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Sl. No.

M.Sc. III Semester Degree Examination, April/May - 2024
INDUSTRIAL CHEMISTRY
DSE 1 C. : Quality control, Environmental health and Safety measurements
(NEP)

Time : 3 Hours   Maximum Marks : 70

Note : Answer **any five** of the following questions including **Q.No. 1** and **Q.No. 1** is **Compulsory**.

1. (a) Discuss elements of quality assurance and their management.
   (b) What does ISO 9001 represent ? Explain the conditions for obtaining ISO Certificates
   (c) What are good laboratory practices ? Explain the principle of GLP.
   (d) How are control charts used in statistical treatment of experimental data ?
                                                                        4+4+3+3=14

2. (a) Discuss the precautionary measures taken in waste disposal and storing of chemicals.
   (b) Taking a suitable example, explain the stoichiometric calculation for sample preparation.
   (c) Explain the conductometric measurement of acid-base solution.
                                                                        5+5+4=14

3. (a) How are air pollutants classified ? Explain their effects.
   (b) Explain the sampling methods of gaseous samples.
   (c) Describe the working of cyclone separators and filters.
                                                                        5+5+4=14

4. (a) Discuss the safety measures taken when accidents occur in chemical industries.
   (b) Explain the toxic agents and their effects.
   (c) Describe the relationship of doses and responses.
                                                                        5+5+4=14

5. (a) Discuss the important causes for degradation of soil.
   (b) What are the sources of pollution in urban and industrial area ? Mention the methods to control it.
   (c) Discuss the risks that arise from the ground water contamination.   **5+5+4=14**

6. (a) Discuss the Impact of causes for degradation of soil.

(b) Explain the working principle of water de-ioniser and magnetic stirrers.

(c) Discuss with equation for the formation of SO_x and NO_x. Mention their ill effects on health. **5+5+4=14**

7. (a) What is photochemical smog ? Explain their formation and adverse effects on health.

(b) Discuss the sources of air pollutants.

(c) Explain the major oil industries accidents and their monitoring system.
5+5+4=14

8. (a) Explain the Factories act and personal protective equipment.

(b) Represent with illustration the flow diagram for piping and instruments.

(c) How are sewage sludge and hazardous waste contamination managed ?
5+5+4=14

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