

# L4C4



**THE INSTITUTION OF FIRE ENGINEERS**  
Founded 1918 • Incorporated 1924

**IFE Level 4 Certificate in Fire Science and Fire Safety (HL)**  
**Unit 4: Aviation Fire Operations (K/505/5934)**

**Thursday 12 March 2015**

**14:15 – 17:15**

### **Instructions to Candidates**

1. The time allowed for this examination is **THREE** hours.
2. Candidates are to answer **SIX** questions from the total of **EIGHT** 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 responses.
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.

**1**

- a) Describe the Civil Aviation Authority Classification of Aircraft Emergencies. (14 marks)
- b) Describe the Military classification of aircraft emergencies. (6 marks)
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**2**

As the Senior Airport Fire Officer, the Airport Manager has informed you of future expansion plans which will include new airlines operating routes from the airport. This will include different aircraft types and configurations (freight and passenger).

Calculate the International Aviation Organisation Crash Category for an Airbus A330-200 aircraft. Length is 57.51 metres and width is 5.64 metres. Your answer must also include the total water requirements for this aircraft type. Include all formulae used and show all working out.

(20 marks)

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**3**

Generic Standard Operating Procedures give six phases of emergency incident response to aviation incidents.

- a) State the main considerations associated with the “arrival and gathering information” phase of an aviation incident. (10 marks)
- b) Following the scaling down phase of fire and rescue service operations, the inner cordon will need to be handed over to a responsible authority/person.
- i. Identify the authorities that are typically going to take over an aircraft incident scene from the fire service. (5 marks)
- ii. Identify the points the Incident Commander will need to consider upon handover to another authority. (5 marks)
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**4**

Training for competence is an essential part of the “safe person concept” and when operated by licence holders will enable all to demonstrate that they can consistently and competently perform their work.

- a) It is important that personnel involved in RFFS training have an understanding of principles involved. Explain each of the following terms:
- i. Acquisition of skills
  - ii. Assessment
  - iii. Continuing Professional Development
  - iv. Structured Learning Programme
  - v. Training Needs Analysis

(10 marks)

Command Support should be introduced at all incidents to assist the Incident Commander in the management of the scene. It should be initiated as soon as is practicably possible.

- b) Summarise the responsibilities of Command Support at an incident.

(10 marks)

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**5**

You are the Airport Fire Service Officer at an International Civil Aviation Organisation (ICAO) Crash Category 7 Airport. Two years ago the Airport replaced the Rapid Intervention Vehicle with a new vehicle that carries 2275 litres of water. However, over the past 12 months the aging primary foam tender has suffered from many periods of unserviceability. As a result, the Airport Manager has informed you that the airport is to invest in a new replacement fire vehicle.

Identify and explain the factors you would take into account when selecting a rescue and fire fighting (RFF) vehicle to ensure that the replacement vehicle meets the requirements of the Airport Crash Category.

(20 marks)

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**6**

Understanding basic fire investigation principles is an essential element in dealing with the aftermath of an aircraft crash. Explain how Rescue and Fire Fighting Services (RFFS) personnel actions should assist with the preservation of the site and evidence gathering, including the removal or moving of bodies.

(20 marks)

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**[Please turn over]**

**7**

As with any type of operational incident, communications play a key role in the successful management of all aircraft related incidents.

- a) Other than the provision of aeronautical communications which allow Airport Fire Officers to communicate with the flight deck, describe all other forms of communications and alerting systems that are to be provided for an Airport Rescue and Fire Fighting Service (ARFFS).  
(10 marks)
  - b) Identify the specific requirements of aeronautical radio equipment that allows fire officers to communicate directly with an aircraft flight deck.  
(6 marks)
  - c) When undertaking pre-planning and liaison with local authority fire services, describe the considerations that should be made in respect of airport communications.  
(4 marks)
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**8**

A heliport is defined as “an aerodrome or a defined area intended to be used wholly or in part for the arrival, departure and surface movement of helicopters”. The level of protection to be provided for rescue and firefighting shall be based on the overall length of the longest helicopter normally using the heliport and in accordance with the heliport firefighting category.

- a) Provide a table to explain all heliport firefighting categories.  
(5 marks)
  - b) Provide a table to indicate the requirements for the minimum usable amounts of principal fire extinguishing agents required for surface level heliports.  
(10 marks)
  - c) Trained personnel shall be designated to respond and operate the Rescue and Fire Fighting Service (RFFS) provision whenever flights required to use a licensed heliport are taking place. Detail the minimum number of personnel and level of supervision required at all surface level heliports.  
(5 marks)
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