

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

Term-End Examination

December, 2013

MSE-009 : FIRE SERVICE OPERATION

Time : 3 hours

Maximum Marks : 100

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

(ii) Answer any four questions from remaining.

1. (a) Tick the correct answer : 2x10=20
- (i) CO_2 gas cartidge of water Type. Extinguisher is pressurised in the region of :
- (A) 35 BAR
 - (B) 40 BAR
 - (C) 25 BAR
 - (D) 15 BAR
- (ii) The Maximum discharge time in second of CO_2 Extinguisher 4.5 kg capacity :
- (A) 16
 - (B) 18
 - (C) 20
 - (D) 24
- (iii) Hydraulic Pressure test of DCP Ext should be carried out at an interval of 3yrs at a pressure of :
- (A) 15 kg
 - (B) 18 kg
 - (C) 20 kg
 - (D) 35 kg

- (iv) A new Fire Pump is subjected to an endurance test for a period of :
(A) 3 HRS (B) 4 HRS
(C) 5 HRS (D) 6 HRS
- (v) A Fire Man Axe with insulated handle is tested at a voltage of :
(A) 16000 (B) 18000
(C) 20,000 (D) 22,000
- (vi) The Typical expansion of synthetic HX Foam is :
(A) 750 : 1 --- 1000 : 1
(B) 1100 : 1 --- 1500 : 1
(C) 1500 : 1 --- 1900 : 1
(D) 2000 : 1 --- 2500 : 1
- (vii) The Inhibitory factor of Co_2 gas is :
(A) 6 - 10% (B) 9 - 12%
(C) 19 - 29% (D) 21 - 30%
- (viii) At Fire Station Warning Bell is given before _____ Minutes in order to remain punctual at exact fall in.
(A) 5 (B) 10
(C) 15 (D) 20
- (ix) At Fire Station Night Round up usually done during night shift and after every _____ hours.
(A) $\frac{1}{2}$ HRS (B) 1 HRS
(C) $1\frac{1}{2}$ HRS (D) 2 HRS
- (x) Co_2 gas is _____ times heavier than air.
(A) 4.234 (B) 3.143
(C) 2.512 (D) 1.529

- (b) Fill in the blanks : 2x10=20
- (i) The fire pump of water Bouser is empowered by the Engine through a power transmitting lever is known as _____ .
 - (ii) Extension Ladder should be pitched at a safe angle in which the distance of the ladder from the wall should be between _____ and _____ of the extending height of the ladder.
 - (iii) _____ Nos of Adults are the maximum capacity of inflatable Flood Rescue Boat.
 - (iv) The Inflation assembly time of the flood rescue boat with Air Cylinder is less than _____ minutes.
 - (v) The only Spinning Part of the Centrifugal Pump is _____.
 - (vi) Volute is the simplest part of the pump casing. It is shaped like the shell of a _____ .
 - (vii) Water Passes through Delivery Hose at a Pressure _____ than that of atmosphere.
 - (viii) There are _____ methods of water relay system in Fire Fighting operation.
 - (ix) The low pressure warning whistle of SCBA set should not produce sound less than _____ db.
 - (x) One Volume of liquid oxygen will expand its volume by _____ times when converted to gas.

2. (a) What are general considerations for rescue while working at height ? 8
 (b) What are general procedure for casualty recovery ? 7
3. Enumerate the Potential Hazard to be encountered during Sewer rescue in metro system. 15
4. Investigation of Fire incident requires a systematic approach and knowledge of basic Fire Science . Elucidate. 15
5. An LPG Tanker capsized due to collision with a Truck close to a city at dead of night. The Gas is leaking. As O.I.C of Fire unit explain your line of action at the scene. 15
6. Describe the type of records to be maintained with respect to Fire Station activities and equipments. 15
7. (a) What is Cryogenic Gas ? Explain various hazards associated to it 8
 (b) Elucidate the different merits of cryogenic substance. 7
8. Explain the function of the following gears and their particular uses at the scene of fire **5x3=15**
 (a) Insulated Fireman Axe
 (b) Ceiling Hook
 (c) Walkie - Talkie Set
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