

December 2012

Examiners' Report NEBOSH National Certificate in Environmental Management



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Examiners' Report

NEBOSH NATIONAL CERTIFICATE IN ENVIRONMENTAL MANAGEMENT

UNIT NEC1: MANAGEMENT AND CONTROL OF ENVIRONMENTAL HAZARDS

DECEMBER 2012



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Introduction

NEBOSH (The National Examination Board in Occupational Safety and Health) was formed in 1979 as an independent examining board and awarding body with charitable status. We offer a comprehensive range of globally-recognised, vocationally-related qualifications designed to meet the health, safety, environmental and risk management needs of all places of work in both the private and public sectors. Courses leading to NEBOSH qualifications attract around 35,000 candidates annually and are offered by over 500 course providers, with exams taken in over 100 countries around the world. Our qualifications are recognised by the relevant professional membership bodies including the Institution of Occupational Safety and Health (IOSH) and the International Institute of Risk and Safety Management (IIRSM).

NEBOSH is an awarding body to be recognised and regulated by the Scottish Qualifications Authority (SQA).

Where appropriate, NEBOSH follows the latest version of the “GCSE, GCE, *Principal Learning and Project Code of Practice*” published by the regulatory authorities in relation to examination setting and marking. While not obliged to adhere to this code, NEBOSH regards it as best practice to do so.

Candidates’ scripts are marked by a team of Examiners appointed by NEBOSH on the basis of their qualifications and experience. The standard of the qualification is determined by NEBOSH, which is overseen by the NEBOSH Council comprising nominees from, amongst others, the Health and Safety Executive (HSE), the Confederation of British Industry (CBI), the Trades Union Congress (TUC) and the Institution of Occupational Safety and Health (IOSH). Representatives of course providers, from both the public and private sectors, are elected to the NEBOSH Council.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to candidates and tutors in preparation for future examinations. It is intended to be constructive and informative and to promote better understanding of the syllabus content and the application of assessment criteria.

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General comments

Many candidates are well prepared for this unit assessment and provide comprehensive and relevant answers in response to the demands of the question paper. This includes the ability to demonstrate understanding of knowledge by applying it to workplace situations.

There are always some candidates, however, who appear to be unprepared for the unit assessment and who show both a lack of knowledge of the syllabus content and a lack of understanding of how key concepts should be applied to workplace situations.

In order to meet the pass standard for this assessment, acquisition of knowledge and understanding across the syllabus are prerequisites. However, candidates need to demonstrate their knowledge and understanding in answering the questions set. Referral of candidates in this unit is invariably because they are unable to write a full, well-informed answer to one or more of the questions asked.

Some candidates find it difficult to relate their learning to the questions and as a result offer responses reliant on recalled knowledge and conjecture and fail to demonstrate a sufficient degree of understanding. Candidates should prepare themselves for this vocational examination by ensuring their understanding, not rote-learning pre-prepared answers.

Candidates should therefore note that Examiners' Reports are **not** written to provide 'sample answers' but to give examples of what Examiners were expecting and more specifically to highlight areas of under performance.

Common pitfalls

It is recognised that many candidates are well prepared for their assessments. However, recurrent issues, as outlined below, continue to prevent some candidates reaching their full potential in the assessment.

- Many candidates fail to apply the basic principles of examination technique and for some candidates this means the difference between a pass and a referral.
- In some instances, candidates do not attempt all the required questions or are failing to provide complete answers. Candidates are advised to always attempt an answer to a compulsory question, even when the mind goes blank. Applying basic health and safety management principles can generate credit worthy points.
- Some candidates fail to answer the question set and instead provide information that may be relevant to the topic but is irrelevant to the question and cannot therefore be awarded marks.
- Many candidates fail to apply the command words (also known as action verbs, eg describe, outline, etc). Command words are the instructions that guide the candidate on the depth of answer required. If, for instance, a question asks the candidate to 'describe' something, then few marks will be awarded to an answer that is an outline. Similarly the command word 'identify' requires more information than a 'list'.
- Some candidates fail to separate their answers into the different sub-sections of the questions. These candidates could gain marks for the different sections if they clearly indicated which part of the question they were answering (by using the numbering from the question in their answer, for example). Structuring their answers to address the different parts of the question can also help in logically drawing out the points to be made in response.
- Candidates need to plan their time effectively. Some candidates fail to make good use of their time and give excessive detail in some answers leaving insufficient time to address all of the questions.
- Candidates should also be aware that Examiners cannot award marks if handwriting is illegible.
- Candidates should note that it is not necessary to start a new page in their answer booklet for each section of a question.

UNIT NEC1

Management and control of environmental hazards

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- Question 1** *Stakeholders are the people and organisations who affect and/or could be affected by an organisation's activities.*
- (a) **Identify** the external stakeholders who may be affected by an organisation's environmental performance. (7)
- (b) **Outline** the importance of communicating environmental performance to the external stakeholders of an organisation. (3)
- (c) **Identify** methods that can be used to communicate environmental performance to external stakeholders. (10)
-

This question related to Element 2 of the syllabus and assessed candidates' knowledge of learning outcomes 2.1: *Identify the reasons for implementing an environmental management system (EMS)* and 2.2: *Describe the key features and appropriate content of an effective EMS, i.e. ISO14001:2004, BS 8555.*

Stakeholders are mentioned in Element 2.1 and most candidates were able to identify an adequate list of the external stakeholders for part (a) of the question.

Part (b) was mainly derived from Element 2.2 and many candidates were unable to find more than one reason for letting stakeholders know of progress. This is a topic for improvement.

Part (c) was also from Element 2.1 and was generally well answered. A few candidates, however, answered on the content of the communication rather than the method of communication and failed to gain marks.

- Question 2** *Nuclear power and solar photovoltaic cells are seen as alternative forms of renewable energy. Neither of these produces any emissions of carbon dioxide or other polluting gases.*
- Outline TWO other relative benefits AND TWO limitations of EACH.** (8)
-

This question related to Element 7 of the syllabus and assessed candidates' knowledge of learning outcome 7.2: *Outline alternative sources of energy and their benefits and limitations.*

The question asked for benefits other than those given. Some candidates reiterated those given and so failed to gain marks. There are several benefits and limitations for both sources of energy and most candidates answered well.

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- Question 3**
- (a) **Give** the meaning of the following terms:
- (i) environment; (2)
- (ii) pollution. (2)
- (b) **Identify TWO** examples of pollutants **AND outline** the impact of **EACH** on wildlife. (4)
-

This question related to Element 1 of the syllabus and assessed candidates' knowledge of learning outcome 1.1: *Outline the scope and nature of environmental management.*

A good definition of 'environment' for part (a) (i) is contained in ISO 14001. To gain full marks, candidates were expected to give that definition or something very similar. Most candidates could identify the physical elements of the environment but some failed to mention the inter-relationship between them.

There is no equivalent single definition of 'pollution' for part (a) (ii) but this level of assessment is looking for more than the layman's simple definition. The main content of a good answer should refer to what causes pollution, where it comes from and how the impact is apparent. Few candidates were able to gain full marks.

Candidates were more successful in identifying pollutants in part (b). The second part of the answer should have been an outline of the impact on wildlife and a few candidates failed to do this justice either by not giving an outline or not relating it to wildlife specifically.

- Question 4** *A manufacturer uses a dry process to produce cardboard boxes from sheets of cardboard brought in from an external supplier. The organisation is proposing to introduce an environmental management system in line with BS EN ISO 14001:2004.*
- Outline FOUR** significant aspects **AND** their associated impacts that would need to be considered. (8)
-

This question related to Elements 2 and 3 of the syllabus and assessed candidates' knowledge of learning outcomes 2.2: *Describe the key features and appropriate content of an effective EMS i.e. ISO 14001:2004, BS 8555* and 3.2: *Describe the types of environmental impact.*

Although the question referred to a specific industry, some parts of a potential answer could relate to many industries. Answers were generally good although some candidates were unable to differentiate between aspects and impacts or failed to make clear which was which and to link the two as asked for in the question.

- Question 5**
- (a) **Identify FOUR** pollutants emitted to atmosphere that are linked to climate change. (4)
- (b) **Outline TWO** consequences of climate change and how they affect wildlife. (4)
-

This question related to Element 1 of the syllabus and assessed candidates' knowledge of learning outcome 1.1: *Outline the scope and nature of environmental management.*

Answers for part (a) were generally good with most candidates identifying relevant pollutants, although not all could identify four correctly. Part (b) required an outline linking the consequences of climate change and the impact on wildlife. Not all candidates answered this fully and some confused climate change with ozone depletion, which is a frequent mistake.

Question 6 *Outline the control hierarchy for air pollution emissions AND give TWO suitable examples for EACH stage.* (8)

This question related to Element 4 of the syllabus and assessed candidates' knowledge of learning outcome 4.3: *Outline control measures that are available to reduce emissions (to air).*

The control hierarchy is fundamental to managing emissions effectively and some candidates did not outline it or did not seem to know it at all. It was also important to give relevant examples and link them to the relevant stages of the hierarchy.

Question 7 *Outline FOUR different processes that may be used in the treatment of sewage or any other strong organic waste AND give the purpose of EACH process.* (8)

This question related to Element 5 of the syllabus and assessed candidates' knowledge of learning outcome 5.3: *Outline the main control measures that are available to reduce contamination of water sources.*

This question resulted in very variable responses. The good answers gave outlines of the methods for the removal of solids, BOD and other contaminants as well as sludge treatment in sufficient detail for an outline question. Candidates are expected to have a better understanding of this area of the syllabus.

Question 8 *Landfill has been the main disposal method for municipal waste for many years but this has been on the decline and this trend is expected to continue.*

(a) *Outline TWO reasons for this change.* (4)

(b) *Describe TWO alternative methods available for municipal waste disposal other than landfill.* (4)

This question related to Element 6 of the syllabus and assessed candidates' knowledge of learning outcome 6.4: *Describe outlets available for waste.*

Part (a) required an outline of the reasons for which some candidates did not provide sufficient detail. Otherwise this part was well answered. Similarly, in part (b), some candidates failed to give sufficient information about the alternatives for a 'describe' question. Candidates need to pay attention to the command words.

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- Question 9** *A construction project is being undertaken on a large construction site adjacent to residential houses.*
- (a) **Outline** the typical effects of noise during the construction work. (4)
- (b) **Identify** the environmental factors that determine whether noise from the construction site is likely to constitute a nuisance. (4)
-

This question related to Element 8 of the syllabus and assessed candidates' knowledge of learning outcome 8.1: *Describe the potential sources of environmental noise and their consequences.*

The effects of noise from construction works are basically the same as for other sources and most candidates answered well. A few candidates failed to gain marks in part (a) by referring to sources rather than effects.

In part (b), some candidates interpreted 'environmental' to just refer to topography, such as screening by trees and ignored other environmental factors or those associated with the noise itself, such as pitch.

- Question 10** *A manufacturing company operates at a site near to a stream.*
- Explain** why the preparation of an environmental emergency response plan would be advisable in this situation. (8)
-

This question related to Element 9 of the syllabus and assessed candidates' knowledge of learning outcomes 9.1: *Explain why emergency preparedness and response is essential to protect the environment* and 9.2: *Describe the measures that need to be in place when planning for emergencies.*

In questions about emergency planning, some candidates include a description of the contents of a plan rather than answer the question set. This was no exception. The purpose of the question was to assess understanding of the reasons for emergency planning bringing in only limited references to the contents of syllabus element 9.2. Even candidates who answered the question found it difficult to come up with enough reasons although, given the cost of emergency planning, there must be some compelling ones. This would appear to be another section of the syllabus that needs attention.

- Question 11** *An organisation is assessing its impacts on the environment and is consulting existing information.*
- (a) **Identify FOUR** internal sources of information. (4)
- (b) **Identify FOUR** external sources of information. (4)
-

This question related to Element 3 of the syllabus and assessed candidates' knowledge of learning outcome 3.3: *Identify the nature and key sources of environmental information.*

Most candidates gained good marks for both parts of this question.



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