

July 2014

Examiners' Report

NEBOSH International Diploma in Occupational Health and Safety (Unit IB)



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NEBOSH INTERNATIONAL DIPLOMA IN OCCUPATIONAL HEALTH AND SAFETY


UNIT IB: INTERNATIONAL CONTROL OF HAZARDOUS AGENTS IN THE WORKPLACE

JULY 2014



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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 50,000 candidates annually and are offered by over 600 course providers, with examinations taken in over 110 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 that applies best practice setting, assessment and marking and applies to Scottish Qualifications Authority (SQA) regulatory requirements.


This report provides guidance for 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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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 other 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, which is an essential requirement at Diploma level.

This report has been prepared to provide feedback on the standard date examination sitting in July 2014.

Feedback is presented in these key areas; examination technique, command words and learning outcomes and is designed to assist candidates and course providers prepare for future assessments in this unit.

Candidates and course providers will also benefit from use of the 'Guide to the NEBOSH International Diploma in Occupational Health and Safety' which is available via the NEBOSH website. In particular, the guide sets out in detail the syllabus content for Unit IB and tutor reference documents for each Element.

Additional guidance on command words is provided in 'Guidance on command words used in learning outcomes and question papers' which is also available via the NEBOSH website.

Candidates and course providers should also make reference to the Unit IB 'Example question paper and Examiners' feedback on expected answers' which provides example questions and details Examiners' expectations and typical areas of underperformance.

Candidate performance

This report covers the examination sitting in July 2014 which produced an overall pass rate of 41%.

Examination technique

The following examination techniques were identified as the main areas of improvement for candidates:

Produced an incoherent answer

Whilst many candidates wrote down a considerable amount, it sometimes lacked focus on the question being asked.

It is important to make sure that every word counts and that it is relevant to the question being asked.

Misread or misinterpreted the question

It is very easy under examination conditions to mis-read the question or assume it is the question you have seen before or the one you were hoping to get.

It is extremely important to read and analyse the question carefully.

Unnecessarily wrote the question down

Some candidates wrote the question down in their answer, this is not required and wastes valuable time.

Time would be better spent analysing the question (especially key words) and then planning a response.

Command words

The questions for this sitting most commonly used outline as the command word, but with one or two also using identify, describe, give and explain. In general, candidates for this sitting did not have much difficulty interpreting the different command words. In most cases the appropriate level of detail was given. This is very good to see, most candidates being able to see the level required from a combination of the command words, the marks available and the context of the question.

For additional guidance, please see NEBOSH's '*Guidance on command words*' document, which is available on our website: www.nebosh.org.uk/students/default.asp?cref=1345&ct=2.

Learning outcomes

Question 1 assessed learning outcome:

1.5 Explain the principles of epidemiology and the principles of deriving and applying toxicological data to the identification of work-related ill-health

Candidates are expected to be familiar with the different types of epidemiological study and the factors that influence their reliability. This continues to be an area of weakness, with many candidates struggling to recall much about techniques such as retrospective case control studies. Whilst some candidates can identify that such studies do try to look for a link between exposure and disease, there is still a good deal of confusion between retrospective and prospective approaches when it comes to how they are actually carried out and issues of data reliability. Candidates may therefore find it helpful to spend some time reviewing the differences between epidemiological techniques so they are much clearer when providing a suitable answer on a specific technique.

Question 2 assessed learning outcome:

3.2 Explain the various types of personal protective equipment (PPE) available for use with hazardous chemicals, their effectiveness, and the factors to consider in their selection

This learning outcome is concerned with PPE such as respiratory protection equipment, skin protection (chemically resistant gloves, overall and shoes/boots) and eye protection (chemically resistant goggles, face shields). Candidates are expected to know the principles involved in selection of appropriate PPE, including why it might not provide the idealised level of protection. In the main, candidates perform well in this area.

Question 3 assessed learning outcomes:

5.1 Explain the types and properties of biological agents found at work

5.2 Explain the assessment and control of risk from exposure to biological agents at work

The syllabus contains reference to a wide range of biological agents, such as MRSA and HIV. Candidates are required to be aware of the diseases that they cause as well as the typical ways of combating them. This includes knowledge of hazard grouping systems that help standardise control approaches.

This area was almost universally not well answered on this sitting, with candidates often confused between the sources, ill-health effects and effective control measures for the different organisms. The approach taken to answer questions based on these learning outcomes is often too generic. Whilst some control measures apply generally to just about everything (such as personal hygiene) some might be impractical or unnecessary (eg total enclosure/isolation of the patient). Instead candidates need to tailor their approach to the specific organisms/disease concerned.

Question 4 assessed learning outcome:

7.3 Explain the effects of exposure to ionising radiation, its measurement and control

Ionising radiation, how it is measured and controlled, is a core area of the syllabus. Some candidates do very well on these questions, demonstrating a good understanding of the basic physics. However, many candidates continue to be confused between ionising and non-ionising forms. Within ionising radiation, candidates are also confused between particulate and non-particulate (wave) varieties and also that different types of ionising radiation may require a different approach. For example, alpha radiation sources, for the most part, can effectively be treated as surface chemical contaminants because of their very limited ill-health potential if kept outside the body. Adopting a generic radiation control approach with such sources therefore is inappropriate.

Candidates therefore need to spend more time on this area to be clear on the differences, especially between ionising vs non-ionising and particulate vs wave.

Question 5 assessed learning outcome:

8.2 Explain the identification and control of workplace stress with reference to relevant standards

This learning outcome is concerned with how workplace stress is diagnosed and controlled. On the whole, candidates have few difficulties with this and are well able to identify stress indicators in the workplace, such as the levels of productivity and staff turnover. A few candidates confuse stress with drug and alcohol abuse. Although, obviously, one may lead to another, the two are not the same.

Question 6 assessed learning outcome:

10.4 Explain the provision for first aid in the workplace

Candidates are expected to be aware of what influences the decision on the level of first aid in the workplace. They are also expected to know what practical arrangements would be needed in a typical workplace.

Most candidates have no real difficulty with this area of the syllabus, as it is a common basic requirement of all workplaces of whatever size. However, candidates can sometimes get confused between the factors to consider (eg number of workers, risk profile) and the practical arrangements themselves (like first-aid boxes), so it is important to read the question carefully.

Question 7 assessed learning outcomes:

1.3 Describe the main effects and routes of attack of chemicals on the human body

2.2 Explain elimination of risk or control measures for chemicals which are hazardous to health

Learning outcome 1.3 does not usually present any problems for candidates, the entry routes being fairly self-evident. The syllabus entry also covers the body defence mechanisms, with specific mention of respiratory defences. Candidates tend only to go wrong in this area by including irrelevant detail – for example, if a question is restricted to the inhalation route, candidates may provide information on other routes too. This obviously gains no additional marks. Candidates should therefore read the question carefully to see if it is restricted to a specific route.

Learning outcome 2.2 requires candidates to understand and select an appropriate and effective range of control measures. This provides few problems to most candidates. Candidates tend only to go wrong by adopting a very general approach instead of an approach that would be practical for the substance or scenario given in the question.

Question 8 assessed learning outcome:

6.4 Explain the principles of controlling noise and noise exposure

This learning outcome requires candidates to have a good understanding of noise control approaches. Candidates are also expected to know how to select hearing protection, using methods such as SNR, HML and octave band analysis. These methods may require simple calculations. For some reason, candidates avoid answering these questions, where a calculation is involved, even though it is straightforward. This examination sitting was no exception. Candidates should revise the area of hearing protection selection so that they are confident to answer such questions in future.

Question 9 assessed learning outcomes:

- 4.1 Explain occupational exposure limits for airborne harmful substances, the basis upon which they are established, and their application to the workplace**
- 4.2 Outline the strategies, methods and equipment for the sampling and measurement of airborne harmful substances**

These closely related learning outcomes require candidates to be familiar with standards of airborne exposure. These are used to compare with workplace measurements to help determine the adequacy of control. There are well established methods and strategies for workplace measurements outlined in the syllabus and it is important to be familiar with these, as well as their limitations and sources of error.

Some candidates clearly understand this area very well but some clearly do not. Candidates who perform poorly tend to get confused between background vs personal exposure and also select inappropriate methods for measuring the contaminant concerned. For example, stain tube methods are not appropriate for measuring long-term *personal* exposure to *dusts*.

Candidates therefore need to be careful to appreciate that, whilst the measurement strategy can be generally applied, the measurement method needs to be appropriate to the contaminant type (eg gas/vapour vs dust).

Question 10 assessed learning outcome:

- 9.2 Explain the assessment and control of risks from repetitive activities, manual handling and poor posture**

This is an area of the syllabus that most candidates find accessible. This is because, ergonomic issues (manual handling, use of computers) are common to all workplaces. Candidates are expected to be able to identify such issues and formulate a range of solutions.

In general, candidates perform quite well in this area. If there is an issue it is sometimes in not reading the question carefully and adopting too broad an approach. Questions can sometimes require candidates to focus on hazards or on specific areas (such as the load characteristics, for manual handling), in which case providing information on ill-health conditions or the broader factors of task, individual or environment gains no further marks.

Candidates should therefore make sure that they analyse the question fully before they waste time providing irrelevant information.

Question 11 assessed learning outcome:

- 11.3 Outline the management of occupational health (including the practical and legal aspects)**

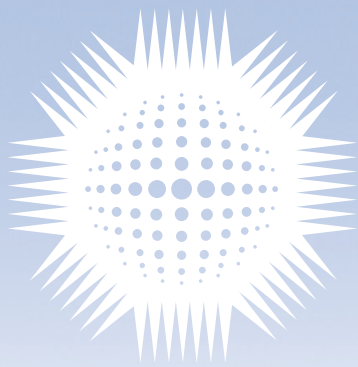
This part of the syllabus covers a broad range of issues, including the functions of an occupational health service and the specialists that might be needed.

Candidates typical weakness is adopting a general approach instead of restricting their answer to what would be practical in the scenario outlined in the question. Otherwise, candidates tend to do well in this area.

Conclusion

The feedback from Examiners highlighted that candidates taking the Unit IB examination in July 2014 needed most improvement in the areas of epidemiology, ionising radiation, hearing protection selection and airborne contaminant sampling methods.

With regard to examination technique, candidates sitting this examination should keep their answers focused on the question being asked (avoid irrelevant points). They should also take time to read and analyse questions properly to save them from answering a question that they hoped to get or had seen before.



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