

L3D4



THE INSTITUTION OF FIRE ENGINEERS
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IFE Level 3 Diploma in Fire Science and Fire Safety (VRQ)

Unit 4: Aviation Fire Operations (R/505/6009)

Thursday 10 March 2016

14.30 – 17.30

Instructions to Candidates

1. The time allowed for this examination is **THREE** hours.
2. Candidates should answer **SIX** questions from the total of **TEN** questions set for this examination.
3. All questions carry equal marks and may be answered in any order. Candidates should follow the instructions provided in the question when composing their answers.
4. Candidates should record all of their answers in the answer book provided.
5. The question paper must be handed in with the answer book.

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)
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Question 2

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

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)
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Question 4

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

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)

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)
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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)

Question 8

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

(20 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)

Question 10

Describe the different types of fuel tanks normally found in the various types of aircraft.

(20 marks)
