

**POST GRADUATE DIPLOMA IN FIRE SAFETY  
AND DISASTER MANAGEMENT  
(PGDFSTYDM)**

**Term-End Examination  
June, 2012**

**00218**

**MSEE-001 : AIRPORT FIRE SAFETY**

*Time : 3 hours*

*Maximum Marks : 100*

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- Note :** (i) Question No. 1 is *compulsory*.  
(ii) Attempt *any four* questions from remaining.  
(iii) Marks allotted to a question are shown opposite to each question.  
(iv) The questions may be answered in *any* order.  
(v) Sketches or diagrams should be used wherever necessary to make the answer more precise.
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- 1. (A) Tick the correct answer. 2x10=20**
- (i) What would be category of an aircraft with length 1 meter and fuselage width 5 meters ?
- (a) Cat-6                      (b) Cat-7  
(c) Cat-8                      (d) Cat-9
- (ii) What is maximum **control time** for a fire in practical critical area of an aircraft ?
- (a) 1 minute                      (b) 2.3 minutes  
(c) 2.7 minutes                      (d) 3.1 minutes

- (iii) What does **strength - 3** in R.T. transmission indicate ?
- (a) Unreadable
  - (b) readable with difficulty
  - (c) intermittent
  - (d) Loud and clear
- (iv) What is the name of **fixed surface in tail unit** of aircraft used for horizontal stability?
- (a) Elevator
  - (b) Tail plane
  - (c) Rudder
  - (d) Tail fin
- (v) What is minimum application rate for level A foam for aircraft fire ?
- (a) 2.5L/m/m<sup>2</sup>
  - (b) 5.5L/m/m<sup>2</sup>
  - (c) 8.2L/m/m<sup>2</sup>
  - (d) 10L/m/m<sup>2</sup>
- (vi) The **quality of good foam** will solely depend on **which factor** ?
- (a) Induction ratio
  - (b) Expansion ratio
  - (c) Drainage time
  - (d) All three

(vii) Which Dry chemical powder is **not** considered foam compatible ?

- (a) Potassium bi-carbonate
- (b) Sodium bi-carbonate
- (c) Urea-Potassium carbonate
- (d) Mono-ammonium Phosphate

(viii) AVGAS falls under which **class of petroleum** as per **petroleum Act** ?

- (a) Class A
- (b) Class B
- (c) Class C
- (d) None

(ix) Which part of aircraft containing **MMMF** are more risky for fire man ?

- (a) Cabin floor
- (b) Fin
- (c) Tail plane
- (d) Engine cowl

(x) When will you commence "**Size up**" activity in an air - crash situation ?

- (a) After receiving message
- (b) After response
- (c) After positioning at crash site
- (d) After fire fighting

(B) **Fill in the blanks :**

**2x10=20**

- (a) Liquid Oxygen will **expand** \_\_\_\_\_ times when converted to gas.
- (b) During aircraft refueling, the fuel vehicle must be \_\_\_\_\_ to aircraft before fuel pipe is connected.

- (c) The **steady speech rate** while using R. T. should be not more than \_\_\_\_\_ word per minute.
- (d) Integrated fuel tanks are provided in the \_\_\_\_\_ of aircraft.
- (e) Water required for **Level A foam** is \_\_\_\_\_ times the water required for **level B foam**.
- (f) **Heat** required to raise the temperature of any substance by **One degree C.** is known as \_\_\_\_\_ .
- (g) Air crash beyond **4 kilo meters** from threshold are considered as \_\_\_\_\_ .
- (h) The **speed of exhaust gases** from a running jet engine at a distance of 45 meters in the rear may be in excess of \_\_\_\_\_ KMPH.
- (i) Passenger **oxygen mask** will be deployed automatically in case of \_\_\_\_\_ .
- (j) Under truck nozzles are provided in ACFT for \_\_\_\_\_ .

2. As officer in - charge of the Airport Fire Station 15  
detail the operational actions considered  
appropriate for dealing with fire involving the  
wheel of a large aircraft on landing.

OR

At the time of landing, as a result of malfunctioning of the undercarriage a 'Boeing 747' met with an accident, resulting in spillage of fuel which subsequently ignited. Detail your action as an officer in charge of Airport Fire Station, on receipt of the emergency call from the Air Traffic Control.

3. What are the hazard associated within the Airport ? What are the points to be taken into consideration while carrying out Fire Prevention inspection of the units available at the Airport ? 15
4. What is purpose of Fire drill ? What are the principles to be followed while formulating Fire drill for Airport Terminal Building ? 15
5. On the basis of occupancy how buildings are classified. What are the general fire protection measures you will take to safe guard Airport Terminal Building from an out break of fire ? 15
6. What is the difference between Airfield crash tender and water tender ? Name the currently used ACFT at defence airfields in India. Describe the minimum characteristics of same. 15

7. Give short notes on *any three* from the following :

5x3=15

- (a) Maneuvering Area
- (b) Grid Map
- (c) Complementary Agent
- (d) Protective Clothing
- (e) Unlawful interference
- (f) Full emergency.

8. What difficulties you may face in fighting Aircraft Hanger fire ? What are risk associated in dealing with such fires ? **15**

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