

IFE Level 3 Diploma in Fire Safety and Fire Science

Unit 4 – Aviation Fire Operations

Examiner Report – March 2016

Introduction

Candidate performance was in line with previous years with 33% of candidates achieving a Pass.

Candidates generally performed best on question 10; there were many excellent responses to this question. Candidates performed least well on questions 7 and 8.

Those candidates who were unsuccessful in achieving a Pass generally failed to demonstrate the detailed technical understanding required. It was notable that many candidates did not appear to have an understanding of the principles of aircraft construction or of the subsequent implications for fire and rescue situations when dealing with different aircraft (section 4 of the syllabus). Many candidates provided brief responses that lacked detail and/or failed to relate their answers to the specific context set out in the question.

Question 1

- a) *Outline the main problems which may lead to an incident involving aircraft undercarriages. (4 marks)*
- b) *Describe the hazards faced by Airport Rescue and Fire Fighting Services (ARFFS) personnel when attending an incident involving aircraft undercarriages. (16 marks)*

Examiner Feedback

This was a popular choice of question. However, most of the candidates that attempted the question achieved fewer than 8 marks.

Most candidates were able to identify one or more problems relevant to incidents involving aircraft undercarriages; problems that could have been outlined included tyre burst, hot brakes and full/partial wheels-up on landing.

Responses to part b) often lacked depth. Many candidates ignored the specific context of “an incident involving aircraft undercarriages” and provided only generic points without linking them back to the context set.

Question 2

Describe in detail the operational considerations when attending an incident involving a light aircraft fitted with a “Ballistic Parachute System”. (20 marks)

Examiner Feedback

This question required candidates to demonstrate detailed technical understanding of aircraft fitted with a “Ballistic Parachute System” and the subsequent considerations when attending an incident. Candidates who had technical understanding were able to achieve high marks. However, many candidates appeared to apply guesswork in their responses and provided only high level generic statements. These candidates achieved only low marks as their responses were not tailored to the specific context.

Question 3

- a) *With regard to response times, detail the Airport Rescue and Fire Fighting Services (ARFFS) response objective for aircraft incidents. (4 marks)*
- b) *Describe the categories of Civilian Aircraft Emergencies. (16 marks)*

Examiner Feedback

This question was generally answered quite well.

In response to part a) some candidates were not able to identify the response objectives in relation to response times ie: two to three minutes, depending on location, from the time of call to when the first responding vehicle(s) are in a position to produce 50 per cent of their required discharge rate.

In response to part b), most candidates were able to identify some or all of the categories. However, some candidates listed the categories without providing a description as required by the question. Candidates who omitted descriptions were unable to achieve high marks.

Question 4

Explain the rescue tactics that should be applied when attending a civilian helicopter involved in an accident on an airfield. (20 marks)

Examiner Feedback

This question required candidates to demonstrate detailed technical understanding of rescues in the context of a civilian helicopter. Those candidates that responded to this question generally provided superficial responses. Few candidates demonstrated an in-depth understanding of the construction of helicopters and the subsequent implications for approach and forcible entry.

Question 5

Describe the hazards faced by Airport Rescue and Fire Fighting Services (ARFFS) personnel when dealing with an internal fire in commercial passenger aircraft and explain the actions that can be taken to mitigate risks. (20 marks)

Examiner Feedback

This was a popular choice of question for candidates but responses often lacked depth and many candidates presented large amounts of irrelevant information.

Many candidates failed to address both elements of the question ie hazards **and** actions to mitigate risks. Other candidates provided generic information without focusing on the specific hazards associated with internal fires.

Question 6

- a) *With regard to post-accident investigation, summarise the considerations for the Airport Rescue and Fire Fighting Services (ARFFS) with regard to accident scene preservation. (16 marks)*
- b) *Explain why it is vital for the Incident Commander to maintain control during the closing stage of an incident. (4 marks)*

Examiner Feedback

Many candidates failed to demonstrate basic understanding of accident scene preservation. There were many brief answers that presented only a few points. Candidates who identified the need to protect the scene from unauthorised personnel, to preserve information and to refrain from moving bodies, wreckage, personal effects etc whilst ensuring the safety of the scene achieved high marks.

In response to part b), few candidates explained the importance of continuous vigilance in monitoring risk and the effectiveness of preventative and protective measures to ensure that the incident site remains safe.

Question 7

- a) *In relation to training and development, explain the following terms:*
- i. training needs analysis (2 marks)*
 - ii. learning outcomes (2 marks)*
- b) *Detail the elements (covering physical resources and documented information) that would be needed when carrying out aircraft familiarisation training for Airport Rescue and Fire Fighting Services (ARFFS) personnel and explain why these are important in maintaining operational readiness. (16 marks)*

Examiner Feedback

Candidates performed least well on this question. Although some candidates were able to provide a definition of the terms required in part a), few were able to identify and explain the types of training required by ARFFS as part of aircraft familiarisation in response to part b).

Candidates who attained good marks identified and explained training points such as: internal layouts for different airlines using the same aircraft as layouts can differ and this has implications for access/rescue; methods of opening all doors including cargo doors to aid speed of access; positions of APU shut off and remote fire-fighting systems and how to access these systems in an emergency.

Question 8

Explain the factors that should be taken into account when considering the provision of additional water supplies at licensed aerodromes. (20 marks)

Examiner Feedback

This was the least popular choice of question for candidates.

Those candidates that attempted the question generally attained only low marks. Many candidates provided irrelevant information and focused on the requirements for water in different contexts rather than on the provision of “additional” water supplies.

Candidates who explored sources and supply options for water (such as mobile water carriers, water catchment, tankers, town mains etc) and who considered issues such as access, availability, maintenance of equipment, natural runoff, prevention of loss by evaporation/freezing etc attained high marks.

Question 9

a) In relation to emergency access, fully describe the provision of “Emergency Break-In Points” and include an illustration in your answer. (10 marks)

b) Describe an Auxiliary Power Unit (APU) as found on most commercial jet aircraft. (10 marks)

Examiner Feedback

Candidates who responded to this question generally provided good responses to part a). However, few candidates realised that the primary purpose of an aircraft auxiliary power unit is to provide the aircraft with power when the main engines are not operating (eg to operate the aircraft electrical system, the ventilation/air-conditioning systems etc).

Question 10

Describe the different types of fuel tanks normally found in the various types of aircraft. (20 marks)

Examiner Feedback

This question was usually answered well and many candidates attained high marks.