

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

Term-End Examination

December, 2013

MSEE-001 : AIRPORT FIRE SAFETY

Time : 3 hours

Maximum Marks : 100

- Note :** (i) Question No. 1 is **compulsory**.  
(ii) Attempt **any four** questions from remaining.  
(iii) Marks allotted to each question are shown against each.  
(iv) Questions may be answered in **any** order.  
(v) Sketches and diagrams should be used wherever necessary to make answers more precise.

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1. (a) Tick the correct answer.
- (i) What is extent of blast danger behind a running Jet engine is ? 10x2=20  
(A) 7.5 m            (B) 15 m  
(C) 45 m            (D) 90 meters
- (ii) Why single wheel configuration is recommended for Airfield Crash Fuel Tenders ?  
(A) Equal distribution of load  
(B) Greater stability  
(C) To reduce ground resistance  
(D) To enhance speed
- (iii) In how much time Major ACFT should accelerate from 0 kmph to 80 kmph ?  
(A) 25 seconds            (B) 30 seconds  
(C) 35 seconds            (D) 40 seconds

- (iv) What is minimum visibility range for declaring visibility stand-by ?  
(A) 500 m      (B) 1000 m  
(C) 2000 m      (D) 3000 meters
- (v) What is minimum application rate for level 'A' foam for aircraft Fire Fighting ?  
(A) 2.5 L/M/m<sup>2</sup>  
(B) 5.5L/M/m<sup>2</sup>  
(C) 8.2L/M/m<sup>2</sup>  
(D) 10.1L/M/m<sup>2</sup>
- (vi) What is Q<sup>2</sup> for category 8 airport ?  
(A) 152%      (B) 170%  
(C) 182%      (D) 190%
- (vii) What is maximum percentage of water, for level 'A' foam, which can be replaced with complimentary agent for cat 1 and 2 airports.  
(A) 0%      (B) 30%  
(C) 50%      (D) 100%
- (viii) What is maximum slope recommended for aircraft Hangers ?  
(A) 1:50      (B) 1:100  
(C) 1:200      (D) 1:300
- (ix) Which complimentary agent is recommended by ICAO as on date ?  
(A) CO<sub>2</sub>      (B) Dry powder  
(C) Halon      (D) Water
- (x) What does vertical bar, in airport grid map for vicinity, indicates ?  
(A) Single Alphabets  
(B) Numerals commencing from 1  
(C) Double alphabets  
(D) Numerals commencing from 15

- (b) Fill in the blanks : 2x10=20
- (i) Figure of \_\_\_\_\_ is depicted on casualty tags for minor injuries.
  - (ii) Integral fuel tanks are located in \_\_\_\_\_ of aircraft.
  - (iii) Maximum speech rate in Radio Telephone should be \_\_\_\_\_ words per minute.
  - (iv) An aircraft of 24 meters length and three meters width will fall under Cat \_\_\_\_\_.
  - (v) Water required for level 'A' foam is \_\_\_\_\_ times of the water required for Level 'B' foam.
  - (vi) Response time to any point of operational runway should be \_\_\_\_\_ minutes.
  - (vii) Positioning of ACFT in a Military Aircraft accident should be \_\_\_\_\_ side of aircraft.
  - (viii) An aircraft sites danger zone extends upto \_\_\_\_\_ meters in downwind direction.
  - (ix) \_\_\_\_\_ fuel is also known as monofuel.
  - (x) Area beyond threshold of runway is known as \_\_\_\_\_.

2. Write short notes on **any three** of the following :

3x5=15

- (a) Man made mineral fibres used in aircraft construction and their hazards
- (b) Surface controls of aircraft and their functions
- (c) Means of escape in an aircraft
- (d) Black box
- (e) Triage

3. Justify the statement "Terminal buildings are mixed occupancy" and give details of Active and Passive fire protection recommended for airport Terminal buildings. 15
  4. What are minimum technical parameters for ACFT (Airfield Crash Fire Tender) recommended by ICAO ? 15
  5. You are incharge of a Cat-9 Airport Fire Station. An aircraft is reported to have crashed on a building outside the airport. What action you take and why ? 15
  6. Describe the difficulties faced by fire crash during Aircraft Hanger Fire. What precaution should be taken during fire fighting. 15
  7. Describe general precautions to be followed during Aircraft fueling operation. 15
  8. (a) Draw a sketch of Aircraft and name the parts. 15  
(b) Which parts of aircraft are considered vital for investigation of accidents and why ?
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