

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

Term-End Examination

June, 2013

MSEE-003 : INDUSTRIAL HYDROCARBON AND
CHEMICALS

Time : 3 hours

Maximum Marks : 100

SECTION-A

Each question carries 2 marks.

(Choose the correct answer for each unit.)

1. (a) Henerich theory gives, how many percentage of accident occur due to unsafe act ? 2
(i) 98% (ii) 2% (iii) 10% (iv) 88%
- (b) What is the meaning of STEL ? 2
(i) STOP EXPOSING LINE
(ii) SHORT TERM EXPOSURE LIMIT
(iii) SHOT TERMINAL ELECTRIC LINE
(iv) SORTOUT TRANSFERMING EXPOSE LINE
- (c) What is Liquid density of hydrogen ? 2
(at normal boiling point of 1 atm),
(i) 70.8kg/m³ (ii) 78.0kg/m³
(iii) 7.08kg/m³ (iv) 87.7kg/m³

- (d) What do you mean by "MSDS" for chemicals? 2
- (i) Material Sift Descent Standard
 - (ii) Material Safety Data Sheet
 - (iii) Micro Scopic Deviation System
 - (iv) Molten Steel Direct Supply.
- (e) Choose the correct flammable limit percentage of hydrogen in normal air. 2
- (i) 4%-74.2%
 - (ii) 5% - 15%
 - (iii) 1% - 6%
 - (iv) 12.5% - 74.2%

SECTION-B

Attempt *any five*. Each question carries **10** marks.

2. Describe the chemical structure of (i) Methane (ii) Ethane (iii) Propane (iv) Butane (v) Heptane. **10**
3. What are the hazard study for hydrocarbon ? **10**
4. What do you mean density? Give a table of V.D and L.D. of Hydrogen, Methane and Gasoline. **10**
5. Write about quenching gap or distance in extinguishing method for hydrogen. **10**
6. What are the gas laws ? **10**
7. Write about Nitric Acid and inorganic Nitrates. **10**
8. What do you mean by Oxidation ? **10**

SECTION-C

Answer *any two*. Each question carries 20 Marks.

9. Explain On-Site and Off-Site emergency plane in chemical industries. 20
10. What are the safety measures for confined spaces entry ? 20
11. Describe the PSM for Chemical Process Plant. 20
12. What do you mean by chemical spill ? Write about minor and major spill. 20