
Examiners' Report

NEBOSH INTERNATIONAL DIPLOMA IN OCCUPATIONAL HEALTH AND SAFETY

UNIT IB: INTERNATIONAL CONTROL OF HAZARDOUS AGENTS IN THE WORKPLACE

JANUARY 2019



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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 50,000 candidates annually and are offered by over 600 course providers, with examinations taken in over 120 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) Accreditation regulatory requirements.

This report provides guidance for candidates and course providers for use 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 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 January 2019.

Feedback is presented in these key areas: responses to questions, examination technique and command words 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.

Unit IB

International control of hazardous agents in the workplace

- Question 1** Workers driving vehicles on a large construction site have reported back pain caused by exposure to whole body vibration (WBV).
- (a) **Outline** control measures that could minimise their exposure to WBV. (7)
- (b) **Outline** *other* possible work-related causes of the back pain being experienced by these workers. (3)
-

This question assessed candidates' knowledge and understanding of learning outcomes 6.6: Explain the effects of vibration on the individual; 6.8: Explain the principles and methods of controlling vibration and vibration exposure; and 9.1: Outline types, causes and relevant workplace examples of injuries and ill-health conditions associated with repetitive physical activities, manual handling and poor posture.

Overall, there was a good standard of answers to this question on whole body vibration (WBV). Marks available for part (a) were limited, with candidates' responses answering this question as if it was asking about hand-arm vibration syndrome (HAVS) rather than WBV. There was good attention to the requirements of the vehicles, particularly with regards to seating and conditions of roads. However, some answers required further clarification, such as the detail of the health and safety aspects of the training the drivers receive. There was reference to maintenance, but without the detail of what would need to be maintained to minimise WBV, such as vehicle suspension or seat suspension. Job rotation was mentioned frequently, but without stating that breaks from driving the vehicles could minimise exposure to WBV.

Candidates were awarded good marks for part (b) with a high proportion of candidates achieving the full three marks with good coverage of all points. Not all candidates mentioned the ergonomics of the controls in the vehicle cab and how the layout could possibly cause back pain. Some candidates did not recognise the question related to drivers of vehicles on construction sites and instead discussed the causes of back pain in other professions.

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- Question 2** A large manufacturing organisation operates from several temporary workplaces in various locations.
- (a) **Outline** what should be considered when assessing the basis of the first-aid provision at the temporary workplaces. (5)
- (b) **Outline** the arrangements for the provision of first aid at the temporary workplaces. (5)
-

This question assessed candidates' knowledge and understanding of learning outcome 10.4: Explain the provision for first aid in the workplace.

This question asked candidates to think about what needs to be considered when planning first-aid provision in temporary workplaces. Most of the considerations are the same as those when planning first-aid provision in any workplace, such as the nature of the work and the numbers of the workers involved and attention to the workforce with associated risk factors. The addition of the workplaces being in various locations required consideration of remote working and travelling between the sites.

Responses seem to indicate a misunderstanding between considerations and arrangements as candidates frequently mentioned arrangements in part (a) which led to candidates being unsure what was required of them in part (b) and therefore repeating their part (a) responses in part (b). However, for those candidates who were able to outline the arrangements for provision of first aid in these workplaces, the responses included provision of adequate numbers of suitable first aiders, the provision of training and the requirement for the first-aid room to be easily identifiable.

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- Question 3** Sailing instructors at a freshwater sports centre are at increased risk of contracting leptospirosis.
- (a) **Identify** ill-health effects associated with leptospirosis. (2)
 - (b) **Outline** the mode of transmission of leptospira for these sailing instructors. (2)
 - (c) **Outline** control measures the sailing instructors could take to minimise the risk of contracting leptospirosis. (6)
-

This question assessed candidates' knowledge and understanding of learning outcomes 5.1: Explain the types and properties of biological agents found at work; and 5.2: Explain the assessment and control of risk from deliberate and non-deliberate exposure to biological agents at work.

This question was not well answered due to many candidates confusing leptospirosis with Legionnaires' disease. Additionally, those candidates who understood the ill-health effects from being exposed to leptospira should be reminded to carefully read the command word and the maximum marks available. For those candidates who provided very detailed answers for part (a) the maximum marks available could still only be two.

Many candidates were able to mention 'flu-like symptoms', such as fever, headaches, chills, etc as an ill-health effect when answering part (a). However, few mentioned the other more specific symptoms associated with leptospirosis.

There were significant variations in answers for parts (b) and (c) where it was clear candidates had confused leptospira with legionella. If candidates had understood the health agent identified in the question, better responses to the modes of transmission and the control measures to reduce the risk would have been provided.

Leptospira bacteria is found in the water in which the sailing instructors work, from the urine of various animals, therefore transmission is via the bacteria entering the body through cuts, abrasions or mucous membranes.

In addition, those candidates who outlined the control measures an employer could take did not achieve maximum marks as the question states that the answers needed to outline the control measures that could be taken by the sailing instructors themselves. There was good recognition of minimising the time they spend in the water, the need to report signs of rats and to cover cuts and open abrasions, although the use of waterproof dressings was a common omission.

Question 4

Glass blowers use furnaces to produce molten glass that they then blow into shapes to make glasses and vases. During their work they are exposed to different types of non-ionising optical radiation.

- (a) **Identify** the possible ill-health effects to the glass blowers from exposure to the non-ionising optical radiation. (3)
 - (b) **Describe** the specific requirements of the personal protective equipment that would be required to protect the glass blowers from the non-ionising optical radiation. (3)
 - (c) *Other than* ill-health effects and control measures, **outline** what should be considered in a radiation risk assessment. (4)
-

This question assessed candidates' knowledge and understanding of learning outcomes 7.2: Explain the effects of exposure to non-ionising radiation, its measurement and control; 7.1: Outline the nature of the different types of ionising and non-ionising radiation; 3.4: Explain the effectiveness of various types of personal protective equipment (PPE) and the factors to consider in selection of PPE; and 10.1: Explain the need for, and factors involved in, the provision and maintenance of temperature in both moderate and extreme thermal environments.

This question signposted that glass blowers are exposed to different types of non-ionising optical radiation, however the responses provided showed candidates' confusion between non-ionising radiation and ionising radiation. Of those candidates who did understand non-ionising radiation, their responses showed a lack of depth and hence more generic answers, particular for part (c), were given.

Candidates had difficulty providing specific responses to part (a) and most marks were awarded for ill-health effects that are common to exposure to both non-ionising and ionising radiations, such as skin reddening and burns. Better answers identified specific ill-health effects from exposure to optical non-ionising radiation, such as skin cancers and eye damage in the form of cataracts and photoconjunctivitis.

Generally responses to part (b) were very limited due to candidates not understanding the different types of optical radiation to which workers should be protected. Some candidates did not appear to know what PPE was required and instead provided a list of lots of different types of PPE or discussed how PPE should be introduced/stored/used in the workplace. The question states that furnaces are used to produce molten glass, signposting that long-sleeved clothing to protect against ultraviolet radiation and leather gloves or gauntlets to protect the skin from infrared radiation would be required.

Part (c) required candidates to outline what would be thought about when producing a risk assessment for this work, however many candidates outlined control measures, which is not what the question asked for. This could be due to either lack of knowledge regarding how to complete a risk assessment, or not reading the question properly. A radiation risk assessment should include consideration of the level to which the worker is going to be exposed, comparison with any applicable exposure limits or values, the duration of exposure and how to protect particularly vulnerable groups.

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- Question 5** The UK Health and Safety Executive (HSE) identifies six stress Management Standards, one of which is *Change*. The requirement of this standard is that *'Employees indicate that the organisation engages them frequently when undergoing an organisational change'*.
- (a) An organisation is about to undergo a significant change.
- Outline** steps the organisation could take to help reduce the risk of workers suffering from work-related stress as a result of this change. (6)
- (b) **Identify TWO other** HSE stress Management Standards **AND give** the requirement for **EACH**. (4)
-

This question assessed candidates' knowledge and understanding of learning outcome 8.2: Explain the identification and control of workplace mental ill-health with reference to relevant standards.

This question was based on the HSE's stress Management Standards, which is clearly identified as requiring tuition time in the syllabus guide. Candidates generally understand the concept of stress and how to reduce its impact within the workplace when this topic is asked in a general/holistic expression. However, in this question, candidates had to understand the individual standards, which presented a problem to the majority in this sitting.

The responses to part (a) were limited, as despite being given the definition of the standard in the question, candidates provided general answers regarding stress management. Better answers identified the need to consult with staff and inform them of the need for change, the need to ensure that staff were aware of the impact upon their jobs along with the need to have a system whereby staff could raise questions, concerns, etc.

Some candidates did not attempt part (b) providing further indication of a lack of knowledge regarding the standards. The other standards that could have been identified were Demands, Control, Support, Relationships or Role.

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- Question 6**
- (a) **Outline** what is meant by the term *'biological monitoring'*. (2)
- (b) **Outline** circumstances in which biological monitoring may be appropriate. (4)
- (c) **Outline** difficulties an employer must overcome when introducing a programme of biological monitoring. (4)
-

This question assessed candidates' knowledge and understanding of learning outcome 4.3: Outline the principles of biological monitoring.

Part (a) required candidates to understand that biological monitoring is the measurement of hazardous substances or their metabolites in various media. This is a well-used and well defined term in health and safety and responses indicated candidates are not able to outline the term.

If candidates did not gain good marks in part (a), they often did not gain good marks in part (b). Some candidates did not attempt part (b) and those who did either displayed a detailed understanding and gained marks, or provided general answers that did not. Very few candidates were able to discuss the link between biological monitoring and an ill-health effect, that it is used as a complimentary technique to air monitoring or when information is required on the accumulated dose in the target organ.

Those candidates who had read the question carefully and made note of the command word were awarded more favourably in part (c), as a lot of candidates provided a list of words without the appropriate clarification. There was a good general understanding of consent, confidentiality, sample contamination and the need for specialists and cost implications.

Question 7

Workers in a busy restaurant frequently use hand-held trays to carry plates of food and drinks from the kitchen to the customers' tables. These hand-held trays can be heavy and unstable.

There are regular incidents where workers drop the trays.

To help reduce these incidents, the employer has decided to introduce non-powered trolleys, on wheels, that will be used by the restaurant workers to transport their customers' food and drink orders.

- (a) **Outline** what the employer should consider when *selecting* suitable non-powered trolleys for this task. (14)
 - (b) **Comment** on how this change could affect the manual handling risks to the workers. (3)
 - (c) **Comment** on how this change could affect other risks to the workers and to customers' safety and health. (3)
-

This question assessed candidates' knowledge and understanding of learning outcomes 9.1: Outline types, causes and relevant workplace examples of injuries and ill-health conditions associated with repetitive physical activities, manual handling and poor posture; and 9.2: Explain the assessment and control of risks from repetitive activities, manual handling and poor posture.

This question explores the candidate's ability to use their knowledge when solving a manual handling risk from carrying heavy trays in restaurants, and understanding that the solution must also be assessed to ensure all hazards and risks have been adequately controlled. It also requires candidates to think about the positive and negative impact of a change in the workplace.

In part (a) candidates were able to outline the need for consultation with staff and the use of trials of equipment. The height requirements of the trolleys, the suitability of the handles and the requirement for brakes were all discussed. There was also concern expressed regarding the type of wheels and floor or surfaces for stable and smooth running. Some candidates did begin to stray into the challenges introduction of the trolleys could create, which were asked in part (c); however, marks could not be awarded in this section.

Answers provided for part (b) showed that most candidates recognised that the trolleys reduced the risk of carrying trays, but did not recognise that the introduction of the trolleys presented a new manual handling risk. Some candidates responded with the risks of using the trolleys in the restaurant, such as bumping into customers, without answering the question posed with regard to the change of risk to the workers. This change could be positive, such as the reduction in carrying heavy trays; and negative, such as introducing a new risk from pulling/pushing the trolleys.

Part (c) also asked the candidates to comment on the change and similarly to part (b) the positives and negatives arising from the change were not always discussed. Candidates discussed the reduced risks of food being spilled on the floors and on staff/clients with a resultant reduction in risks of slips, trips and falls. There was little mention of increased risks associated with fire exits being blocked and risks of the trolleys moving on their own if not properly secured.

Question 8	Building maintenance workers use hot and cold methods to strip old paint containing lead from doors and windows. This produces dust, fume and vapour containing lead.	
(a)	Identify the specific health effects to the workers relating to working with lead.	(4)
(b)	Outline the requirements for health surveillance for workers who work with lead.	(4)
(c)	Workers have a general duty to comply with the health and safety measures put in place by their employers.	
	Outline what the workers should do to protect their health.	(12)

This question assessed candidates' knowledge and understanding of learning outcomes 3.2: Outline the specific requirements for working with asbestos and lead; 2.2: Explain the identification, classification and health effects of hazardous substances used in the workplace; and 2.3: Outline the factors to consider when undertaking assessment and evaluation of risks from hazardous substances.

This question about stripping of old lead paint was not well answered; however, it was a popular question.

This question provided candidates with a scenario involving lead fumes, dust and vapours and therefore required general knowledge of the hazards of working with lead, how to monitor for exposure levels through health surveillance and how to control exposure.

Responses to part (a) of this question were limited. Many candidates did not have an adequate knowledge of the specific health effects of lead poisoning and answered in very general terms, such as nausea and headaches. Some of the better answers identified some of the well-known health effects encountered with exposure to lead, such as anaemia, weight loss and nerve damage.

The responses to part (b) indicated some candidates had a limited understanding of the requirements of health surveillance. The purpose of health surveillance is to measure the amount of lead in the workers body and for lead, biological sampling is the only effective method. At regular intervals (every 3, 6 or 12 months) during the work, blood or urine samples are provided for analysis. This method of health surveillance is well documented in examples of studies into diseases of occupations who work with lead and those candidates who had studied this answered this question well.

Candidates appeared to frequently misread part (c) and responded with what actions the employer could take to protect their health from exposure to lead; however, the question asks what the worker should do to protect their health. The question also used the general duties on workers to comply with the health and safety measures put in place by their employers to provide a framework to help candidates answer the question. Some candidates discussed a hierarchy of controls that did not answer the question, while others displayed very basic awareness of the control of hazardous substances. Better answers outlined workers using their training, knowing what to do if potentially exposed, inspecting engineering controls prior to working with lead and reporting damaged or defective equipment. With reference to parts (a) and (b) candidates also discussed informing the employer if they experience any ill-health effects, attending health surveillance and providing biological samples.

Question 9	Human epidemiology and animal studies are methods that can be used to investigate whether a substance is carcinogenic.	
(a)	(i) Explain what is meant by the term ' <i>carcinogen</i> '.	(2)
	(ii) Outline the advantages and disadvantages of human epidemiology.	(5)
	(iii) Outline the advantages and disadvantages of animal studies.	(5)
(b)	Outline the control measures that should be in place in a workplace where a carcinogenic substance is used.	(8)

This question assessed candidates' knowledge and understanding of learning outcomes 2.2: Explain the identification, classification and health effects of hazardous substances used in the workplace; 2.4: Outline the role of epidemiology and toxicological testing; and 3.1: Explain the principles of prevention and control of exposure to hazardous substances (including carcinogens and mutagens).

This question examined the candidate's knowledge of two topic areas, carcinogens and epidemiology. Epidemiology studies are often carried out when exploring the health effects associated with exposure to carcinogens, with animal studies being particularly useful due to the unpredictable way in which carcinogens can affect human beings.

Part (a) was answered reasonably well, although some candidates attempting this question, while having good knowledge of animal studies, proceeded to imply human epidemiology was the testing of a substance directly on humans to investigate the effect in the same way in which animal studies are carried out. In (a) (i) most candidates explained that carcinogens cause cancer, but many did not achieve a second mark for inducing a tumour, promoting genetic mutations or increasing the rate of cell division. Human epidemiology appears not to be generally well understood; however, those who had a good knowledge discussed the disadvantages with sensitivity and specificity, lifestyle factors affecting the study, and the time consuming nature associated with human studies. Advantages included the retrospective nature and use of real experiences in populations.

In (a) (iii) candidates seemed to have a better understanding of animal studies in that it is a study set up in a laboratory where animals in the test group are exposed to carcinogens intentionally and the effects observed and recorded. There was a good general understanding that an advantage is that laboratory animals have very similar or identical biochemistry to humans; however, the ethical considerations are a disadvantage.

Responses provided for part (b) were to a better standard with outlines of a managed hierarchical approach being discussed and the candidates having sufficient understanding and experience to draw conclusions from similar circumstances with hazardous substances. Many candidates were able to discuss procedures for time limitation, reduction in numbers of people exposed, prohibition of eating drinking and smoking in working areas and the need for segregation of contaminated clothing. A lesser number of candidates discussed engineering/process controls, such as total enclosure, segregation or local exhaust ventilation (LEV). Although a considerable number of candidates outlined the use of PPE, it was often in the context of routine use rather than as a temporary expedient until risk was removed or eliminated.

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- Question 10**
- (a) A machine operator works at a number of different machines during each 8-hour working day.
- (i) **Describe** how static measurements of sound pressure level can be made while the operator is operating the machines. (4)
- (ii) **Explain** how to determine the daily personal noise exposure ($L_{EP,d}$) for the operator from the static measurements of these sound pressure levels. (3)
- (b) The result of a personal dosimetry measurement of noise exposure for this operator on a similar working day provides an $L_{EP,d}$ that is 4 dB(A) greater than that determined in part (a).
- Other than* equipment errors, **outline** possible reasons for the difference. (3)
- (c) **Outline** the possible technical control measures that could be introduced to help reduce the workers' exposure to the noise. (10)
-

This question assessed candidates' knowledge and understanding of learning outcomes 6.1: Explain the basic physical concepts relevant to noise; 6.3: Explain the measurement and assessment of noise exposure; and 6.4: Explain the principles and methods of controlling noise and noise exposure.

This question explores the concept of measuring noise in the workplace, understanding how to determine daily personal noise exposure and the potential reasons for differences between personal and static measurements. It also asks candidates to think about the technical control measures that can be used to reduce noise exposure in a workplace.

In part (a) candidates appeared to be confused about how to measure personal noise exposure. While the question clearly states the requirement for static measurement, some candidates provided responses indicating they had dosimeters in mind. The command words are 'describe' and 'explain'; however, candidates did not demonstrate they had the breadth and depth of knowledge relating to how to take static measurements and how to determine daily personal noise exposure. Some candidates were able to specify that the static measurements are taken at the operating positions with the microphone as close to the operator's head as possible, but no discussion of the choice of sound level meter or the measurements that are taken. As some candidates did not understand how to take static measurements of sound pressure they were unable to demonstrate how those measurements are used to determine daily personal noise exposure. Those who clearly understood noise measurement were able to discuss the use of a formula or ready reckoner to convert exposure to points, add the points together and convert back into a value in dB(A).

Candidates answering part (b) were generally unable to discuss reasonable suggestions to account for the discrepancy between static and personal dosimetry results.

Better answers commented on the operator's actual position relative to the sound measurement, different machines and materials giving variable sound outputs and the impact of other sound outputs in the workplace. There was little or no mention of wrong estimation of times spent by the operator at different machines.

Answers to part (c) included a number of generic responses, lacking in specific detail with many candidates who answered this question discussing administrative and procedural controls, rather than technical controls stated in the question. Answers were limited in scope, with a narrow range of suggestions, however suggestions to replace older and noisier equipment with newer, quieter machines, isolation and segregation of noisy equipment, the use of acoustic screens or enclosures and use of rubber or sprung mounts for the equipment were awarded marks. Any reference to hearing protection did not include reference that it was a last resort, or that it should be chosen based on octave band analysis measurements.

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- Question 11** An employer has an occupational health department that carries out vocational rehabilitation.
- (a) **Outline** the meaning of the term '*vocational rehabilitation*'. (2)
- (b) **Outline** the benefits of vocational rehabilitation to:
- (i) the employer; (4)
- (ii) a worker. (4)
- (c) A worker is required to take 12 months away from their work to receive treatment for a long-term medical condition.
- Outline** what the employer can do to assist the worker **BOTH** during the absence and at the time of their return to work. (10)
-

This question assessed candidates' knowledge and understanding of learning outcome 1.2: Outline the principles and benefits of vocational rehabilitation including the role of outside support agencies.

This question required candidates to have knowledge and understanding of what vocational rehabilitation is, how recognising it could be of benefit to both employer and worker, and to know what an employer could do to practically implement it into their organisation.

Part (a) required candidates to know what the term '*vocational rehabilitation*' means. Candidates were able to provide a response answer that included whatever helps someone return to work or remain in work following an absence or injury. A few were able to go on to state that it includes provision of support or access to treatment and some responses included that this might involve psychological support and overcoming physical barriers such as a new disability. Some common pitfalls were to drift off into answering part (b) and candidates are reminded to read and re-read the whole question prior to providing a response and to pay attention to the marks available.

There was some confusion between the benefits to the employer versus the benefits to the worker and candidates were generally better able to provide responses to the latter. Candidates were able to more easily discuss the direct benefits such as in part (b) (i) benefits to the employer, reduction of costs due to sickness absence with improved productivity. A few candidates were able to discuss benefits such as improved morale of the workforce. Answers to part (b) (ii) benefits to the worker, were better, with candidates able to envisage the scenario relating to a rehabilitated worker. Responses provided included that the worker would receive support during their return to work and as they remained in work. They were also able to outline that they would receive a full salary. Aside from the financial benefits, there was little awareness of the psychological benefits to the worker of the rehabilitation process such as interaction with other workers increasing their sense of belonging, self-worth and work satisfaction. Some candidates were able to see the benefits of the care expressed by an employer.

Answers to part (c) of the question were limited. Candidates did not demonstrate a depth of understanding of the topic, therefore not providing a breadth of responses and instead focused on the financial issues and return to work interview process. Candidates discussed the need for a phased return to work with adjusted duties and hours in the early stages of the rehabilitation process. This encompassed adjustment to working hours and work patterns.

Better answers explored the different elements that make up the return to work process and took into account the need for additional equipment, medical appointments and in some cases, homeworking/flexible working arrangements. Most candidates were not able to appreciate the strategic management approach adopted by the employer, such as the need for a single point of contact and to work with others in the organisation in planning the return to work. There were also few responses that represented the administrative arrangements and principals such as gaining consent and the relevance of keeping records and reviewing risk assessments.

Examination technique

The following examination techniques are consistently identified as the main areas in need of improvement for candidates:

Candidates misread/misinterpreted the question

Careful and thorough preparation for the examination is vital for candidates. Accredited course providers should assist candidates in setting out and applying sound revision and examination practice and preparation techniques to ensure that they are well prepared for the examination. This includes ensuring that candidates carefully read the question to determine exactly what is being asked and answer accordingly.

Examiners noted that there was evidence of candidates not understanding the question that was asked and therefore providing an answer that was not relevant to the question.

The range of English language skills demonstrated in the examination by candidates varies enormously. Examiners often find themselves faced with scripts where candidates do not appear to have understood the question and struggle to write a coherent answer in English. Candidates for this examination should satisfy the required IELTS Level 7 language requirements. Course providers are reminded that it is incumbent on them to provide appropriate advice and guidance to candidates to help ensure that they stand a reasonable chance of success in the study of the NEBOSH Diploma.

There were numerous examples of quite long, detailed answers that suggest practical experience but do not focus on the question being asked. This may be a result of candidates either not reading the question properly, or because of possible language issues where candidates do not understand what the question is asking.

The examination is assessing candidates on their understanding of 'managing' health and safety and a number of candidates did not seem to grasp this resulting in long, detailed answers on such issues as 'what to look for in an audit' rather than how to prepare for and manage an audit.

Examiners ask questions based on the syllabus. Points, no matter how valid, but unrelated to the question being asked, will not attract any marks. Candidates should note that where there is emphasis in a question (eg by the use of italics) it is to guide candidates towards a particular point. Reading and re-reading the question encompasses taking due note of this emphasis.

Candidates' handwriting was illegible

The examination situation is a stressful time for candidates and while the examination is not a test of the English language or handwriting, scripts must be legible for Examiners to mark them fairly. As the examination progresses, candidates can become both mentally and physically tired. In an increasingly electronic age, professional people do not have the same need to write text in longhand. However, to pass this examination it is an essential and necessary part of the preparation to rehearse writing questions in full and in the time allocated.

When practicing examination technique, candidates should hand-write their answers and get feedback from their course providers on legibility (as well as how they performed).

Course providers need to identify those candidates whose handwriting is illegible and provide them with appropriate advice. Examiners cannot award marks for answers that they are unable to read.

Candidates unnecessarily wrote the question down

There are 15 minutes to answer a 10-mark question in Section A and 30 minutes available to answer a 20-mark question in Section B of the question paper. This time will be required for reading, re-reading and understanding the question, developing an answer plan on the answer booklet and finally committing the answer to the answer booklet. The efficient use of time is essential in order to answer the 9 questions within the 3 hours available. The majority of Examiners reported that candidates felt it necessary to write the question out in full, before providing the associated answer, and this limits the time available. Course providers should remind candidates that it is not necessary to include a question with their answer.

Good examination technique is followed where the candidate frames the answer in the context of the question, rather than rewriting the whole of the question. As with the other examination technique points above, good examination technique is developed through practice and good preparation.

Candidates repeated the same point but in different ways

In some cases candidates tended to make the same point more than once, eg training. Once a valid point has been made and the mark awarded Examiners will not be able to award the mark again. Unless otherwise stated, most questions require candidates to respond with a wide range of issues to gain high marks. Consequently candidates should take care when using terms that contain numerous points that should be made separately.

Accredited course providers should brief candidates on examination technique by way of understanding what points are mark worthy in an answer and those that are not.

Candidates did not respond effectively to the command word

A key indicator in an examination question will be the command word, which is always given in **bold** typeface. The command word will indicate the depth of answer that is expected by the candidate.

Generally, there has been an improvement in response to command words, but a number of candidates continue to produce answers that are little more than a list even when the command word requires a more detailed level of response, such as 'outline' or 'explain'. This is specifically addressed in the following section dealing with command words, most commonly failure to provide sufficient content to constitute an 'outline' was noted. Failure to respond to the relevant command word in context was also a frequent problem hence information inappropriate to the question was often given.

Course exercises should guide candidates to assessing the relevant points in any given scenario such that they are able to apply the relevant syllabus elements within the command word remit.

Candidates provided rote-learned responses that did not fit the question

Examiners report a high incidence of candidates writing down answers they have memorised from previous Examiners' Reports. These answers often relate to a similar, but different question, to which the memorised answer is not wholly applicable. For example, it may require a different aspect of the topic or relate to a different scenario.

Candidates are expected to apply their knowledge and understanding to the actual question given, not the question they think they see. This is why it is extremely important that candidates understand and are able to apply their knowledge, and not just memorise. Course providers should help candidates apply their knowledge to a range of different scenarios to aid understanding of the topic.

Candidates did not allocate enough time to the question

Some candidates were unable to give answers of sufficient depth to warrant good marks and sometimes spent more time on questions carrying fewer marks than was warranted by the command word.

Candidates need to take note of the fact that answers in Section A are worth 10 marks and those in Section B are worth 20 marks. The Examiners' expectation is that more detailed answers are required in Section B. Some candidates spend a disproportionate amount of time in writing long answers to Section A questions at the expense of time spent on the more in-depth answers demanded in Section B. Proper preparation and 'mock' examinations can help to correct this.

Accredited course providers should ensure that candidates are given adequate opportunity to develop examination skills to ensure that answers are provided to the depth and breadth required.

Structured Answers

It is important for candidates to structure their answers as this helps cover all the requirements of the question without losing focus. It is good examination technique to look for the principles or the concepts that underpin the topic and to use those as a basis for delivering a structured answer.

Candidates answered by posing a question

Candidates need to resist the temptation to present their answers as merely a series of questions. 'Outline' requires candidates *'To indicate the principal features or different parts of'* and this is not done through posing questions to the Examiners.

Command words

Please note that the examples used here are for the purpose of explanation only.

The following command words are listed in the order identified as being the most challenging for candidates:

Outline

Outline: To indicate the principal features or different parts of.

Most candidates are familiar with the requirements of 'outline'. However, a number of candidates expect that by listing or giving bullet points that will be sufficient. At this level of qualification candidates are expected to be able to construct sentences around their answers.

An 'outline' question requires candidates to give the main issue and then provide the key features in the context of the question. Where a question that requires candidates to '**outline** the issues to be addressed in the development of an audit system' the response should provide adequate context to the issues in order to gain the marks. An answer that merely includes issues such as 'scope, training, commitment, etc' will not gain good marks since while the issues are relevant there is no context to the issues in relation to the question asked.

Candidates should provide context to the point being made to demonstrate understanding of the subject.

As required by a Diploma level qualification candidates should be able to demonstrate a detailed understanding of the subject matter and therefore be able to summarise and contextualise technical points in the field of health and safety. Those candidates who did provide good outlines to questions demonstrated understanding of the topic without going into too much detail.

If asked to '**outline** the purpose of local exhaust ventilation' in a given scenario, an answer such as 'contaminant removal, exposure limits' would be insufficient as this represents a listed answer. However, removal of contaminant at source (as far as possible) and ensuring exposure limits are not exceeded would higher gain marks.

If asked to '**outline** how health risks from exposure to lead should be managed...' in a given scenario, an answer such as medical tests, PPE, RPE would be insufficient as this represents a listed answer. However, surveillance tests for lead in blood/urine, the use of PPE such as overalls, the use of RPE such as respirator with appropriate particulate/fume filters would gain marks.

Explain

Explain: To provide an understanding. To make an idea or relationship clear.

Many candidates are still not properly prepared for this command word. A list of points (no matter how relevant) will not satisfy Examiners when the command word is 'explain'. So for example, where candidates were asked to explain the circumstances where heat and smoke detectors would be inappropriate, Examiners were looking for candidates to explain that heat detectors would be inappropriate in environments where temperatures fluctuate suddenly during normal work activities. Just saying 'workshops', for example, is not enough to provide an answer to an 'explain' question.

Commonly, candidates do not provide adequate detail in relation to this command word, eg '**explain** limitations of relying on accident numbers only as a measure of health and safety performance'. An appropriate response would provide the reader with reasons why relying solely on accident numbers would not provide a comprehensive view of the organisational performance in health and safety, eg accident numbers do not indicate incidence of ill-health and accident data may go up following initiatives following underreporting, etc.

Candidates are generally unable to provide clear answers where this command word is used but that may be due to lack of knowledge rather than not understanding what is required, since an explanation requires the candidate to provide reasoning for their answer. For example, when a question specifies 'explain' the candidate is required to provide an understanding or make clear an idea or relationship. For example '**explain** how malaria is transmitted to humans'. If a candidate responded with *mosquito bites humans* this would be insufficient to merit full marks as this does not provide a deep enough understanding or relationship from the specified command word or the context in which the question is asked. However, a candidate would get full marks if they elaborated on this stating that the disease originates with the plasmodium parasite that is then transmitted to humans via a bite from a feeding female mosquito that carries it; the parasite then transferring to the human blood stream, travelling to the liver.

Describe

'Describe. To give a detailed written account of the distinctive features of a subject. The account should be factual without any attempt to explain.'

Candidates are required to provide a word picture in response to this command word and therefore the candidate needs to have a good understanding of the subject of the question in the examination in order to gain good marks. Typically, a limited response to this command word will be an inadequate amount of detail in the answer.

For example, when asked to describe the contents of a safety policy candidates should provide the Examiner with relevant information about the contents of the policy, eg 'the policy should contain details of the organisational commitment to health and safety'. This would be supported with specific targets and commitment resource to ensuring compliance as a minimum but developing the health and wellbeing of the employees, etc'. An answer that goes no further than listing the subjects of to be covered in the policy would not attract good marks in the examination.

In the examination, lists and single word answers will rarely satisfy the requirement of the Examiners in terms of answering the question at this level. It is noticeable that the well prepared candidate has less trouble deciphering command words and tends to gain good marks whereas those candidates who use single word answers will tend not to have the knowledge to write anything further in the context that is required.

Give

Give: Only a short answer is required, not an explanation or a description.

'Give' is normally used in conjunction with a further requirement, such as '**give** the meaning of' or '**give** an example in **EACH** case'.

In some circumstances candidates may spend too much time giving unrequired detail in response to this command word. It is often used in conjunction with the meaning of a phrase or statement and candidates can over-elaborate the required answer. Time management is important in the examination and candidates should ensure that they respond with appropriate brevity where the command word and available marks suggest that is all that is required.

When asked to '**give** the meaning of motivation', it would appropriate to say that 'motivation is the driving force that leads an individual to behave in a certain way'. It would not be appropriate to discuss in detail different motivational theories.

On the whole most candidates respond well to this command word, often by offering a definition. There is evidence where candidates go into too much detail that left those candidates writing large amounts of text for very few marks.

Identify

Identify: To give a reference to an item, which could be its name or title.

As with 'give' above it is not uncommon for candidates to over-elaborate their answers in response to this command word. It is adequate for a candidate to provide the key point to the Examiner without further developing the point with supporting theory or examples unless they are specifically asked for.

When providing a response to 'identify' the mental selection and naming of an answer that relates to the question should be sufficient. In most cases, one or two words would be sufficient to be awarded corresponding marks. Any further detail would not be required and impacts negatively on the time limit for completing the examination. For example, if the question was '**identify** possible effects on the body when someone is exposed to lead' suitable responses would include developmental effects in unborn babies, anaemia, nausea/vomiting in order to be awarded a mark.

For additional guidance, please see NEBOSH's '*Guidance on command words used in learning outcomes and question papers*' document, which is available on our website: <https://www.nebosh.org.uk/i-am/a-student/> - from this page the document can be found by clicking on the relevant Qualification link, then on the 'Resources' tab.