

SARDAR PATEL UNIVERSITY
M. Sc. (Industrial Hygiene and Safety) - II SEM
PS02CIHS24: SAFETY IN CHEMICAL INDUSTRY
Tuesday, 26-03-2019, Time: 2:00 am to 5:00 pm

Total Marks: 70

Note: Figures to the right indicate maximum marks.

- Q1. **Multiple Choice Questions-** [8]
- (1) Substances which should be stored and handled carefully are _____ chemicals [1]
 (a) Incompatible b) Compatible c) False d) Liquid
- (2) It is the lowest temperature at which a material begins to burn in air without any contact of spark or flame. [1]
 (a) Explosive b) Auto ignition c) Critical d) None
- (3) Dyke Wall height should be less than 2 mt (mostly 1 mt) for ease of fire fighting and maintenance work. [1]
 (a) False b) True c) 3 mt(mostly 2mt) d) 4mt(mostly 3mt)
- (4) Gas with vapour density more than one is heavier than air and will go down on release. [1]
 (a) False b) True c) LEL d) UEL
- (5) Starting sequence should be well defined, written and known to the workers involved in chemical works. [1]
 (a) False b) True c) Unnecessary d) None
- (6) Earthing pit should be recharged (checked) periodically for easy flow of the current. Resistance should be measured (below _____ K-ohm) and recorded. [1]
 (a) 2 b) 4 c) 10 d) 5
- (7) Drinking Water _____ color pipe coding is done [1]
 (a) Yellow b) Transparent c) Black d) French Blue
- (8) In DT.... D stands for _____ [1]
 (a) Disruptive b) Deductive c) Destructive d) Dilutive

Q2. **Short answer type questions — attempt any 7** [14]

- (a) What Information to be given to surrounding settlements by Hazardous industry. [2]
 (b) Name types of Chemical Hazards [2]
 (c) UEL [2]
 (d) Dyke [2]
 (e) What do you mean by Lining in Tanks [2]
 (f) Why colour coding is important in context of pipelines [2]
 (g) Safety is necessary in connection of joining of pipes... true or false? How? [2]
 (h) Importance of SOP in Chemical Industry. [2]
 (i) Name various NDT Techniques [2]

Descriptive Questions-

[48]

- Q3. (a) Need of safety in chemical industry. Explain it. [6]
 (b) HAZCHEM [6]

OR

- (c) Explain U.N Classification of dangerous goods [6]
- Q4. (a) Define Unit Processes and Unit Operations and explain Hazards and controls related to the same. [6]
- (b) What is Material Safety Data Sheet (MSDS) and why it is important in the handling and storage of chemicals ? [6]
- OR**
- Q5. (c) Handling and Storage of Ammonia [6]
- (a) Work permit while opening or repairing pipelines of hazardous contents. [6]
- (b) Explain major rules in CMVR for handling of Hazardous goods. [6]
- OR**
- (c) Explain Safety in Laboratories [6]
- Q6. (a) Explain NDT [6]
- (b) Explain the Ultrasonic and Visual Testing. [6]
- OR**
- (c) What is Corrosion and erosion and how can it be prevented. [6]

*****X*****

(2)