

**Post Graduate Diploma in Fire Safety and
Disaster Management (PGDFSTYDM)**

Term-End Examination

December, 2011

00578

**MSEE-003 : INDUSTRIAL HYDROCARBON AND
CHEMICALS**

Time : 3 hours

Maximum Marks : 100

Note : Marks are given against each question.

1. (a) Hydrocarbon is an organic compound consisting entirely of : 2x5=10
- (i) Hydrogen and Carbon
 - (ii) Hydrogen only
 - (iii) Carbon only
 - (iv) Neither Hydrogen Nor Carbon
- (b) The process known as Hydrocarbon cracking is the decomposition by heat :
- (i) With catalyst
 - (ii) Without catalyst
 - (iii) With or Without catalyst ?
 - (iv) Neither with nor without catalyst ?

- (c) A PASS device stands for :
- (i) Paging At Short Sms.
 - (ii) Personal Alert Safety System
 - (iii) Put Against Short Service
 - (iv) Power Automatic Sensation Signal
- (d) While diluting acid, mix :
- (i) large amounts of acid to large amounts of water
 - (ii) small amounts of acid to small amounts of water
 - (iii) small amounts of acid to large amounts of water
 - (iv) large amounts of acid to small amounts of water
- (e) An extinguisher with a D rating is designed for use on which type of fire ?
- (i) A fire involving flammable liquids
 - (ii) A fire involving combustible metals
 - (iii) A fire involving energized electrical equipments
 - (iv) A fire involving ordinary combustible materials

2. Short questions :









6x5=30

- Name Alkanes and Alkynes containing 7 carbon atoms.
- Why petrol is called hydrocarbon ?
- What are the hazards of Hydrocarbon ?
- What you mean by Stop, Drop and Roll in fire fighting ?
- What is a chemical ?

Descriptive questions : (answer any three from Q.No. 3 to 7)

20x3=60

- Explain in detail types of Hydrocarbons ?
- Define fire emergency procedures.
- Match the following symbols with the symbol definition, give one hazard that this symbol represents and give one example of a material or chemical that may have this symbol.

							
A	B	C	D1	D2	D3	E	F

Code	Symbol Definition	One Hazard	Example
C	Oxidizing material	causes flammables to burn	chlorine, peroxide
E	Corrosive material	serious burns, lung damage from inhaling fumes	sulfuric acid, chlorine gas
D2	Poisonous and infectious material - Division 2	causes toxic effects like cancer	benzene, asbestos
F	Dangerously reactive material	could react dangerously (explosively) with water	calcium carbide
D3	Poisonous and infectious material - Division 3	causes infections or disease	Hepatitis, AIDS, cold virus
B	Flammable and combustible material	causes a fire when ignited	gasoline, ether, propane
A	Compressed gas	could explode if heated	helium, hydrogen, propane
D1	Poisonous and infectious material - Division 1	causes immediate toxic or fatal effects	Potassium cyanide, carbon monoxide

6. Provide an analytical thought on fire and explosion hazards of some hydrocarbon - air mixtures.

 7. What you mean by chemical SPILL and what emergency procedures may be adopted during such chemical SPILL ? Narrate with an example of chemical SPILL occurred in India.
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