

[This question paper contains 2 printed pages.]

**Sr. No. of Question Paper : 6943**

**D**

**Your Roll No.....**

**Unique Paper Code : 217163**

**Name of the Course : B.Sc. (Prog.) Applied Physical Science (Industrial Chemistry)**

**Name of the Paper : ICPT-101 – Industrial Chemistry – I**

**Semester : I**

**Duration : 3 Hours**

**Maximum Marks : 75**

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **Six** questions in all.
3. Q. No. **1** which is compulsory.

1. Write short note on any **three** of the following : (5×3)

- (i) Distillation Process
- (ii) Solvent extraction method in metallurgy
- (iii) Electrolytic refining of metals
- (iv) Global Warming
- (v) Ion exchange method for water purification

2. (a) State two important uses each of Hydrogen and Neon. (4)

- (b) Describe the principle involved in Linde & Claude process for the production of Oxygen and Nitrogen. (8)

3. (a) Describe the method of production of  $H_2SO_4$  by contact process. (8)

- (b) Give four important uses of caustic soda. (4)

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4. (a) Describe the method of production of NaOH by Nelson's Cell. (6)  
(b) Write applications of borax and Chrome alum. (6)
5. (a) Explain Kroll's process for making titanium. Can zirconium be prepared by this method ? (6)  
(b) Name the elements present in the anode mud in electrolytic refining of copper. Why are they present ? (3)  
(c) Differentiate between minerals and ores with suitable examples. (3)
6. (a) Describe the pollution caused by oxides of nitrogen. Suggest methods to control air pollution caused by them. (6)  
(b) Write a short note on industrial & photochemical smog. (3)  
(c) Explain the causes of ozone layer depletion. (3)
7. (a) Give an account of water pollution caused by detergents. (3)  
(b) Give different classes of water pollution with examples. (3)  
(c) Describe activated sludge process. What are its advantages ? (6)
8. (a) What do you mean by aerobic and anaerobic decomposition of sewage ? How have these techniques been used for the treatment of sewage ? (6)  
(b) COD has been found to be more scientific than BOD. Comment. (3)  
(c) Give a method of preparation of potash alum. (3)