

IFE Level 4 Certificate in Fire Safety and Fire Science

Unit 3 – Fire Service Operations and Incident Command

Examiner Report – March 2016

Introduction

25% of the candidates that sat the paper achieved a Pass. Candidates generally performed best on questions 2 and 6 and performed least well on question 4.

A major weakness in many responses was the tendency to provide vague statements (such as “notify the relevant agencies” or “use specialist equipment”) rather than providing detailed and specific detail. The recital of the generic incident management model did not generate many marks where the question asked for a solution relating to a specific set of circumstances.

Many candidates provided responses that lacked the depth of understanding and detail required; although many were able to identify some basic points, they often failed to fully elaborate points and consequently failed to achieve many of the marks that were available.

Question 1

Identify the specific hazards and explain the risks that may be encountered when dealing with fires that occur significant distances within transportation tunnels used by road and rail. (20 marks)

Examiner Feedback

This question was attempted by most candidates. Candidates who considered the issues relating to fatigue, potential structural failure, communications and ventilation limitations usually gained a good mark particularly where they expanded and explained their points.

Few candidates included fire behaviour in their consideration ie smoke plugging or the effect of wind pressure on the potential of rapid and unexpected fire spread. Few candidates considered the integrity of the structure following prolonged exposure to fire.

Not many candidates demonstrated the strategic level of thinking that would need to be taken into account for the operational station manager perspective at incidents. This meant that few candidates achieved very high marks for their response.

Question 2

You have been given the task of performing an assessment of the pre-planning arrangements for a large area of forestry land within your Fire and Rescue Service’s boundary. In relation to this task:

- a) *Detail the arrangements and information that you consider should be included in these plans. (14 marks)*

b) *Explain the planning process regarding the gathering, recording and storing of information. (6 marks)*

Examiner Feedback

Successful candidates suggested the use of the Forestry Commission, the MOD and the Environment Agency as specific agencies to assist. Good responses also considered logistical problems and the use of specialist equipment such as 4x4 vehicles or drones for aerial reconnaissance, topographical knowledge, ground cover etc. Marks were also awarded for considering the use of wildfire prediction systems.

Many vague responses referred to “relevant agencies” and “specialist equipment”; this did not demonstrate the appropriate level of understanding expected at this level. Some candidates appeared to lack understanding of the issues that affect firefighting in rural areas.

Question 3

In an effort to cut the emission of greenhouse gases by fossil fuels, Ethanol is being increasingly used for blending in gasoline/petrol and diesel fuel. Consequently greater volumes of Ethanol are being transported, handled and stored in bulk storage tanks.

- a) *Outline the main differences between Ethanol and gasoline/petrol in relation to the difficulties of extinguishing a fire within a bulk storage tank. (5 marks)*
- b) *Detail the pre-planning arrangements that need to be considered within the Emergency/Disaster Plan for a largescale fire at a petrochemical storage facility. (15 marks)*

Examiner Feedback

Successful candidates recognised that ethanol was a polar solvent and understood the difficulties of attacking an ethanol fire with foam. They also demonstrated a good knowledge of the pre-planning requirements of site layout plans, with product and on-site firefighting facilities relating to this type of installation.

Less than half of the candidates that attempted this question achieved a good mark. Most candidates failed to answer part a), and could not explain the differences between ethanol and petrol/gasolene in a fire situation. Other candidates relied on vague references to pre-planning arrangements when answering part b).

Question 4

A controlled burn is a defensive operational strategy to prohibit or restrict the use of extinguishing media on fires so that damage to the environment is minimised. Discuss the circumstances when a control burn strategy would be considered appropriate and the factors that would be taken into account when making this decision. (20 marks)

Examiner Feedback

This was a very popular choice of question. However, few candidates achieved high marks as responses often consisted of only a small number of relevant points which were not fully explored.

Candidates that achieved high marks provided an assessment of the considerations to be made when balancing the risk and impacts associated with firewater run-off or air borne

pollution on population, buildings, water courses, nearby risks and the relevant legal implications.

Allowing a building to burn because of untenable conditions is not a deliberate strategy to limit environmental damage. Many candidates failed to discuss the appropriate circumstances and options when considering an incident plan.

Question 5

You are the Senior Officer mobilised to a building fire where a failure of a Breathing Apparatus (BA) set has resulted in the serious injury of a firefighter. Identify the activities that will need to be undertaken at the scene beyond the emergency phase of the incident by:

- a) The officer appointed to carry out the subsequent accident investigation into the BA failure. (10 marks)*
- b) The officer in charge of closing down all fire service operations at the incident and withdrawing all fire and rescue service resources. (10 marks)*

Examiner Feedback

Candidates that provided a logical and clear account of the activities (including evidence gathering, recording and logging of information, impounding all relevant equipment, identification of key witnesses etc) achieved good marks. Consideration of the use of specialist advice and good handover procedures gained candidates good marks for part b).

Many candidates failed to consider scene preservation. Poor answers to part b) failed to give enough consideration to handover when closing down the incident.

Question 6

- a) With regards building construction, explain the difference between framed and unframed buildings, making reference to inherent characteristics during collapse. (4 marks)*
- b) Structural failure of buildings can follow a number of generic patterns of collapse. Identify the different types of generic patterns and describe the characteristics of each type of collapse, including the likely areas where survivors may be found. (16 marks)*

Examiner Feedback

Most of the candidates who attempted this question gained a good mark, particularly where they included good diagrams to help demonstrate the characteristics of structural collapse, as asked.

Many candidates failed to demonstrate an understanding of the distinction between framed and un-framed buildings with respect to structural collapse characteristics.

Question 7

You are the Duty Officer called to attend an incident involving a person trapped in mud. Crews are in attendance, a risk assessment has been carried out and an extrication plan has been developed.

- a) Detail the key points that should have been considered when formulating the initial plan. (12 marks)*

b) Describe the post-incident tasks and actions that should be considered. (8 marks)

Examiner Feedback

This was the most popular question with some good scripts that correctly identified the specific equipment and considerations for the unique risks to be considered in the situation. Some candidates earned marks for considering community engagement when developing a response to part b) as this demonstrated a more strategic level of thinking.

However, many responses were poor. Many candidates failed to highlight the initial requirement to stabilise the casualty and/or the risks of other potential medical conditions such as the onset of hyperthermia and preventing hypotension (a sudden fall in blood pressure from being immersed in mud/water) on release. Some candidates simply referred to “specialist equipment” or just described the command model without adequate detail. Not many candidates considered how to extricate (two methods) and with what equipment.

Question 8

With regards incident risk management, it is essential that Fire and Rescue Services ensure that sufficient appropriate measures have been taken to protect the safety of their staff and members of the public. Discuss the managerial responsibilities and activities that should be carried out throughout an organisation to ensure that operational health and safety is effectively implemented. Include in your discussion the moral, economic and legal reasoning why health and safety should be taken seriously and what you consider to be a safe operational risk philosophy. (20 marks)

Examiner Feedback

Some candidates provided excellent responses to this question, demonstrating a clear understanding of the distinction between the three levels of management and exploring the very tangible moral and economic benefits of taking health and safety seriously. Some were able to give a good account of the legal requirements and gained marks accordingly.

Many candidates confused strategic and systematic and relied heavily on their understanding of the dynamic or analytical risk assessment process. Only one or two deviated from the well understood risk philosophy to offer a considered view and few offered a view of the consequences of being risk averse.