this sample assessment

Please note that this is a *sample* assessment, designed to be illustrative of the tasks learners will face. It is therefore **not** a complete sample paper; the scenario is much shorter and it does **not** contain as many tasks as a live paper will have. A full paper will have 175 marks available.

Guidance to learners

All the tasks are mandatory.

You will have **2 weeks (10 working days)** to complete the assessment.

Please refer to your registration confirmation email for the upload deadline.

Please note that NEBOSH will be unable to accept your assessment once the deadline has passed.

This assessment 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 this completed assessment 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 assessment 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.

SCENARIO

You work as a farm manager for a large commercial farming organisation. The farm where you normally work mainly grows cereal grains and is located in a rural location near to the coastline.

Once harvested, the cereal grains are loaded into cylindrical steel silos by conveyor. The conveyor discharges the grain into the silo at the silo's highest point. The grain is then dried over a period of weeks by blowing dry air through the grain from the base to the top of the silo. When the grain is dry, it is discharged from the bottom of the silo by a screw conveyor. The screw conveyor collects the grain and transfers it onto another flat-bed conveyor. This flat-bed conveyor moves the grain from beneath the silo onto a waiting truck.

Your farm has 4 grain silos. Each silo is 15 metres high and has a diameter of 9 metres. There is an inspection hatch/door at a height of 2 metres that is large enough to allow a person to gain entry. A metal step allows access to this door. All the grain silos are approaching the end of their design life.

Recently, workers at your farm have reported reduced grain flow from one of the silos. You visit the silo to find out what the problem is and suspect there is a partial blockage. Other farms within the organisation have reported similar issues. You decide to close the silo for investigations once all the existing grain has been removed.

You explain the problem to the farm's maintenance engineer, who says that the maintenance team will conduct a preliminary inspection of the silo. The maintenance engineer tells you that there is often a build-up of fine grain, dirt and other debris at the bottom of the silo and this can cause problems with the operation of the screw conveyor. Some of the grain could have been there for some time and could have become compacted and damp. This encourages mould growth and makes the emptying problem worse.

Following the visual inspection, the maintenance engineer reports back that the screw conveyor is damaged and that the vents and roof hatch do not close properly. They also report extensive metal corrosion to the inside surface of the silo. The recommendation is that the silo should not be put back into service until repaired, but before this can happen the silo needs to be thoroughly cleaned inside. This will need a team of three maintenance workers who have worked together before and consist of a supervisor (55-years-old who has mild asthma), and two other workers (a 17-year-old apprentice and a newly recruited 28-year-old).

It is likely that the work will take up to a week to complete and will be carried out in the summer months when the weather can be very hot and humid. The maintenance engineer advises you that they will complete a risk assessment of the silo cleaning and repair, and will send this to you for review before any work starts.

Task 1: Confined space risk assessment

- 1 (a) What should you consider when assessing the risk from carrying out the grain silo cleaning operation? (20)
- (b) How could you control the risks before and during the cleaning of the silo? (20)
- Note:** You should support your answer, where applicable, using relevant information from the scenario.

Task 2: Typical cause of failures

- 2 Based on the scenario, what could have contributed to the extensive metal corrosion to the inside surface of the silo? (15)

End of examination

Now follow the instructions on submitting your answers.

Note: The above are just a small sample of questions that could be asked. Alternative/additional questions could also explore the issues of work at height, fire, explosion and work equipment.