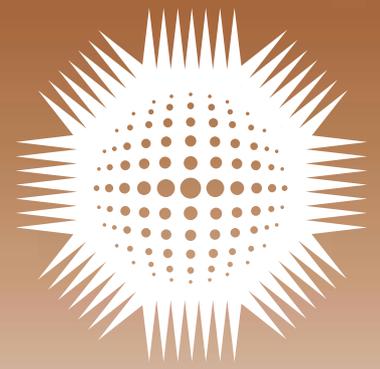


September 2016

Examiners' Report

NEBOSH National Certificate in Construction Health and Safety (NCC1)



nebosh



Examiners' Report

NEBOSH NATIONAL CERTIFICATE IN IN CONSTRUCTION HEALTH AND SAFETY

UNIT NCC1: MANAGING AND CONTROLLING HAZARDS IN CONSTRUCTION ACTIVITIES

SEPTEMBER 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.

This report has been prepared to provide feedback on standard date NCC1 examination sat in September 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 National Certificate in Construction Health and Safety' which is available via the NEBOSH website. In particular, the guide sets out in detail the syllabus content for NCC1 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 NCC1 'Example question paper and Examiners' feedback on expected answers' which provides example questions and details Examiners' expectations and typical areas of underperformance.

Unit NCC1

Managing and controlling hazards in construction activities

Question 1 *A site manager is required to travel on the public highway between sites during working hours.*

- (a) **Outline** factors associated with driving on the public highway that might increase the risk of being involved in a road traffic incident. (12)
- (b) **Outline** control measures that would help reduce the risk of being involved in a road traffic incident on the public highway. (8)

This question assessed candidates' knowledge and understanding of learning outcome 3.2: Outline the factors associated with driving at work that increase the risk of an incident and the control measures to reduce work-related driving risks.

Overall, a significant number of candidates found this question particularly challenging, with many giving answers to part (b), in part (a) and vice versa. Therefore, where this approach was taken marks available to candidates were limited.

In (a) candidates were expected to make reference to factors such as the roadworthiness of the vehicle, the distance to be travelled, time of day, the possible weather conditions, actions to be taken in the event of an accident or a breakdown, and how the manager could be contacted.

In (b) marks were available for outlining control measures such as ensuring planned preventative maintenance of the vehicle, reviewing the weather forecast and carrying appropriate items such as a torch and blanket during wintery conditions and carrying a high visibility jacket, etc. Marks were also available for items such as ensuring the driver's ability had been assessed and that they had been provided with appropriate company information on driving at work.

References to adequate training, or simply saying appropriate PPE without providing more detail did not warrant a mark.

Question 2 *Bench-top grinders are to be used in a construction site workshop.*

- (a) **Identify** mechanical hazards associated with their use. (3)
- (b) **Outline** precautions that should be taken in order to help reduce the risk of injury to the operators of the bench-top grinders. (5)

This question assessed candidates' knowledge and understanding of learning outcomes 5.1: Outline general requirements for work equipment; and 5.3: Describe the main mechanical and non-mechanical hazards of machinery.

Part (a) of this question was not well answered, with candidates unable to differentiate between mechanical and non-mechanical hazards. Marks were available for referring to items including entanglement on the rotating wheel, trapping between the rest and wheel, and ejection of materials.

Most candidates responded well to part (b) and this was reflected in the marks awarded. Marks were available for reference to planned preventative maintenance, inspections, competence of operators, robust guarding and provision of emergency stop devices.

Question 3 *Identify information that should be included in a material safety data sheet (MSDS) for a hazardous substance.* (8)

This question assessed candidates' knowledge and understanding of learning outcome 8.2: Explain the factors to be considered when undertaking an assessment of the health risks from substances encountered in construction workplaces.

The majority of candidates were able to achieve reasonable marks for making reference to items such as fire-fighting measures, toxicological information, workplace exposure limits (WELs) and handling and storage.

Question 4 *Musculoskeletal injuries are more common in construction than in any other industry.*

Outline ways to help reduce the risk to workers from manual handling activities in relation to:

(a) *the task;* (4)

(b) *the load.* (4)

This question assessed candidates' knowledge and understanding of learning outcome 4.2: Explain the hazards and control measures which should be considered when assessing risks from manual handling activities.

There appeared to be a lack of understanding with candidates mixing up the two factors, on occasions referring to the environment and individual, rather than focusing on the load and task.

For part (a) candidates were expected to make reference to storage of items, minimising travel distances, team lifting and the possible use of handling aids.

In part (b) candidates could outline items such as removing or covering sharp edges, ensuring the stability of the load, and splitting the load where possible.

Question 5 *Under the Construction (Design and Management) Regulations 2015 (CDM), contractors on site have a duty to manage and control health and safety risks.*

Outline the duties of a contractor under CDM. (8)

This question assessed candidates' knowledge and understanding of learning outcome 1.3: Outline the scope and application of the Construction (Design and Management) Regulations 2015 (CDM).

CDM is the corner stone of construction and therefore candidates taking this examination should be well versed to be able to maximise available marks. However, on this occasion answers were limited.

Candidates missed out on marks through generalisation and not focusing on what the question asked, with a significant number of candidates providing the duties of the Principal Contractor rather than focusing on the contractor as required by the question.

Candidates could have made reference to the following: co-ordinating their work with the work of others in the project team, complying with directions given by the principal designer or principal contractor, complying with parts of the construction phase plan relevant to their work, checking that all workers they employ or appoint have the skills, knowledge, training and experience to carry out the work, or are in the process of obtaining them, making sure that all workers under their control have a suitable, site-specific induction, unless this has already been provided by the principal contractor, providing appropriate supervision, information and instructions to workers under their control, ensuring they do not start work on site unless reasonable steps have been taken to prevent unauthorised access, ensuring suitable welfare facilities are provided from the start for workers under their control and maintaining them throughout the work.

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- Question 6** *Plant is being driven off road on rough terrain during site preparation work for a construction project and drivers are being exposed to whole-body vibration (WBV).*
- (a) **Identify:**
- (i) *the daily exposure limit value for WBV;* (1)
- (ii) *the daily exposure action value for WBV.* (1)
- (b) **Outline** *measures that can be taken to help reduce the risks from WBV.* (6)
-

This question assessed candidates' knowledge and understanding of learning outcome 9.2: Outline the health effects associated with exposure to vibration and appropriate control measures.

Many candidates were unable to answer either section of part (a) and part (b) was also answered in a very limited way with candidates providing very general statements.

Marks were available for referring to the specification of suitable vehicles, maintenance of plant, reporting of defects and health surveillance.

-
- Question 7** (a) **Outline** *factors that may determine the severity of injury caused by contact with electricity.* (4)
- (b) **Outline** *measures that should be taken in order to protect against an electric shock.* (4)
-

This question assessed candidates' knowledge and understanding of learning outcomes 6.1: Outline the principles, hazards and risks associated with the use of electricity in the Workplace; and 6.2: Outline the control measures that should be taken when working with electrical systems or using electrical equipment.

Many candidates were unable to answer part (a) or provided alternative answers that did not gain any marks. A significant number of candidates could not provide specific measures that could be taken and therefore they limited the marks that were available.

In part (a) marks were available for referring to nature of the current, level of the current, route of current through the body.

In part (b) answers could have included user checks, methods of work, integrity of equipment and the use of RCDs.

Question 8 *Workers are to carry out repair work in a sewer chamber that is three metres deep.*

Outline *factors that should be considered to help ensure that emergency arrangements are adequate.* (8)

This question assessed candidates' knowledge and understanding of learning outcomes 11.3: Explain the hazards and risks associated with confined space working; and 11.4: Outline the control measures for confined space working.

This question specifically related to emergency arrangements. Marks were not awarded to many candidates as their answers discussed confined spaces in general rather than providing answers that would safe guard the emergency team.

Marks were available for reference to top man remaining outside the chamber, saver set on standby, emergency access, means of communication and third parties.

Question 9 *Gas cutting and burning are to be carried out on a refurbishment project.*

Outline *precautions that are required to help ensure the safe use of gas cylinders.* (8)

This question assessed candidates' knowledge and understanding of learning outcome 7.3: Outline the principles of fire prevention and the prevention of fire spread in construction workplaces.

In general this was answered reasonably well, where marks were not awarded this was mainly due to a lack of detail in answers.

Marks were available for checking for leaks prior to use, emergency procedures, movement and storage of cylinders and security of hoses and regulators.

Question 10 *Identify factors that should be considered when assessing the adequacy of lighting on a construction site.* (8)

This question assessed candidates' knowledge and understanding of learning outcome 2.2: Explain the appropriate general site control measures needed in setting up and organising a site.

Generally this question was not answered well, with candidates missing much detail and discussing lighting about the site and vehicle and pedestrian area in general. One candidate misread the question and provided answers relating to lifting and not lighting, so no marks could be awarded.

Marks were available for items including type of lights to be used, emergency lighting, the type of work to be carried out and use of natural light.

Question 11 *A flat roof is to be repaired while a building remains occupied.*

Outline *issues that should be addressed in order to help reduce the risk to the workers involved in the repair work and others who may be affected by the work.*

(8)

This question assessed candidates' knowledge and understanding of learning outcomes 10.1: Explain the hazards of working at height and outline the precautions necessary to control them; and 10.3: Outline control measures necessary to protect other persons not involved in the work at height.

Generally this question was reasonably well answered. However, a number of candidates did not maximise the available marks through only providing a list rather than an outline as required by the command word in the question.

Marks were available for reference to appropriate means to transport tools and equipment to the roof, safe storage of materials/general housekeeping and removal of waste, access/egress and edge protection.

Examination technique

The following issues are consistently identified as the main areas in need of improvement for candidates taking Certificate level qualifications:

Candidates misread/misinterpreted the question

Candidates misreading or misinterpreting the question is by far the most common cause of candidates not gaining the maximum marks available.

NEBOSH questions are systematically and carefully prepared and are subject to a number of checks and balances prior to being authorised for use in question papers. These checks include ensuring that questions set for the Certificate level qualifications relate directly to the learning outcomes contained within the associated syllabus guides. The learning outcomes require candidates to be sufficiently prepared to provide the relevant depth of answer across a broad range of subject areas. For example, a candidate could be asked about the causes of stress, or could be asked about the effects of stress. A question could require a response relating to the principles of fire initiation, or a question could require a response relating to the spread of fire. Therefore, a candidate should focus not only on the general topic area (eg stress, fire) but also the specific aspect of that subject to which the question relates.

Candidates must also pay attention to the command word. For example, a question could ask candidates to **identify** the hazards associated with demolition work', or a question from the same element could ask candidates to **outline** the control measures required during demolition work'. Candidates appear to focus solely on the object of the question (demolition) and do not pay sufficient attention to the subject (hazards or control measures in the examples given) or the command word ('identify' or 'outline' in the examples given). There is often some confusion between hazard and risk. If a question requires an outline of hazards for a given situation, candidates must be careful not to provide risks, or even in some circumstances precautions, as they will not be able to attract marks.

Examiners suggest that while many candidates do begin their answer satisfactorily and perhaps gain one or two marks, they then lose sight of the question and include irrelevant information. Although further points included in an answer can relate to the general subject area, these points are not focused on the specific learning outcome and marks cannot be awarded. However, some candidates appear to misread or misinterpret several questions. This situation is more likely due to candidates preparing for the examination with a number of memorised answers obtained through rote-learning, that again can provide answers that are loosely associated with the subject matter but do not provide answers specific to the question. Such an approach is clearly evident to an Examiner and demonstrates little understanding of the subject matter and marks are not awarded.

Candidates are advised to allow sufficient time to read and re-read the question in order to determine the key requirements prior to committing their answer to paper. Preparing a time plan before the examination will indicate how many minutes are available for each question and then part of this time allocation can be given to reading the question. Underlining or highlighting key words can assist in keeping focused on the salient points and simple mind maps or answer plans can also be useful. Maps and plans should be kept simple so as not to use up too much examination time.

Candidates did not respond effectively to the command word

A key indicator a 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 and relates to the amount of detail that should be included in each point of the answer.

The learning outcomes in each element of all syllabus guides include the relevant command word that dictates the level of detail that should be covered in a course of study and the depth of answer that a candidate would be expected to provide in an answer to an examination question.

Examiners report that candidates continue to incorrectly observe the command words and therefore compromise their ability to gain the marks available. The majority of cases where command words are not observed relate to insufficient detail being given by a candidate in their examination answer. A significant number of candidates, irrespective of the command word given in the question, provide all answers in the form of a brief list of one or two words. This would normally not be sufficient to gain marks where the command word given was 'outline', 'explain' or 'describe', all of which require answers of more than one or two words.

Some candidates do provide too much information, which would not be required where a command word limits the expected answer to 'give' or 'identify'. Candidates would not be penalised for providing excessive detail but this would not be an efficient use of the time allocated.

Course providers should ensure that learning materials complement the command words in the syllabus guide and the NEBOSH guidance on command words and that sufficient time is given to advising candidates on suitable examination technique during a course of study.

Candidates unnecessarily wrote the question down

Developing a time plan is a key element in preparing for an examination. Advice included on Certificate question papers suggests that 30 minutes should be allocated for the answer to the long 20-mark question, and 90 minutes should be allocated to the answers for the remaining ten, 8-mark short questions. Therefore there are around 9 minutes available to answer an 8-mark question. This time will be required for reading the question properly at least twice, developing an answer plan, and then committing the answer to paper while regularly referring back to the question in order to maintain focus. Therefore any inefficient use of this time should be avoided.

The efficient use of this time is essential in order to ensure that all questions can be answered within the 2 hours available. Many candidates feel it necessary to write out the question, in full, prior to providing their answer and although this practice will not lose marks it will lose valuable time. A significant number of candidates do not answer all of the questions in the time permitted and do not complete the question paper, some of whom obviously run out of time.

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

It is clear that there are a significant number of candidates who seem to recite answers in the examination that have been rote-learned in advance and do not answer the question.

While knowledge of material forms a part of the study for a Certificate-level qualification, a key aspect being assessed is a candidate's **understanding** of the subject and reciting a pre-prepared and memorised answer will not show a candidate's understanding. In fact, if a candidate gives a memorised answer to a question that may look similar, but actually is asking for a different aspect of a topic in the syllabus, it shows a lack of understanding of the subject and will inevitably result in low marks being awarded for that answer.

Candidates repeated the same points but in different ways / Candidates provided the same answer to different questions

There are instances where candidates repeat very similar points in their answers, sometimes a number of times. This is easily done in the stressful environment of the examination. However, once a point has been successfully made and a mark awarded for it, that mark cannot be awarded again for similar points made later in the answer.

Candidates are advised to practise examination technique in their preparations to avoid this kind of pitfall. Writing an answer plan where points can be ticked off when made, or structuring an answer so that each point made is clearly shown, for example by underlining key points, can be of great use. This technique aids candidates and makes it much clearer in the stress of the examination for candidates to see which points have been made and reduce the chances of the same point being made several times.

Candidates did not answer all of the questions

It has been noted that a number of candidates do not attempt all of the questions and of course where a candidate does not provide an answer to a question, no marks can be awarded. This seriously affects the potential marks available and the possibility of achieving a pass. Course providers must emphasise the importance of attempting all questions in order to maximise the opportunity to attract marks.

There can be several reasons for this issue: running out of the allocated time for the examination, not knowing the answer to the question, or forgetting to answer a question.

Questions can be answered in any order and answers can be written in any order in the answer book provided. Candidates are advised to clearly keep track of questions they have attempted, such as

marking them on the question paper that would minimise the risk of inadvertently missing a question to answer.

If the subject of the question is unfamiliar or the answer is not known, then it will be challenging to provide an answer. This can result from rote-learning and preparing for an examination with a number of memorised answers, or simply not being adequately prepared for the examination across the breadth of the syllabus. There is always the risk of a candidate 'going blank' in an examination situation, in which case candidates should be prepared with some techniques to help. Rather than trying to remember what was taught or what has been read, ask yourself 'what would I do, in this situation?'. Reference to personal application or experience is sometimes enough to stimulate an answer that otherwise may have been missed. Alternatively, candidates can go back to first principles and break a question down into elements such as 'people', 'equipment', 'materials' and the 'working environment'. Approaching a question in small sections can minimise the risk of being overwhelmed by it as a whole.

Running out of time can be avoided by having an examination time plan and working to it. The question paper advises that you should spend 30 minutes on the long answer (question 1) and 90 minutes on the remaining ten short answer questions. This will provide around 9 minutes per short answer, follow the clock and when the time per question has expired, move on. Answering a question partly is better than not answering at all.

Candidates did not allocate enough time to the question / Time management

In a number of cases question 1 is left until last or later in the question paper and does not appear to be answered completely. Other candidates appear to rush the last one or two questions by providing very brief or bullet point answers, even when these questions require an outline. This indicates a lack of time management. It is advised that course providers and candidates spend time developing the skill of writing answers to questions bearing in mind the number of marks and time available. A 20-mark question requires significantly more detail than an 8-mark question.

Candidates might benefit from writing abbreviations to save time and to recognise that there is no need to write out the question at the beginning of their answer. Standard abbreviations such as HSE, RIDDOR, COSHH, PPE and DSE are acceptable.

Candidates' handwriting was illegible

Sometimes Examiners have difficulty in reading the handwriting of some candidates. Although allowances are made for candidates under the pressure of an examination, course providers must remind candidates that their writing needs to be legible or valuable marks may not be picked up during marking.

There is a minimum literacy requirement for candidates on NEBOSH qualifications. As stated in the syllabus guides the standard of English required by candidates studying for Certificate level must be such that they can both understand and articulate the concepts contained in the syllabus.

NEBOSH recommends to accredited course providers that candidates taking this qualification should reach a minimum standard of English equivalent to an International English Language Testing System score of 6.0 or higher in IELTS tests in order to be accepted onto a Certificate level programme.

For further information please see the latest version of the IELTS Handbook or consult the IELTS website: http://www.ielts.org/institutions/test_format_and_results.aspx

Candidates wishing to assess their own language expertise may consult the IELTS website for information on taking the test: <http://www.ielts.org/institutions/faqs.aspx>

Course providers are reminded that they must ensure that these standards are satisfied or additional tuition provided to ensure accessible and inclusive lifelong learning.

Command words

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

Outline

The command word 'outline' is by far the most challenging for candidates. Referring to the NEBOSH guidance on command words available on the NEBOSH website, 'outline' means *"To indicate the principal features or different parts of"*.

Many candidates do not give sufficient detail in order to warrant an 'outline' answer. The NEBOSH guidance on command word states that *"an exhaustive description is not required. What is sought is a brief summary of the major aspects of whatever is stated in the question"*.

If the use of the command word in everyday language or conversation is considered it may help the candidate understand what is required. If asked to '**outline** the risks to an operator when manually closing a valve' an answer such as 'cuts, bruises, burns and strains' would be insufficient as this represents a listed answer. However, 'cuts from contact with sharp edges of the hand wheel, bruises from impact with adjacent plant items, burns from contact with adjacent uninsulated pipe work and strains from using excessive force' would be sufficient.

Explain

The command word 'explain' requires the candidate to provide an understanding of the subject of the question and will usually be used in conjunction with 'why' or 'how'. Such as '**explain** how an interlocked guard operates' or '**explain** why a forklift truck may overturn'.

Some candidates approach an 'explain' question the same as an 'outline' and provide a number of individual points rather than providing an explanation as to how something operates or why something occurs. While some candidates do answer such questions sufficiently and satisfactorily, other candidates have difficulty in explaining in a logical sequence and many repeat the same point.

Identify

'Identify' questions require the name or title of an item, such as, '**identify** the effects of electricity on the human body', or '**identify** the features of a vehicle route'. In most cases one or two words will be sufficient and further detail will not be required to gain the marks.

For example, if asked to '**identify** types of equipment found in an office' appropriate answers could be personal computer, printer, telephone, photocopier, etc. There would be no need to embellish those points with a description of the equipment or its function.

However, in contrast to 'outline' answers being too brief, many candidates feel obliged to expand 'identify' answers into too much detail, with the possible perception that more words equals more marks. This is not the case and course providers should use the NEBOSH guidance on command words within their examination preparation sessions in order to prepare candidates for the command words that may arise.

Describe

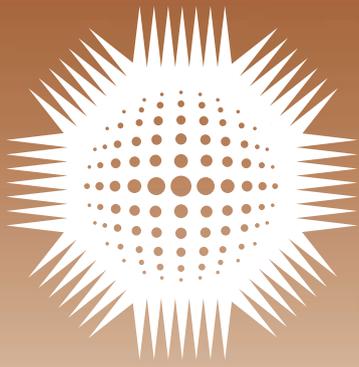
The command word 'describe' clearly requires a description of something. The NEBOSH guidance on command words says that 'describe' requires a detailed written account of the distinctive features of a topic such that another person would be able to visualise what was being described.

If asked to describe the clock in the examination room, a person would have little difficulty in doing so and would most probably refer to its shape, its size, the colour of the clock and the style of numerals. Answers to such a question would almost certainly not result in general unconnected information about clocks, the history of clocks, or an explanation of why the clock is present in the room. Candidates should consider the general use of the command word when providing examination answers.

Give

'Give' questions require a statement that is relevant to the subject asked for in the question but additional explanation is not required. Often, 'give' questions ask for the meaning of a particular term. While detailed explanation of the application of the term would not be required, a correct knowledge of the term itself is needed in order for the Examiner to award marks.

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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