

Level 3 Certificate in Fire Science, Operations, Fire Safety and Management (All Examinations)

Examiner Report on October 2015 Examinations

Introduction

Candidates performed well in the October examinations. The pass rate for each of the four papers was good reflecting the fact that a high number of candidates were re-sitting only one or two papers and had prepared well for their examinations.

As in previous examination sessions, candidates generally performed best on the Operations paper (unit 2) and the Management and Administration paper (Unit 4). Candidates performed least well on the Fire Engineering Science paper (unit 1).

Fire Engineering Science (L3C1)

General

Standards were generally good with 52% of candidates passing the examination.

Multiple Choice

Most candidates achieved over half of the marks available for the multiple choice section.

Candidates generally performed best on the questions that focussed on chemistry and electricity.

Many candidates performed poorly on the questions that focussed on heat with candidates often failing to demonstrate understanding of “critical temperature” or of the relationship between heat and temperature.

Some candidates also made errors in carrying out calculations. Few candidates identified the correct response in the relation to the calculation of density.

Short Answer Questions

Calculation of Capacity: Few candidates attained full marks for this question. Many candidates were unable to calculate the capacity of the hose correctly. There were many errors in the use of units as candidates often failed to recognise that the length of the hose was given in metres and the diameter was given in millimetres; failure to take the unit of measurement into account when carrying out calculations led to many incorrect responses.

Heat: Candidates were often able to define Boyle’s Law but few candidates presented the formula correctly. Most candidates were able to define another gas law but, again, errors in the presentation of the relevant formula limited the marks that were achieved.

Atmospheric Pressure: This question was generally answered well and many candidates were able to achieve full marks. Some candidates provided irrelevant information as they focussed their response on factors affecting suction lift rather than on atmospheric pressure as required by the question.

Foam: Many candidates identified the appropriate usage of foam and provided an explanation of the way that foam works to extinguish a fire. However, a small number of candidates made fundamental errors in responding to this question and failed to explain when foam would be used.

Electricity: This question was often answered poorly or was not answered at all. Few candidates were able to define the terms set out in part a) of the question correctly; those candidates that did attempt to define the terms, often provided only a limited statement which secured only half of the marks available. Part b) was poorly answered with few candidates able to carry out the calculation of power output.

Fire Operations (L3C2)

General

Standards were generally good and nearly all candidates achieved a Pass.

Multiple Choice

Most candidates performed well on the multiple choice questions and demonstrated a good range of knowledge from across the syllabus.

Questions focussed on water supplies and on pumps and primers were the least well answered. Many candidates made errors in responding to the question on the discharge of carbon dioxide. The question on the precautions to be taken at grass fires on railway embankments also received many incorrect responses.

Short Answer

Many candidates appeared to rely on operational experience. Some responses lacked depth and candidates often failed to present fully developed answers. Candidates should be aware that the number of marks allocated to questions is an indication of the extent/depth of response that is provided; likewise, if the question asks for an explanation or a description, a brief list of words/phrases will not fully address the requirements of the questions.

Pre-planning: Many candidates ignored the requirement to focus on “**planning** for a possible fire” and wrote at length about the steps they would take when tackling an actual incident. As a result, few candidates achieved high marks for their response to this question.

Siting pumps at a Fire: Most candidates provided a good response to this question and many achieved high marks.

Tenth Floor fire: Most candidates demonstrated a good understanding of this situation and achieved high marks for their response. However, some focussed mainly on the use of BA and BA procedures and omitted to consider the wider operations requirements. A number of candidates also made errors in identification of the bridgehead floor.

Water supply: This question was generally answered well and the majority of candidates attained good marks. Some candidates confused working from a pressure-fed supply with suction from open water.

Hose: Although most candidates were able to identify characteristics of a good firefighting hose, many failed to demonstrate understanding of the importance of correct use and storage in preserving firefighting hose.

Fire Safety (L3C3)

General

Standards were generally good with 81% of candidates passing the examination.

Multiple Choice

Candidates generally performed very well on the multiple choice and some candidates achieved very high marks for this element of the examination. Responses to questions on building structures and materials and also on the principles and planning of fire safety were generally good.

As in previous examinations, the questions that were least well answered were those that focussed on alarm/detector systems.

Short Answer

Floors: Candidates usually identified factors affecting fire resistance correctly. However, candidates often failed to provide a full explanation of the factors as required by the question and this omission meant that they often achieved only half of the marks available for this question.

Glass: Candidates were usually able to identify types of fire-resisting glass. However, responses were often presented as a short list and lacked the description that the question asked for; as a result, candidates often achieved only half of the marks available for this question.

Drenchers: Most candidates provided good responses to this question and achieved high marks. However, some candidates wrote about sprinklers rather than drenchers.

Water Spray Systems: This question was not answered well and only a few candidates demonstrated understanding of the operation of these types of systems.

Manually-Powered Alarm Systems: This question was generally well answered with many candidates achieving full marks.

False Alarms: This question was usually answered well and most candidates achieved the two marks available.

Means of Escape: Many candidates were able to identify and describe appropriate factors. However, some candidates did not appear to understand the principles and were unable to provide appropriate points.

Management and Administration (L3C4)

General

Standards were very high with the majority of candidates achieving a Pass.

Multiple Choice

The majority of candidates performed extremely well on this element of the examination and achieved high marks.

Most questions were answered well by the majority of candidates. The questions which achieved the fewest correct responses were those that focused on matrix management, safe person concept and the transformational management style.

Short Answer

Candidates generally performed less well in this element of the examination. As in previous examinations, many candidates provided only brief lists in response to questions that asked for descriptions or explanations; this meant that the candidate was not fully answering the question and was therefore unable to achieve any/all of the marks available.

Types of Plans: There were six marks available for this question. However, some candidates responded only by naming two different plans. This approach did not meet the requirements of the question which asked for a description of each type of plan and an explanation of the way that the plan contributed to the effectiveness of the organisation.

Staff Motivation: Some candidates provided lists of word/phrases (eg “pay”) without linking them back to motivation in any way. At Level 3, candidates must provide the explanations required in order to demonstrate that they have depth of understanding.

Discipline: Many candidates outlined relevant points and achieved full marks. Some candidates wrote about grievance procedures rather than discipline systems and therefore failed to achieve any marks for their response.

Record-Keeping Systems: Some candidates provided excellent responses to this question and achieved all of the marks available. However, other candidates provided only brief lists and did not explain their points.

Objectives for a Training Programme: The responses to this question were often poor. Most candidates failed to recognise that the starting point for this context had to be the current skills of the individual(s) undertaking the training and the needs of the employer/job role. Many candidates provided a generic answer and explained the concept of SMART without linking this back to the question asked. Candidates who took this approach did not achieve marks.

Training Exercises: This question was often answered well with most candidates demonstrating a good understanding of the value of live training exercises.

Date issued: 28 December 2015