

*This question paper contains 3 printed pages.]*

**5179**

*Your Roll No. ....*

**B.Sc. /I**

**B**

**INDUSTRIAL CHEMISTRY-I - Paper ICPT -101**  
**(Industrial Chemistry & Environment)**

*Time : 3 Hours*

*Maximum Marks : 75*

*(Write your Roll No. on the top immediately  
on receipt of this question paper.)*

*Attempt six questions in all. Question No. 1 is compulsory.*  
*Attempt any five questions from the rest.*

1. Write short notes (any 3) : 5×3
  - (a) Solvent extraction process.
  - (b) Ion-exchange method of water purification.
  - (c) Zone-refining for purification of metals.
  - (d) Green house effect.
  - (e) Basic principle of solid - liquid leaching
  
2. (a) How is caustic soda manufactured ? 8,4  
(b) Mention 4 important applications of caustic soda.

[P.T.O.]

3. (a) Describe the manufacture of sulphuric acid by contact process using box diagram.  
(b) Why we use 98.5-99%  $\text{H}_2\text{SO}_4$  for absorption of  $\text{SO}_3$  in contact process ? 8,4
4. (a) What is meant by available chlorine in bleaching powder? How it can be estimated in a sample of bleaching powder ? 8, 4  
(b) Give important applications of argon and neon.
5. (a) How is air pollution caused by oxides of Nitrogen ? What are the different sources of these oxides ?  
(b) Write applications of borax and chrome alum. 6,6
6. Write the industrial effluent and their treatment from (any 2) :- 6,6
  - (i) Electroplating Industry.
  - (ii) Petroleum and Petrochemical Industry.
  - (iii) Dairy Industry.
7. (a) Describe the control process for the air pollution caused by various gases.  
(b) What are anaerobic and aerobic biological oxidation ? How have these techniques been used for treatment of sewage ? 6,6

8. (a) Explain the Kroll's process for making titanium.  
Can zirconium be prepared by this method ?

8, 4

- (b) Describe the water pollution caused by detergents and pesticides.

9. (a) Write applications of sodium thiosulphate, potassium dichromate and potassium permanganate.

- (b) Give the hazards involved in storage of fluorine.

6, 6