

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

Term-End Examination

00108

December, 2011

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 61 meters 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 is the minimum clearance to be kept in garages around ACFTs ?
(A) 1.2 m (B) 2 m
(C) 3.8 m (D) 4.5 m
- (iv) What does **strength-1** in R.T. transmission indicate ?
(A) Unreadable
(B) readable with difficulty
(C) intermittent
(D) Loud and clear
- (v) What is the name of **fixed surface in tail unit** of aircraft used for vertical stability ?
(A) Elevator (B) Tail plane
(C) Rudder (D) Tail fin
- (vi) What is minimum application rate for level B foam for aircraft fire ?
(A) 2.5 L/m/m²
(B) 5.5 L/m/m²
(C) 8.2 L/m/m²
(D) 10 L/m/m
- (vii) Which **useful information** grid map **can not indicate** to fire man ?
(A) Terrain
(B) Distance
(C) Location
(D) Wind direction

- (viii) What is the **discharge rate** for Dry Chemical Powder for Cat 9 airport ?
- (A) 1.5 kg/sec.
 - (B) 2.5 kg/sec
 - (C) 3 kg/sec
 - (D) 4.5 kg/sec
- (ix) **What emergency** would be instituted at airport when an arriving aircraft is reported having **Communication Failure** ?
- (A) Local stand by
 - (B) Full emergency
 - (C) Ground incident
 - (D) Disaster
- (x) Which is the most **appropriate direction** to approach fire in **military aircraft** ?
- (A) From Upwind
 - (B) From tail side
 - (C) From wing tip direction
 - (D) From Nose side
- (b) Fill in the blanks : **2x10=20**
- (i) White flashes light signal means _____.
 - (ii) The dry chemical powder when applied on **fuel fire** satisfies _____ principles of fire fighting.
 - (iii) The process of **Casualty identification** at crash site is known as _____.

- (iv) **CVR and FDR** are part of _____ provided in aircraft.
- (v) **Minimum stock** of fire fighting media at airport should be _____% of quantity held in ACFTs.
- (vi) **Fire Control** is considered as reduction of intensity of fire by _____%.
- (vii) Information on "**Fuel on Board**" during full emergency reveals quantum of _____ anticipated.
- (viii) The term "**Wilco**" implies _____ in R.T. transmission.
- (ix) A message of "**PAN PAN PAN**" from an aircraft denotes _____.
- (x) **Maximum survival time** in an air crash is considered to be _____ Sec.

2. Classify the Aircraft Hanger. State the fire prevention and protection of Aircraft hanger. 15

OR

Out line the features to be taken into account when designing, providing and selecting the site for Airport Fire Station.

3. List various types of Foam Compounds, which type of Foam Compound is best suitable for Aircraft Fire Fighting and why ? 15

4. Which information is passed by ATC to fire station during aircraft full emergency ? What is the relevance of each information to fire department and what pre-emptive action is taken in respect to each information ? 15
5. 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. 15
6. What is categorization of airports from fire safety point of view ? What category would be provided at the airport where biggest aircraft of length 71.5 meters and fuselage width of 7.1 meters is operating. Find out practical critical area, using formula and number of ACFTs with 10000 ltrs. Water capacity and 4000 ltrs. Per minute discharge rate with level B foam. 15
7. Write short notes on *any three* of the following : 15
- (a) Foam Compatible Dry Powder
 - (b) Pressurized staircases
 - (c) Protective Clothing
 - (d) Critical Area of Aircraft
 - (e) Communication system in Airport Fire Station

8. What do you understand by Emergency procedure ? What type of aircraft Emergency an anticipated at airport ? Write the role of Airport Fire Station at the lines of "Full Emergency". 15
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