

July 2016

Examiners' Report

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



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NEBOSH INTERNATIONAL DIPLOMA IN OCCUPATIONAL HEALTH AND SAFETY

UNIT IB: INTERNATIONAL CONTROL OF HAZARDOUS AGENTS IN THE WORKPLACE

JULY 2016



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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) 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 July 2016.

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.

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.

Unit IB

International control of hazardous agents in the workplace

Question 1 *An organisation is considering the substitution of a solvent that it currently uses for one that is thought to be more effective.*

Outline factors that should be considered before a decision is taken to make the change.

(10)

This question assessed candidates' knowledge of learning outcome 2.1: Outline the factors to consider when assessing risks from chemicals which are hazardous to health.

The question was mainly about reviewing a hazardous substance risk assessment when changing one chemical for another. The question is fairly open - nothing was said about whether the proposed chemical could have been more or less hazardous, or whether it would have resulted in a change to the process conditions. Most candidates therefore found this question quite straightforward. Candidates were able to recognise that information about the chemical itself would need to be considered and that this would be contained within the safety data sheet. This would provide data such as health effects of the substitute, physical properties (volatility, flammability), exposure limits and routes of entry. Candidates were also usually able to identify issues such as the amounts in use, frequency and duration of exposure.

Subsequently most candidates performed quite well. If there was a downfall, it was that candidates provided only a very narrow range of issues and some did little more than list these rather than outline. Other issues that were sometimes not considered were the different control measures that might be required, including PPE/RPE and the practical issues related to their maintenance (including different cost). There might also be very different storage, emergency and disposal arrangements needed.

Question 2 *Workers are exposed to high levels of heat and steam from a manufacturing process.*

(a) **Identify TWO** parameters that could be measured when making an assessment of the thermal environment **AND**, in **EACH** case, **give** the name of an instrument that can be used to measure this parameter.

(2)

(b) **Outline** ways of reducing thermal stress among workers during the manufacturing process.

(8)

This question assessed candidates' knowledge of learning outcome 10.1: Explain the need for, and factors involved in, the provision and maintenance of thermal comfort in the work environment.

Some candidates were not precise enough in answering part (a) of this question. For the parameters, there were sometimes vague references to 'temperature' instead of, for example 'ambient temperature' or 'air temperature'. For instruments, there were references to 'thermometer' instead of 'black globe thermometer' or 'alcohol thermometer' or 'kata thermometer'. The parameter and the instrument also needed to be connected. Separate listing without a clear connection between parameter and instrument did not gain marks.

Part (b) was generally well answered. Candidates outlined a good range of ways of reducing thermal stress including reducing heat output at source, ventilation, work breaks, provision of drinks for workers, as well as health surveillance and acclimatisation.

Question 3 ***Identify** functions that may be carried out by an occupational health service in a large manufacturing organisation.* **(10)**

This question assessed candidates' knowledge of learning outcome 11.3: Outline the management of occupational health (including the practical and legal aspects).

Candidates usually gained good marks on this question, easily identifying employment screening, rehabilitation treatment, counselling, absence monitoring, health education, immunisation, and training amongst many others that you would expect in a large manufacturing organisation. Some candidates misread the question and instead listed members of the occupational health team rather than functions that the service would perform. Once again this highlights the need to read and re-read the question carefully.

Question 4 *An organisation has decided to close its offices and to allow its 30 workers to work from home. The organisation will provide workers with their own laptop (portable computer) for use at home and on their daily visits to customers.*

***Outline** factors that should be considered in order to minimise ergonomic risks in the selection and use of these laptops.* **(10)**

This question assessed candidates' knowledge 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.

Some candidates misinterpreted this question and assumed a general question about display screen equipment risk assessments. While a general display screen equipment risk assessment approach would get some of the way there, ignoring the specific scenario tended to overly focus on detailed issues to do with the chair, desk, lighting, glare and comfort and ignore some of the constraints of working from home and use while visiting customers.

For use on the move, the laptop needed to have things such as an optimum screen size, low weight (but balanced against screen size and battery life) and lightweight case. When used at home, ideally you should consider separate mouse, keyboard and screen and other equipment. It is also a good idea to involve users in selection of equipment. Most candidates were able to outline factors associated with the equipment itself but often missed issues associated with risk assessments and training. As well as equipment issues to consider, existing risk assessments (DSE and manual handling) for these users would need revising and they would need to be trained on particular aspects like risk assessing their own workstations at home (or dynamically when on the move) and how to minimise the ergonomic risks while they are using them.

Question 5

A local exhaust ventilation (LEV) system is used to reduce exposure of workers to dust in a workplace. The employer needs to assess the ongoing effectiveness of the LEV system.

- (a) **Identify THREE** simple qualitative methods that can be used to assess the effectiveness of the LEV system **AND**, for **EACH** method, **explain** how the effectiveness can be visually assessed. (6)
- (b) **Identify TWO** quantitative methods that can be used to measure transport velocity in an LEV system **AND explain** how **EACH** method measures the transport velocity. (4)
-

This question assessed candidates' knowledge of learning outcome 3.1: Explain the purpose and operation of local exhaust ventilation and dilution ventilation including assessing and maintaining effectiveness.

This question was generally answered quite well. For part (a) candidates needed to connect the method with the explanation to gain full marks. Candidates were able to identify methods such as Tyndall lamps (which make fine particles easily visible), smoke tubes (which show the air flow) and simple observation of components that can show build-up of dust deposits.

For part (b) quantitative methods included use of thermal anemometers, pitot-static tubes and swinging vane anemometers. In each case, each method needed to be explained.

Some candidates had difficulty distinguishing between qualitative and quantitative methods and so confused techniques that were required for parts (a) and (b) - some candidates providing the same examples for both parts. In part (b) some candidates also missed that the question was about the measurement of transport velocity and so suggested methods that would be unsuitable.

Question 6

A contractor has been hired to examine the quality of a weld repair to a metal pipe on a chemical plant. It has been decided that on-site radiography, using either gamma or X-ray sources, is the only practical option in this case.

Outline suitable measures to control the risk of exposure to radiation from the examination work. (10)

This question assessed candidates' knowledge of learning outcome 7.3: Explain the effects of exposure to ionising radiation, its measurement and control.

This question was not well answered, illustrating again the confusion that many candidates appear to have about radiation (ionising vs non-ionising) and the problem of applying knowledge to the specific scenario.

Some candidates adopted an approach that was too generic - time, distance, shielding. This works only if you remember to also apply it to the scenario. As a result, some candidates suggested impractical solutions such as placing the metal pipe in a glove box. Having said that, most candidates were able to outline measures such as using competent advice (Radiation Protection Officers), competent contracts, proper planning of the job, safe systems of work, localised shielding and restricting access to the job site during the examination. Also relevant were maintaining the equipment in a good state of repair, monitoring (dose monitoring of the radiographers, area monitoring, activity monitoring of equipment) and making sure the monitoring equipment itself was calibrated and well-maintained.

Question 7	<i>Construction workers use a range of equipment and vehicles that may expose them to high levels of vibration.</i>	
(a)	Outline <i>issues that a vibration risk assessment should consider.</i>	(8)
(b)	Outline <i>practical measures to prevent or control exposure to vibration for these workers.</i>	(12)

This question assessed candidates' knowledge of learning outcomes 6.8: Explain the principles of controlling vibration and vibration exposure; and 6.7: Explain the measurement and assessment of vibration exposure.

This was a very popular question and explored the combined issues of hand-arm vibration (HAV) and whole body vibration (WBV) on construction sites. It was well answered in many cases. However, some candidates continue to provide more of a list than an outline, and do not connect the practical measure with what it is trying to achieve. For example, stating that "old equipment should be replaced" as an option is of little value unless the point is made about replacing them with ones of lower vibration output.

Vibration risk assessments will need to consider a range of issues including identification of the sources and tasks producing the vibration, together with their actual (measured) or expected (estimated) emission levels, any exposure limits that might be relevant, duration of exposure (trigger time), whether the vibration is WBV or HAV and the environmental conditions (exposure to cold, particularly for HAV).

General control measures could have included alternative work methods, making sure the vehicle or tool were powerful enough (to shorten the task), selecting/replacing equipment for lower vibration characteristics, limiting exposure duration and referral of those experiencing symptoms of HAVS or WBV effects to occupational health specialists for evaluation.

For HAV, specific measures might also include modifying the workstation design to minimise load on wrists and providing warm clothing (including gloves) to protect from cold/wet environments and aid good circulation. Vehicle-specific measures would include adjusting the vehicle speed to the ground conditions (to avoid sharp jolts) and making sure the vehicle seat was properly adjusted to avoid 'bottoming out' of the suspension.

There is a persistent belief amongst candidates of the universal value of 'anti-vibration' gloves. While these exist (and indeed there is an international standard for them), current evidence suggests they have very limited application, being effective only in very specific cases (though this may change as technology advances). These gloves cannot currently be recommended as a general solution as they have considerable limitations (and may indeed make things worse if you fail to appreciate the limitations).

Question 8

In a chemical process, workers use a mixture composed of several liquid substances. One of the components, designated DTJH, is classified as a sensitiser under the GHS system. Table 1 below shows the average personal exposure levels to DTJH for one worker measured over an 8-hour day and Table 2 shows the exposure limits for DTJH.

Table 1

Task carried out by worker	Duration of task	Exposure to DTJH (ppm)
Measuring out and adding mixture to process vessel	15 minutes	140
Adding other components to the mix	1 hour	50
Supervision of mixing	2 hours	70
Transfer of product to containers	2 hours	80

Assume that exposure is zero at all other times.

Table 2

Exposure limits for DTJH	
Long-term exposure limit (8-hour TWA limit reference period)	Short-term exposure limit (15-minute reference period)
50	100

- (a) **Outline** the process of hazard classification under the GHS system. (2)
- (b) **Outline** what is meant by 'sensitiser' under the GHS system. (4)
- (c) Using the information in Table 1, **calculate** the 8-hour time-weighted average (TWA) exposure of the worker to DTJH. (6)
Your answer should include detailed working to show that you understand how the exposure is determined.
- (d) Using relevant information from Tables 1 and 2, **explain** what actions might be required by the employer to control exposure. (8)

This question assessed candidates' knowledge of learning outcomes 1.4: Explain the health effects of chemicals used in the workplace; and 4.1: Explain occupational exposure limits for airborne harmful substances, the basis upon which they are established, and their application to the workplace.

This question was not a popular choice. Most candidates who attempted it fared reasonably well in part (c) (the calculation), but did not appear to have an understanding of the GHS classification system or what a sensitiser was. Part (d) often provided a narrow range of answers, particularly deficient being the interpretation of the calculated result when compared to the exposure limits.

Hazard classification under the GHS system involves a two-step process. Firstly, relevant hazard data is identified and reviewed. This data is either already available or from further tests that are commissioned. In both cases it is necessary to use data from standard test methods. This data is then compared to GHS classification criteria for the various hazard categories.

A sensitiser causes an allergic response - which can be either skin or respiratory. Sensitisation occurs in two phases, the initial contact with the sensitiser may produce only mild effects but subsequent exposure of even small amounts may produce an extreme reaction.

Part (c) required a straightforward calculation, but it was important to show working to gain full marks. Each time period from the table is converted to the same units - hours in this case (so 15 minutes becomes 0.25 hours and so on). The time period and its associated exposure level are multiplied together, all of these products are then added and finally divided by 8 (hours). The result is calculated as 48.125 ppm (values rounded down to 48ppm were accepted).

Part (d) required candidates to explain the actions that might be needed. Candidates needed to firstly note the significance of the calculated result compared to the exposure limits. The calculated value is below the LTEL but very close to it. It is quite likely that on other days or for other workers, the value may be exceeded, so more detailed measurements should be carried out. The STEL is exceeded and some action is needed during the measuring stage. Candidates were also expected to note that since this involves a sensitiser (where even small amounts could cause an allergic reaction), you should try to reduce exposure to as low as possible (regardless of the LTEL/STEL). Candidates were then expected to outline a range of control options, such as substitution, process change, LEV.

Question 9 *Hospital nurses are at risk from work-related violence when they are required to visit patients in their own homes.*

(a) **Outline** a strategy that the hospital management should have in place in order to manage work-related violence. (10)

(b) **Describe** a range of practical measures that the nurses can put in place to help reduce the risk of violence when making visits to patients. (10)

This question assessed candidates' knowledge of learning outcome 8.4: Explain the identification and control of work-related violence/aggression with reference to relevant standards.

Some candidates answered this question as if it were about patients visiting a hospital rather than nurses conducting home visits, while some continue to confuse strategy and practical measures in answering part (a).

Part (a) required answers that included having a policy in place with clear statements of attitude to work-related violence and with support for legal action for victims of such violence. The strategy should make sure responsibilities are outlined, identifying specific individuals and roles. There should be specific support mechanisms (including counseling). It is important to identify who is at risk of violence and to make sure risk assessments are carried out where indicated. There will need to be systems for reporting, recording and investigating incidents and training on how to deal with potentially violent situations.

Part (b) was usually well answered, candidates providing answers that included informing colleagues of times of visits, checking out patient history before the visit (specifically looking for history of violence), carrying mobile phones to contact the office, avoiding confrontation and so on.

Question 10	<i>A worker at a large organisation has recently been diagnosed with the bacterial infection Legionnaire's disease.</i>	
(a)	Outline the signs and symptoms of Legionnaire's disease.	(4)
(b)	Outline factors that may have contributed to the worker being exposed to the bacterium and contracting the disease.	(8)
(c)	Outline practical measures that the organisation should put in place to help reduce the risk of future outbreaks.	(8)

This question assessed candidates' knowledge of learning outcome 5.2: Explain the assessment and control of risk from exposure to biological agents at work.

Many candidates were able to provide reasonable answers, but often only a narrow range was provided, restricting the marks. Some candidates confused this disease with leptospirosis and so gained few marks. Some candidates did recognise legionnaires' disease but also seemed to think it was contagious, spreading from person to person (which it does not) and so recommended extreme controls such as self-contained breathing apparatus.

Legionnaires' disease produces flu-like symptoms as well as confusion, respiratory failure and eventually death in some cases.

The bacterium grows best in warm (25°C - 45°C) stagnant water that contains nutrients (organic material, sludge). If people inhale airborne water droplets containing viable legionella bacteria, they can contract the disease. Marks were available for identifying typical sources such as spa baths (jacuzzis) and cooling towers. Certain groups of people are at particular risk.

Practical measures include detailed risk assessment to identify potential sources and people at risk, water system tested, inspected, cleaned, treated and maintained at temperatures below 20°C or above 65°C.

Question 11	(a)	Outline how the use of drugs or alcohol can adversely affect a worker's fitness to work.	(4)
	(b)	Outline circumstances when drug and alcohol testing should be used at work.	(4)
	(c)	Outline how drug or alcohol problems at work can be managed effectively.	(8)
	(d)	Identify disciplines or agencies that may assist in assessing or managing the use of drugs or alcohol at work.	(4)

This question assessed candidates' knowledge of learning outcome 11.3: Outline the management of occupational health (including the practical and legal aspects).

Few candidates were able to get more than 1 or 2 marks for part (a) as they focused narrowly, rather than looking at the wider range of effects. Typical effects include absenteeism, lateness, poor work performance, poor judgment and violence.

Quite a few candidates appeared to confuse parts (b) and (c), and gave very similar answers to both parts. Those candidates who did provide good answers to part (b) tended to focus on high risk activities. These are very relevant but there are a broader range of issues to consider, such as return to work after rehabilitation, following a specific incident/accident and where there is a need to monitor a specific problem (or clear evidence of drinking or drug taking).

Part (c) was answered quite well. Candidates were able to outline how it should be incorporated into a policy and contract of employment (the worker being made aware of this explicitly), assuring workers of strict confidentiality, encouragement to seek help from specialists, temporary redeployment (if safety critical) and disciplinary action as a last resort.

For part (d), most candidates could identify the doctors and nurses. However, few could identify much beyond that, such as a person's own GP, local alcohol advisory services, trade union representatives and accredited laboratories.

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 topic. 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 topic 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 topics 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 overelaborate 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 overelaborate 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: www.nebosh.org.uk/students/default.asp?cref=1345&ct=2.



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