

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

00119

**Term-End Examination
December, 2011**

MSE-011 : INDUSTRIAL SAFETY

Time : 3 hours

Maximum Marks : 100

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

(ii) Attempt any four from remaining.

1. (a) Give short answers : 2x10=20
- (i) Principle of 3 'E's.
 - (ii) Causes of Fire in Electrical installations.
 - (iii) Health hazard associated with oil refinery.
 - (iv) Types of radiation from Radio - active material.
 - (v) Name two air polluting industries and the affluent.
 - (vi) Fire Fighting water requirement for a ware house.
 - (vii) Vital capacity of healthy man's Lungs.

- (viii) Name methods of artificial respiration.
- (ix) Class 'B' fuels as per petroleum Act.
- (x) Detonators.
- (b) Fill in the blanks : 20
- (i) Petroleum Naphtha falls under class _____ fuels as per Act.
- (ii) Maximum quantity for which License is not required for storing class B fuel is _____ litres.
- (iii) _____ falls under class 6 explosive.
- (iv) Minimum distance to be maintained in a ware house for goods stack from wall should be _____ meters.
- (v) Buildings above 24 meters should have provision of _____ for temporary assembly of occupants at each alternate floors.
- (vi) pH value of neutral chemical is _____.
- (vii) The percentage of oxygen consumed in each breath is _____.
- (viii) In rule of 9, head form _____ % of body.

(ix) Water in _____ form shall absorb maximum heat from fire.

(x) The authority certifying high pressure vessels in India is _____.

2. (a) Explain Physiology of breathing. 8
(b) What are methods of artificial respiration ? 7
3. (a) Classify Petroleum products in different classes as per petroleum act. 15
(b) How hazardous areas are denoted and what are common precautions against fire in such areas ?
4. In Construction Industry, safety precautions are primary areas to be fulfilled before the contractor is allowed to commence work. List the hazards and the precaution to be taken in such Industry for workers and installations. 15
5. Environment safety has taken priority over all other safety management in recent times. List the types of pollution to environment and the example of industries contributing to each type of pollutants. 15
6. What are the basic requirements to prevent fire and fire loss in a ware house including siting and fire resistance ratings of structural members ? 15

7. (a) What is risk and threat analysis ? Why it is necessary ? 15
- (b) Describe "Fault Tree Analysis" with respect to any one hazardous industry.
8. What do you understand by 'Standard Operating Procedure' ? Formulate a SOP for a grinding machine operator using 440 volts electric supply with high R.P.M. grinder. Grinding is done on steel plates. 15
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