

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

Term-End Examination

December, 2012

MSEE-001 : AIRPORT FIRE SAFETY

Time : 3 hours

Maximum Marks : 100

Note : Attempt all questions as per instructions.

1. (a) Tick the correct answers : 10x2=20
- (i) The level and scale of rescue and firefighting protection to be provided at any airport is determined by :
- (A) The overall length of the aircraft using the airport.
 - (B) The maximum fuselage width.
 - (C) The frequency of the movement of the length aircraft uses the airport.
 - (D) All the three above
- (ii) The fire station sites should be located :
- (A) Strategically in relation to be pattern of runways at the airport.
 - (B) Unobstructed access to aircraft movement area.
 - (C) Distance to traverse to get the runways as short as possible.
 - (D) Their should be widest possible view of the area.

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- (iii) The principle extinguishing media is selected :
 - (A) On the basis of the capability to sustained protection providing a permanent control for a period of several minutes.
 - (B) On the basis of rapid fire and flame knock down suppression quality.
 - (C) On the basis of quantity of extinguishing media.
 - (D) All the three above
- (iv) An aircraft accident occurred on the airport emergency call to the airport, rescue and firefighting services to be incited by air traffic control will give details of :
 - (A) Location of the accident
 - (B) Type of the aircraft involves
 - (C) Number of occupants including crew along with any dangerous goods on board
 - (D) All the three above
- (v) Full emergency term is used when an aircraft approaching an airport is in difficulty and there is a danger of accident occurring initiating action by the air traffic control giving information

- (A) Type of the aircraft
 - (B) Runways being used
 - (C) Number of occupants including crew along with any dangerous goods on board approximate time of landing
 - (D) All the three above
- (vi) The airport rescue and firefighting services get call from Air Traffic services about a crash call. The ARFF services will take action to suppress the fire to prevent the re-ignition and other objectives will also establish :
- (A) Rendezvez point
 - (B) Triage area
 - (C) Care area
 - (D) Command post
- (vii) Airport emergency plan will be subjected to testing :
- (A) Full Scale exercise that is once in two years.
 - (B) Practical exercise that is once in each year.
 - (C) Table Top exercise that is once in six months.
 - (D) All the three above

- (viii) Tick the correct statistics :
- (A) Aircraft accident occurred during landing 61.5% of within 1000 meter from runways threshold
 - (B) Aircraft accidents occurred during 25.5% beyond runways within 500 meter during takeoff
 - (C) Aircraft accidents occurred during 9.5% while taxing
 - (D) Aircraft accidents occurred during stationary 3.5%
- (ix) The application rate of foam meeting the performance level 'A' is :
- (A) 5.5 LPM/m²
 - (B) 6.4 LPM/m²
 - (C) 7.1 LPM/m²
 - (D) 8.2 LPM/m²
- (x) Black Box contains :
- (A) CVR
 - (B) FDR
 - (C) Both (A) and (B)
 - (D) None of the above

(b) Fill in the blanks :

10x2=20

- (i) The visibility below _____ meters is the only reason for visibility stand by at airport.
- (ii) Fixed vertical surface in tail of aircraft is known as _____.
- (iii) Quantity of water required for level 'A' foam is _____ than the quantity required for level 'B'.
- (iv) Water required for cat - 9 airport for Level 'B' foam is _____ Litres.
- (v) Instrument which records conversation between pilot and ATC is known as _____.
- (vi) The discharge rate for Dry Powder for aircraft fire is _____ kg/sec.
- (vii) A message of "PAN PAN PAN" from aircraft denotes _____.
- (viii) In radio transmission strength - 3 audibility implies _____.
- (ix) The extent of blast danger behind a running Jet engine is considered _____ meters.
- (x) Major constituent of AFFF compound is _____.

2. Write short notes on **any three** of the following : **3x5=15**
- (a) Movement Area and manoeuvring area
 - (b) Communication facilities of Fire Station Watch Tower.
 - (c) Complimentary agents
 - (d) Low visibility procedure
 - (e) Bomb threat in incoming aircraft
 - (f) Level 'A' foam compound.
3. Write in detail on **any three** of the following : **3x15=45**
- (a) Fuel depot and fuel dispensing system are integral part of any airport. State specific risks associated with the system and preventive measures recommended for such installation.
 - (b) What do you understand by airport categorization ? Find out the category of an airport used by 75 mtr. long and 6 mtr wide aircraft. Also find out critical area and water requirement for level 'A' foam.
 - (c) State the action by airport fire crew at the time of aircraft crash inside the airport.
 - (d) Describe 'Active' and 'Passive' fire protection measures of Terminal building, justifying suitability of each measures.

- (e) What is "Full Emergency" ? Under what conditions full emergency is declared at airport. What is the role of Airport Fire Station in case of Full Emergency ?
- (f) What do you understand by Airfailed Crash Fire Tender (ACFT) ? Write salient features of ACFT as prescribed by ICAO.
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