

6. (a) What are the major sources of carbon monoxide?
Give methods for controlling the amount of carbon monoxide in the atmosphere.
- (b) What is water pollution? Discuss the causes of water pollution and techniques for measuring water pollution.
- (c) Explain the application of separation by absorption and adsorption. (6,6,3)

(1000)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1570

I

Unique Paper Code : 2172551103

Name of the Paper : DSC-C1 (Industrial Chemicals and Environment)

Name of the Course : B.Sc. (Prog.) Industrial Chemistry

Semester : I

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. There are **six** questions in all. **All** questions carry equal marks.
3. Attempt any **Four** Questions in all.
4. **All** questions carry equal marks.

P.T.O.

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1. (a) Discuss the "Contact process" for the manufacturing of sulphuric acid (H_2SO_4) with the help of a flow diagram.

(b) What is acid rain? Name the gases responsible for acid rain.

(c) Explain the important applications of hydrogen gas. (6,6,3)
2. (a) What is the common name of Sodium hydroxide? Write a few of its applications. How is it prepared at the industrial level?

(b) What is the greenhouse effect? Which gases are mainly responsible for global warming?

(c) What are the pollutants present in the industrial effluent of the textile industry? (6,6,3)
3. (a) What is Ozone depletion? Write the name of the major chemicals causing it and the chemical reaction involved in Ozone depletion.

(b) Explain the industrial method for producing potassium dichromate and give its applications.

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- (c) Explain the solvent extraction method of separation and purification. (6,6,3)
4. (a) What is the difference between BOD and COD? How does the method of determination of these two parameters vary? Discuss in detail.

(b) What is meant by "Available chlorine" in bleaching powder, and what is its estimation method?

(c) Explain the principle of solid-liquid leaching. (6,6,3)
5. (a) Write short notes (**any two**) :
 - (i) Basic principles of the distillation process.
 - (ii) Reverse osmosis method of water purification.
 - (iii) Pollution from the Agrochemicals industry.
(b) Write few uses of nitrogen gas. What are the hazards of handling liquefied nitrogen?

(c) Why do we use 98.5-99% H_2SO_4 for absorption of SO_3 in the contact process? (3,3,6,3)

P.T.O.