
Examiners' Report

NEBOSH INTERNATIONAL CERTIFICATE IN FIRE SAFETY AND RISK MANAGEMENT

UNIT IFC1: INTERNATIONAL FIRE SAFETY AND RISK MANAGEMENT

SEPTEMBER 2018



CONTENTS

Introduction	2
General comments	3
Comments on individual questions	4
Examination technique	8
Command words	11

Introduction

NEBOSH (The National Examination Board in Occupational Safety and Health) was formed in 1979 as an independent examining board and awarding body with charitable status. We offer a comprehensive range of globally-recognised, vocationally-related qualifications designed to meet the health, safety, environmental and risk management needs of all places of work in both the private and public sectors.

Courses leading to NEBOSH qualifications attract around 50,000 candidates annually and are offered by over 600 course providers, with examinations taken in over 120 countries around the world. Our qualifications are recognised by the relevant professional membership bodies including the Institution of Occupational Safety and Health (IOSH) and the International Institute of Risk and Safety Management (IIRSM).

NEBOSH is an awarding body that applies best practice setting, assessment and marking and applies to Scottish Qualifications Authority (SQA) Accreditation regulatory requirements.

This report provides guidance for candidates and course providers for use in preparation for future examinations. It is intended to be constructive and informative and to promote better understanding of the syllabus content and the application of assessment criteria.

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General comments

Many candidates are well prepared for this unit assessment and provide comprehensive and relevant answers in response to the demands of the question paper. This includes the ability to demonstrate understanding of knowledge by applying it to workplace situations.

There are other candidates, however, who appear to be unprepared for the unit assessment and who show both a lack of knowledge of the syllabus content and a lack of understanding of how key concepts should be applied to workplace situations.

This report has been prepared to provide feedback on the standard date IFC1 examination sat in September 2018.

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 Certificate in Fire Safety and Risk Management' which is available via the NEBOSH website. In particular, the guide sets out in detail the syllabus content for IFC1 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 FC1 'Example question paper and Examiners' feedback on expected answers' which provides example questions and details Examiners' expectations and typical areas of underperformance.

Unit IFC1

International fire safety and risk management

- Question 1** An accidental fire occurred in a hotel kitchen. The fire and smoke spread quickly to the restaurant, bars and accommodation areas.
- (a) **Outline** possible causes of the fire. **(10)**
 - (b) **Outline** how hotel guests may have become aware of the fire. **(4)**
 - (c) **Outline** measures that should have been used to enable the safe evacuation of guests with disabilities. **(6)**
-

This question assessed candidates' knowledge and understanding of learning outcomes 3.1: Explain the causes of fires and explosions in typical work activities; 4.3: Outline the methods and systems available to give early warning in case of fire, both for life safety and property protection; and 5.2: Describe the development and maintenance of a fire evacuation procedure.

Some candidates had difficulty answering this question. While some candidates outlined some relevant causes of fire in part (a) there were many who gave limited answers to this part and gave more detailed responses to part (b) for which fewer marks were available. It is important the candidates read and re-read the questions, including the number of marks available in each part. Please see the 'Examination technique' section of this report.

Part (c) was not well answered by some candidates who focused on general issues about escape routes rather than measures specifically used to aid evacuation of guests with disabilities. Such measures include the use of buddy systems and the use of evacuation chairs.

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- Question 2** **Outline** why a fire-resisting door may fail to provide adequate protection in the event of a fire. **(8)**
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This question assessed candidates' knowledge and understanding of learning outcome 4.1: Outline the means of fire protection and prevention of fire and smoke spread within buildings in relation to building construction and design.

The majority of candidates answered this question well. Most answers outlined a good range of reasons why a fire-resisting door may fail to provide adequate protection, such as damaged smoke seals, damaged fire-resistant glazing, etc. Some candidates misinterpreted the question and outlined the effects on fire severity if fire doors are ineffective, which was not asked for.

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- Question 3**
- (a) **Give** the meaning of the term '*risk*' in relation to the occurrence of fire in a workplace. (2)
- (b) **Outline** types of physical harm that could be caused to people by a workplace fire. (6)
-

This question assessed candidates' knowledge and understanding of learning outcome 6.1: Explain the aims and objectives of fire safety risk assessments.

This question was answered well by the majority of candidates. In part (a) some candidates gave the meaning of the term '*hazard*' rather than '*risk*', however most gave a relevant answer sufficient to gain at least one of the two marks available.

In part (b) most candidates outlined a good range of types of physical harm that could be suffered by people in a workplace fire such as lung damage from inhaling smoke and combustion products and burns.

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- Question 4**
- Explain** the role of the International Labour Organisation (ILO) standards and conventions in formulating a nation's fire safety regulations. (8)
-

This question assessed candidates' knowledge and understanding of learning outcome 1.3: Explain the role of national governments and international bodies in formulating a framework for the regulation of fire safety.

Most candidates had difficulty answering this question and seemed to have little understanding of the role of ILO standards and conventions, with some not being awarded any marks. Relevant points that could have been made include that ILO conventions can be ratified by member states, they lay down principles to be implemented and can set consistent principles across all participating member states.

Candidates should understand all parts of the syllabus including technical areas such as this, and ask their course providers if they need further guidance on areas they feel they do not fully understand.

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- Question 5**
- A fire safety audit of an industrial site that handles solid and liquid flammable materials has identified weaknesses in the management of waste. The weaknesses will significantly affect the level of fire risk.
- Outline** issues that should be considered in order to manage waste materials effectively and minimise fire risk. (8)
-

This question assessed candidates' knowledge and understanding of learning outcome 3.2: Outline appropriate control measures to minimise fire and explosion risks.

Many candidates had difficulty answering this question. Some candidates gave points relevant to safely storing flammable liquids, which did not answer the question fully. While this meant some points made were relevant, it resulted in most answers having a narrow range of relevant points. Issues that were frequently missed included consideration of the nature of the waste materials and use of specialist waste disposal organisations to regularly collect waste.

Question 6 **Outline** why a person may be slow to evacuate a building when the fire alarm has been activated. **(8)**

This question assessed candidates' knowledge and understanding of learning outcome 5.3: Outline the perception and behaviour of people in the event of a fire.

Most candidates showed a good understanding of this part of the syllabus. The majority of answers included a good range of relevant reasons why a person may be slow to evacuate, such as not hearing the fire alarm and staying to collect belongings.

Question 7 Substantial quantities of paper are commonly found in workplaces.

(a) **Describe** the conditions required for paper to ignite. **(2)**

(b) **Describe** the process involved in the combustion of paper. **(6)**

This question assessed candidates' knowledge and understanding of learning outcomes 2.1: Explain the principles of the combustion process in relation to fire safety; and 2.2: Explain the principles and conditions for the ignition of solids, liquids and gases.

Most candidates had difficulty answering this question with many being awarded fewer than half marks. Many candidates described the stages involved in a fire within a building, such as growth, steady state and decay; this was not asked for in the question. Relevant points to describe the process involved when paper combusts include, the decomposition of paper when heating to liberate flammable vapours and those vapours chemically reacting with available oxygen.

Candidates should understand the technical areas of the syllabus such as this, and ask their course providers if they need further guidance on areas they feel they do not fully understand.

Question 8 **Outline** reasons for reviewing fire risk assessments. **(8)**

This question assessed candidates' knowledge and understanding of learning outcome 6.2: Outline the principles and practice of fire safety risk assessments including principles of prevention (measures to remove and reduce risk).

There was a good response to this question. Most candidates outlined a wide range of relevant reasons for reviewing fire risk assessments such as changes to work processes, as a result of changes in legislation and following a fire incident.

Question 9 **Outline** the typical content of the '*arrangements*' section of a fire safety policy. **(8)**

This question assessed candidates' knowledge and understanding of learning outcome 1.2: Outline the key features of a fire safety policy.

Many candidates did not show a thorough understanding of the arrangements section of a fire safety policy and seemed to have difficulty with this question. Many answers focused on describing the elements of the HSG65 management model which was not asked for. It is important that candidates read and re-read the question carefully to reduce chances of the question being misinterpreted.

Question 10 **Outline** the purpose of the following types of inspection that should be carried out on portable fire extinguishers:

- (a) weekly or monthly checks; (4)
 - (b) annual inspection. (4)
-

This question assessed candidates' knowledge and understanding of learning outcome 4.4: Outline the selection procedures for basic fire extinguishing methods for both life risk and process risk.

Candidates appeared to have some difficulty in answering this question with the majority not achieving more than half marks. Most answers in part (a) actually addressed the purpose of the annual inspection that should have been given in part (b) and few candidates seemed to understand the different types of inspection carried out on extinguishers and their purpose.

Weekly or monthly checks are used to check such things as the extinguisher is in the correct position and has not been tampered with. Annual inspections would be more thorough, checking such things as the condition of the external structure of the extinguisher and the condition of the lining of extinguishers that contain liquid.

Question 11 **Outline** how a boiling liquid expanding vapour explosion (BLEVE) can be generated in vessels. (8)

This question assessed candidates' knowledge and understanding of learning outcome 2.5: Outline the principles of explosion and explosive combustion.

Candidates had difficulty answering this question with many not being awarded any marks for their answers and most awarded fewer than half marks. It appeared that very few candidates had a good understanding of the mechanism of a BLEVE with many answers recognising that they can occur when a fire or other heat source heats a vessel containing flammable liquid, but not going on to outline how that affects pressure inside the vessel when the liquid boils and the mechanism by which the vessel may eventually fail.

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: <https://www.ielts.org/about-the-test/test-format>

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

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: <https://www.nebosh.org.uk/i-am/a-student/> - from this page the document can be found by clicking on the relevant Qualification link, then on the 'Resources' tab.