Examiners' Report

NEBOSH INTERNATIONAL DIPLOMA IN OCCUPATIONAL HEALTH AND SAFETY

UNIT IB: INTERNATIONAL CONTROL OF HAZARDOUS AGENTS IN THE WORKPLACE

JULY 2019

CONTENTS

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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 learners annually and are offered by over 600 Learning Partners, 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 learners and Learning Partners 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 learners 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 learners, 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 2019.

Feedback is presented in these key areas: responses to questions, examination technique and command words and is designed to assist learners and Learning Partners prepare for future assessments in this unit.

Learners and Learning Partners 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 **Outline** how an occupational hygienist should determine a worker's long term personal exposure to *total inhalable* hazardous dust. **(10)**

This question assessed learners' knowledge and understanding of learning outcome 4.2: Outline the methods for sampling of airborne contaminants.

Some learners outlined the role of an occupational hygienist, rather than the method that should be used for measuring and calculating exposure. This was evident in answers such as, review information on biological monitoring and comparison against LTELs and STEL's, ensuring respiratory protection is suitable for the size of the particles and identifying control measures.

Learners gained marks for understanding the importance of monitoring using sample heads, the need to place it in the breathing zone, the need to weigh filters before and after and gave details of units of measurements (mg/m3) or the calculation in relation to the flow rate and volume. Few learners acknowledged the importance of the need to record the activities being carried out during the monitoring period, however, many understood that the monitoring should be done over an 8-hour period/shift.

Question 2

(a) **Explain** how exposure to silica dust can cause silicosis. **(4)**

(b) The construction of a city's underground rail line involves extensive tunnelling and concrete spraying activities.

Outline controls that reduce the risk of workers developing silicosis, while carrying out tunnelling and concrete spraying activities. **(6)**

This question assessed learners' knowledge and understanding of learning outcomes 3.1: Explain the principles of prevention and control of exposure to hazardous substances (including carcinogens and mutagens); 2.2: Explain the identification, classification and health effects of hazardous substances used in the workplace; and 2.1: Explain the main routes of entry and the human body's defensive responses to hazardous substances.

In part (a) some learners answered this question in relation to asbestos causing asbestosis and mesothelioma, which demonstrated a lack of understanding of the effects from silica. However, they were able to gain some marks for general similarities such as silica is inhaled into the lungs and it prevents gas exchange and makes breathing difficult. Those learners with a better understanding explained the effects of the small size of the dust making it respirable and therefore being inhaled deep into the lung and becoming trapped in the alveoli.

Answers to part (b) showed a good appreciation for general dust control measures such as dampening down and the need for reducing exposure in the working area through management of the time workers are in the tunnel. The requirement to ventilate the area by dilution ventilation or LEV was appropriate, however the need to test/maintain these systems was lacking from answers. There was also common mention of health surveillance, but without the specific requirement for spirometry or lung function testing.

Question 3 Dilution ventilation can be used to control certain types of hazardous substances generated in a workplace.

(a) **Outline** circumstances when dilution ventilation may be appropriate as a control measure to reduce exposure to a hazardous substance. **(3)**

(b) **Describe** the design features of the *air input* for a dilution ventilation system. **(3)**

For a dilution ventilation system to be effective the number of air changes achieved must be sufficient.

(c) (i) **Calculate** the number of air changes per hour for a dilution ventilation system with the following specification:

Workplace dimensions (metres):	10m x 10m x 3m
Volume of air throughput each hour:	3 000m^3
Required number of air changes per hour:	10 to 15

(ii) **Comment** on the effectiveness of the specified dilution ventilation system in controlling exposure to a hazardous substance. **(2)**

This question assessed learners' knowledge and understanding of learning outcome 3.3: Explain the uses and limitations of dilution ventilation and the purpose and operation of local exhaust ventilation, including assessing and maintaining effectiveness.

The responses to part (a) demonstrated that some learners had studied and understood dilution ventilation. However, there were significant numbers who had a limited understanding of the topic and was evident in the marks being achieved. Dilution ventilation may be appropriate when the hazardous substance has a low toxicity or high WEL/OEL and when it is a fume, gas or vapour rather than a dust. Learners and learning partners are reminded that in learning outcome 3.3 the syllabus includes 'the uses and limitations of dilution ventilation for hazardous substances'.

In part (b) a number of learners described the various components of a local exhaust ventilation system instead of describing specifically the air input features of a dilution ventilation system. The italicisation of the words *'air input'* in the question indicates to learners this is what they should address when answering this part of the question. While fans can be a feature of an air input part of dilution ventilation, there are other ways in which air input can occur, for example through windows, doors or vents. The position or number of air inputs should be arranged so as to avoid 'dead spots'.

The calculation required for part (c) (i) was carried out successfully by most learners who attempted to complete it, correctly calculating 10 air changes per hour. However, some learners did not attempt the calculation regarding the number of air changes required.

The command word 'comment' used in part (c) (ii) is used to ask learners to give opinions (with justification) on an issue or statement. At Diploma-level, learners should be able to give a clear, reasoned opinion based on fact. This required learners to comment that the number of air changes were sufficient to meet the minimum specification and it would actually be better to increase the air changes per hour to further reduce the risk of exposure to the hazardous substance.

Question 4 Workers are required to pick up small pasta pieces from a delivery conveyor and transfer them to foil trays on a separate conveyor during the production of pre-prepared pasta dishes. This work is carried out standing in front of the conveyors for an 8-hour shift. An ergonomic risk assessment is to be carried out.

(a) **Outline** the ergonomic risk factors to be considered in this assessment. **(5)**

(b) A number of workers have complained about pains in their arms, shoulders and back.

Other than automation **outline** control measures that could help reduce the ergonomic risks these workers are exposed to. **(5)**

This question assessed learners' 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.

Most learners gained high marks on this question by demonstrating a good understanding on the topic of manual handling.

In part (a) there were a good range of answers with learners aware of repetitiveness from picking up pasta and putting it in trays, duration of work over an 8-hour shift, and posture being static for long periods and involving stooping, bending and twisting. Some learners did not refer their answers to the scenario and instead used a generic TILE approach which was not applicable or they did not outline why each factor was important.

A number of learners in their answers to part (b) referred to the need to consider automation which was excluded in the question. Control measures based on the actual production process such as conveyor speed control, re-positioning the conveyors and the provision of suitable seating were common answers. Some learners outlined how a Manual Handling Assessment Charts (MAC) or Assessment of Repetitive Tasks (ART) risk assessment could be carried out, followed by introducing suitable control measures, rather than actually suggesting the control measures that could be used. There was little mention of suitable clothing for the hot or cold conditions and the need for workers to change posture or carry out stretching on a regular basis. Although there were many references to health surveillance, most did not outline this in context. At Diploma-level learners are required to have knowledge of the variety of health surveillance carried out in the workplace and to demonstrate the application of the correct health surveillance for a particular scenario.

Question 5 The use of hand-held power tools results in workers being exposed to hand-arm vibration (HAV).

Outline what should be considered when conducting a risk assessment for exposure to HAV. **(10)**

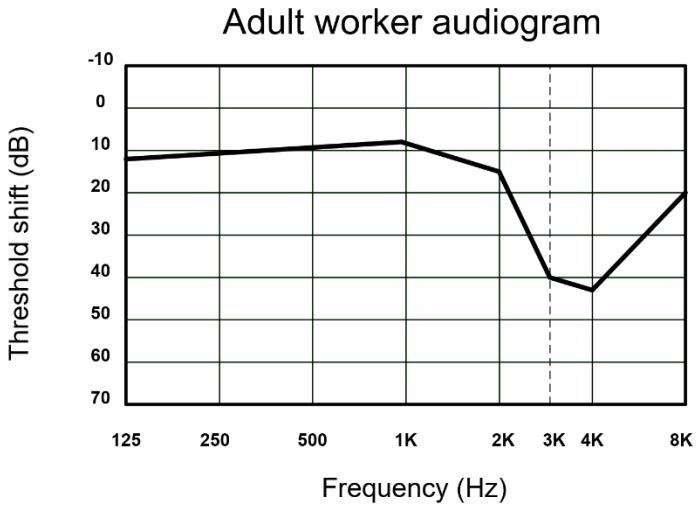
This question assessed learners' knowledge and understanding of learning outcome 6.7: Explain the measurement and assessment of vibration exposure.

This question considered the risk assessment required for exposure to HAV. Learners had difficulty with this and instead outlined health effects from exposure to vibration and the control measures that could be used. Some learners worked through the risk assessment process considering what work was being done, the temperature of the workplace, the duration of work and if there were any persons at particular risk or vulnerability. Very few learners recognised that the magnitude of the vibration is important, as is the vibration dose in comparison to exposure limit or action values.

Question 6 Audiometry can be used to assess a worker's hearing.

(a) **Explain** what is meant by the term *'threshold shift'*. **(2)**

(b) The figure below shows an audiogram for an adult worker.



(i) **Give** the name of the hearing condition indicated in this audiogram. **(1)**

(ii) **Describe** the physical changes in the inner ear for an adult worker with this audiogram result. **(2)**

(iii) **Outline** the resultant effect on hearing for an adult worker with this audiogram result. **(1)**

(iv) **Outline** reasons why audiometry testing may not produce an accurate representation of the effects of workplace noise exposure on a worker's hearing. **(4)**

This question assessed learners' knowledge and understanding of learning outcome 6.2: Explain the effects of noise on the individual and the use of audiometry.

The answer to part (a) required a knowledge of the correct technical terms and an understanding of the effects of excessive noise, which was not evident in many of the answers. Many learners, instead of explaining what is meant by the term *'threshold shift'* gave theories for hearing loss and an explanation of different types of hearing loss. Many were unable to explain the reduction in hearing threshold or that a young healthy person's hearing is taken as the standard against which to compare.

Some learners correctly identified the hearing condition shown in the audiogram as noise-induced hearing loss while others gave a wide range of other possible hearing conditions, therefore not gaining the mark available in part (b) (i).

For part (b) (ii) a lot of learners gave general responses referring to damage in the ear or inner ear, with few references to damage in the cochlea or damage to hair cells. A description of the hair cells being broken or flattened gained full marks.

A worker with noise-induced hearing loss would not hear consonants clearly and would only hear vowels. In part (b) (iii) some learners stated that 'hearing conversation would be challenging', which did not achieve the mark available.

Learners generally achieved the most marks for part (b) (iv) with most able to recognise that testing near to the workplace would give rise to background noise; was therefore unsuitable for testing, an incompetent operator or one that made mistakes or the worker being tired or not concentrating would all lead to audiometry testing not producing accurate results. The additional effect of non-occupational noise exposure was also well understood with learners often giving examples of being exposed to loud music as a possible source.

Question 7

The avian influenza virus can be found in chickens, ducks, geese, and wild birds. Poultry workers are at risk of becoming infected with this virus.

(a) **Outline** how poultry workers can become infected by this virus. **(4)**

(b) **Identify** the symptoms of avian influenza if contracted by poultry workers. **(4)**

A large poultry farm has a number of different locations where live birds are kept. Vehicles transporting new stock birds and bird food access each location and poultry workers move equipment between the locations daily. Vets and external agencies frequently visit all the locations.

(c) **Outline** control measures the poultry farm could use to minimise the risk of the virus entering their locations or spreading between the different locations. **(12)**

This question assessed learners' knowledge and understanding of learning outcomes 5.1: Explain the types and properties of biological agents found at work; and 1.1: Outline the nature of occupational health.

To achieve the marks available for part (a) learners needed to outline how the workers could become infected therefore those learners who only identified different routes of entry did not gain marks. Learners were required to outline the different sources of the virus and how they could infect the workers. Inhalation of infected bird droppings, dust from infected birds bedding and dust generated when handling infected birds did gain marks. The requirement to identify that the risk only came from infected birds was important to demonstrate that learners understood that viruses can only be caught from birds who already had the virus and not from any bird they were in contact with.

Learners demonstrated a good understanding of the symptoms of avian flu, with most identifying the more common symptoms of fever, headaches, muscular pain, vomiting, diarrhoea, coughing and having shortness of breath.

When outlining control measures for part (c) many learners did not appear to have read the question carefully regarding the different locations and the need to minimise the risk of the virus entering the locations. Some learners assumed there was already an outbreak which led to answers regarding minimising the risk to the rest of the birds at the poultry farm. Additionally, some learners did not demonstrate the knowledge required to apply biological agent control principles to this particular scenario. The need to carefully and correctly dispose of any dead birds and the quarantining of infected birds were frequently mentioned, as well the need for rodent control and the prevention of other wild birds accessing the area. Cleaning and disinfection was referred to as a procedure to be carried out on entry, but rarely on exit. The disinfection of boots, vehicles and equipment on *both* entry and exit is a basic requirement of infection control and learners who did not state both were required did not gain marks. Those learners who gave general answers based on good hygiene practices, the use of RPE, disposal of waste (without identifying what was considered as infected waste) and avoiding smoking/eating/drinking in the areas did not gain good marks.

Question 8

(a) **Identify** signs that would indicate a worker may be suffering from mental ill-health. **(4)**

Evidence recently published indicates that male construction workers are three times more likely to commit suicide than an average working male.

(b) **Outline** what might contribute to increased mental ill-health issues in construction workers. **(8)**

(c) **Outline** actions a construction company could take to actively improve the mental health and well-being of their construction workers. **(8)**

This question assessed learners' knowledge and understanding of learning outcomes 8.1: Explain the effects and causes of common types of mental ill-health within the workplace; and 8.2: Explain the identification and control of workplace mental ill-health with reference to relevant standards.

This question was generally well answered. In part (a) many learners were able to identify signs that a worker might be suffering from mental ill-health including changes in personality, use of drugs/alcohol, being withdrawn from colleagues and increased anxiety or lack of concentration.

Parts (b) and (c) were specifically focused on the construction industry. Some learners used the Stress Management Standards to approach the questions and applied them to mental ill-health and in doing so gave very general answers, not always gaining the marks available.

In part (b), contributing factors to mental ill-health in construction workers may include long and unpredictable working hours, working away from home, demanding deadlines and hazardous working environments. The itinerant nature of the work may make it harder to create good working relationships and the uncertainty regarding employment and income was also recognised.

Part (c) asked what actions a construction company can take and some learners outlined what actions *individuals* can take. Learners should have considered both proactive and reactive actions that can be taken. Proactive actions include promoting mental health awareness campaigns, appointing mental health champions, having appropriate policies and procedures in place and addressing work-life balance. Reactive actions include supporting those suffering from mental ill-health to stay in work and providing access to counselling.

Question 9 Lasers are often used by the entertainment industry during displays and music concerts attended by members of the public. The lasers used are of very high power and are given a hazard classification.

(a) **Outline** the hazard classification system used for lasers. **(4)**

(b) **Outline** how exposure to lasers can cause damage to the *eyes*. **(6)**

(c) **Outline** control measures that could be used to reduce the risks to the public at such displays. **(10)**

This question assessed learners' knowledge and understanding of learning outcome 7.4: Outline the different sources of lasers found in the workplace, the classification of lasers and the control measures.

The answers to part (a) were good with learners correctly stating there are four classes with Class 1 being the lowest risk and Class 4 being the highest, the relevant standard being BS EN standard / BS EN 60825-1 and that there are 7/8 sub-classifications.

Answers to part (b) were generally limited and lacked the amount of information required to be awarded all of the six marks available. Many answers simply stated that lasers burn the retina and while this is would gain marks, it is not an outline of how exposure to lasers can damage the eye. Further marks were available for outlining that the light enters the eye and blinking response is not quick enough to protect the eye. The light becomes focused in the back of the eye (retina) and causing a heating effect. The severity of any injury from exposure to the laser light depends on a number of factors including wavelength, duration and angle of exposure.

The majority of answers to part (c) regularly referred to using the lowest class of laser, directing the laser beams away from the public, removing of reflective surfaces, using competent operators, seeking advice from a laser safety officer and restricting access to the hazardous areas by displaying warning signs. Although elements of the hierarchy of controls could have been used by learners to form the basis of their answers, references to not using lasers at all to eliminate the hazard, reducing the duration of the show to reduce exposure and giving the public safety glasses were not realistic in this scenario. Few learners considered using lasers that are within the maximum permissible exposures (MPE) set down in standards or rehearsing emergency procedures. Some learners answered this question in the context of lasers being a source of ionising radiation and therefore did not achieve the marks available.

Question 10

(a) **Identify FOUR** *environmental* parameters that affect thermal comfort. **(4)**

(b) **Identify THREE** *other* parameters that affect thermal comfort. **(3)**

(c) Workers are at risk of heat stress when working in a manufacturing process that produces high levels of heat and steam. Some workers are more vulnerable to the effects of heat stress.

(i) **Identify TWO** reasons why some workers may be more vulnerable to heat stress. **(2)**

(ii) **Outline** controls measures that help reduce the risk of heat stress for *all* workers working in this manufacturing process. **(8)**

(d) Wet bulb globe temperature (WBGT) is a commonly used heat stress index.

Outline the purpose of WBGT. **(3)**

This question assessed learners' knowledge and understanding of learning outcome 10.1: Explain the need for, and factors involved in, the provision and maintenance of temperature in both moderate and extreme thermal environments.

Learners demonstrated a good understanding of thermal environments.

In part (a) learners needed to identify the four environmental parameters as they are listed in the Diploma syllabus in learning outcome 10.1 which states: 'the environmental parameters affecting thermal comfort: air temperature, radiant temperature, relative humidity, air velocity'.

In part (b) three other parameters are any of those listed in the Diploma syllabus: metabolic rate, clothing, sweat rate, duration of exposure. In addition, activity or work rate are also relevant.

For part (c) (i) reasons why some workers may be more vulnerable to heat stress include age, weight, gender, medical conditions, the level of hydration and the amount of alcohol consumed are all applicable.

Part (c) (ii) required learners to outline control measures to help reduce the risk of heat stress and most marks were achieved in this section. Appropriate measures included job rotation and regular breaks away from the workplace, reduction of heat at the source by using lagging or ventilation. The acclimatisation of individuals was mentioned occasionally, as was health surveillance and pre-employment screening.

Answers to part (d) demonstrated that most learners were unable to outline the purpose of the WBGT heat stress index and instead wrote down the equation and outlined the components and how WBGT can be calculated, which is not what the question asked. The purpose of a heat stress index such as WBGT is that is provides a single number representation of the severity of a thermal environment, which can then be compared to standards and can be helpful when risk assessing a thermal environment.

Question 11 Provision of *sufficient* lighting levels is necessary in all workplaces and these levels of illuminance can be measured.

(a) **Identify** the unit of measurement typically used for illuminance. **(1)**

(b) **Outline** what could affect levels of illuminance measured in a workplace. **(10)**

In addition to sufficient lighting, a workplace should have lighting that is *suitable* for the work being carried out.

(c) **Explain** *other* key features of the lighting design that should be considered when providing *suitable* lighting for an:

(i) operating theatre in a hospital; **(5)**

(ii) outdoor loading bay. **(4)**

This question assessed learners' knowledge and understanding of learning outcome 10.2: Explain the need for adequate and appropriate lighting in the workplace, units of measurement of light and the assessment of lighting levels in the workplace.

In part (a) the majority of learners correctly identified Lux.

Answers to part (b) suggested learners did not read the question properly and outlined methods of illuminance measurement, rather than what could affect the illuminance measurement. Learners who outlined factors such as the amount of natural sources of light, the weather conditions and the time of day/year when the measurements were taken, gained marks. Many also considered the number, position and design of the lighting, as well as the need to consider reflection from surfaces or shadows from furniture.

Part (c) focused on the key features of lighting design for two different workplace situations. Learners did not demonstrate that they had the depth of knowledge required to apply and explain the principles of what makes lighting sufficient to the workplaces identified. Most provided general answers and in some cases repeated the answers given in part (b). For part (c) (i) in the hospital operating theatre, learners understood the need for emergency lighting in the event of total power failure, however very few learners identified that this must be for a sufficient time period and that this included both localised and general lighting in the operating theatre. The ease of cleaning and sterilisation requirements and that the lighting had to be localised above the patient were also worthy of marks.

Part (c) (ii) focused on an outdoor loading bay, however, learners did not appear to recognise the outdoor implications and made reference to task lighting and lighting above doors to sign emergency exits. Marks were awarded for the lights being positioned correctly to avoid shadows being cast and avoid glare to workers and drivers, for consideration of the colour being different to hazard warning lights, and that maintenance/cleaning should be built into the design to avoid working at height.

Examination technique

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

Learners misread/misinterpreted the question

Careful and thorough preparation for the examination is vital for learners. Learning Partners should assist learners 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 learners carefully read the question to determine exactly what is being asked and answer accordingly.

Examiners noted that there was evidence of learners 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 learners varies enormously. Examiners often find themselves faced with scripts where learners do not appear to have understood the question and struggle to write a coherent answer in English. Learners for this examination should satisfy the required IELTS Level 7 language requirements. Learning Partners are reminded that it is incumbent on them to provide appropriate advice and guidance to learners 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 learners either not reading the question properly, or because of possible language issues where learners do not understand what the question is asking.

The examination is assessing learners on their understanding of 'managing' health and safety and a number of learners 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. Learners should note that where there is emphasis in a question (eg by the use of italics) it is to guide learners towards a particular point. Reading and re-reading the question encompasses taking due note of this emphasis.

Learners' handwriting was illegible

The examination situation is a stressful time for learners 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, learners 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, learners should hand-write their answers and get feedback from their Learning Partners on legibility (as well as how they performed).

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

Learners 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 learners felt it necessary to write the question out in full, before providing the associated answer, and this limits the time available. Learning Partners should remind learners that it is not necessary to include a question with their answer.

Good examination technique is followed where the learner 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.

Learners repeated the same point but in different ways

In some cases learners 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 learners to respond with a wide range of issues to gain high marks. Consequently learners should take care when using terms that contain numerous points that should be made separately.

Learning Partners should brief learners on examination technique by way of understanding what points are mark worthy in an answer and those that are not.

Learners 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 learner.

Generally, there has been an improvement in response to command words, but a number of learners 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 learners 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.

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

Examiners report a high incidence of learners 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.

Learners 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 learners understand and are able to apply their knowledge, and not just memorise. Learning Partners should help learners apply their knowledge to a range of different scenarios to aid understanding of the topic.

Learners did not allocate enough time to the question

Some learners 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.

Learners 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 learners 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.

Learning Partners should ensure that learners 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 learners 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.

Learners answered by posing a question

Learners need to resist the temptation to present their answers as merely a series of questions. 'Outline' requires learners *'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 learners:

Outline

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

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

An 'outline' question requires learners to give the main issue and then provide the key features in the context of the question. Where a question that requires learners 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.

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

As required by a Diploma level qualification learners 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 learners 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 learners 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 learners were asked to explain the circumstances where heat and smoke detectors would be inappropriate, Examiners were looking for learners 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, learners 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.

Learners 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 learner to provide reasoning for their answer. For example, when a question specifies 'explain' the learner is required to provide an understanding or make clear an idea or relationship. For example '**explain** how malaria is transmitted to humans'. If a learner 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 learner 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.'

Learners are required to provide a word picture in response to this command word and therefore the learner 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 learners 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 learner has less trouble deciphering command words and tends to gain good marks whereas those learners 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 learners 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 learners can over-elaborate the required answer. Time management is important in the examination and learners 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 learners respond well to this command word, often by offering a definition. There is evidence where learners go into too much detail that left those learners 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 learners to over-elaborate their answers in response to this command word. It is adequate for a learner 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-learner/ - from this page the document can be found by clicking on the relevant Qualification link, then on the 'Resources' tab.