

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

Term-End Examination 00365  
December, 2011

MSE-009 : FIRE SERVICE OPERATION

Time : 3 hours

Maximum Marks : 100

Note : (i) Q. No. 1 is compulsory.

(ii) Attempt any four questions from remaining.

1. (a) Tick the correct answer : 2x10=20

(i) Which Dry chemical powder is most suitable for radio active materials ?

- (A) Sodium-bi-carbonate
- (B) Mono-Ammonium Phosphate
- (C) Graphite base
- (D) T. E. C.

(ii) Which additive in dry powders ensures free flow of powder ?

- (A) Metallic stearate
- (B) Silica
- (C) Magnesium Carbonate
- (D) Tri-Calcium Phosphate

- (iii) Which additive in AFFF compound give it free flow characteristic ?  
(A) Water  
(B) Ethylene Glycol  
(C) Polythene Glycol  
(D) Fluorinated surfactant
- (iv) In which form of application, water shall have most cooling affect ?  
(A) Jet            (B) Spray  
(C) Fog            (D) Mist
- (v) Which extinguishing media is contributor for global warming ?  
(A) CO<sub>2</sub>            (B) Dry Powder  
(C) Haloks        (D) AFFF
- (vi) What should be minimum clearance around Fire Vehicles in Fire Station Garages ?  
(A) 1 meter        (B) 1.2 meter  
(C) 2 meter        (D) 2.4 meter
- (vii) What is lower limit of flammability of L.P.G. ?  
(A) 1.5%            (B) 2.5%  
(C) 4.5%            (D) 9.5%
- (viii) Wind direction in a major Fire is East to West. In which direction you will position your equipment ?  
(A) East            (B) West  
(C) North            (D) South

(ix) Which of the plastics given in question is Thermoset plastic ?

- (A) PVC            (B) Nylon  
(C) ABS            (D) Melamine

(x) Which Knot is used to tie Two unequal thickness slippery ropes ?

- (A) Reef Knot  
(B) Single sheet bend  
(C) Double sheet bend  
(D) Thumb Knot

(b) Fill in the blanks : 2x10=20

(i) Percentage of Foam compound induced in to make Foam is known as \_\_\_\_\_.

(ii) Draining out of \_\_\_\_\_% water from foam is known as drainage time.

(iii) Unburnt hot gases emerging out of building and bursting into flame on contact with air is known as \_\_\_\_\_.

(iv) Plastics which can be moulded and reshaped are known as \_\_\_\_\_.

(v) \_\_\_\_\_ are normally given as additives in paints for colouring.

(vi) First phase of salvage operation commences at the time of \_\_\_\_\_.

- (vii) Wire ropes are generally used in \_\_\_\_\_.
- (viii) The percentage of Butane in L.P.G. is \_\_\_\_\_%.
- (ix) Cordage cut to a specified length for a purpose is known as \_\_\_\_\_.
- (x) The dry powders which can be used with foams are known as \_\_\_\_\_ dry powder.

2. How many types of Foam compounds you know ? Give details of their qualities and limitations. 15

Compare the qualities of Protein base and AFFF compound.

3. (a) What do you understand by "Theroset" and "Thermoplastic" ? Give their burning characteristics. 8

(b) State the principle of Fire Fighting in Thermo plastics and the hazard associated with it. 7

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

(a) Ozone depletion Potential. 3x5=15

(b) Water mist

(c) Escape system in underground Metro

(d) Rescue plan and operation from height

(e) Emergency Coordination Centre

5. What is incident command system ? State the role of Incident commander in a major Fire in explosive depot and other agencies involved in such incidents. 15
6. (a) What are important records to be maintained at Fire Station and why ? 8  
(b) How will you conduct a preliminary Investigation of a Fire incident in stationary store ? 7
7. Give sequence of action in Chimney Fires fighting. What precautions are to be taken before hand and during Fire Fighting ? 15
8. (a) State method of Fire Fighting in large Dry grass field. 8  
(b) List out the rescue tools and their use. 7
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