



**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours 6th Semester Examination, 2021

**DSE4-CHEMISTRY**

**INDUSTRIAL CHEMICALS AND ENVIRONMENT**

Full Marks: 40

**ASSIGNMENT**

*The figures in the margin indicate full marks.  
All symbols are of usual significance.*

**Answer any four questions from the following**

10×4 = 40

1. (a) Describe the manufacture of helium with a flow chart diagram. 4  
(b) Briefly outline different methods commonly used for the recovery of carbon dioxide. 4  
(c) What are the health hazards of phosgene? 2
2. (a) Describe the manufacture of caustic soda by Nelson Diaphragm Cell process. 3  
(b) What are the precautions to be taken for the storage of caustic soda? 2  
(c) How potassium dichromate is manufactured? 2  
(d) Give the uses of Borax. 3
3. (a) Describe the manufacture of sulphuric acid by Contact process. 4  
(b) What are the cares that must be taken for sulphuric acid exposure? 2  
(c) Describe the physical and health hazards of gases. 4
4. (a) What is photochemical smog? Discuss the remedial measures for photochemical smog. 2+2  
(b) Discuss about the ozone depletion of CFC. 3  
(c) Write a short note on Greenhouse effect. 3
5. (a) Discuss the bio-desulphurisation of coal. 4  
(b) Discuss briefly the sources and nature of water pollutants. 4  
(c) What is BOD? 2

6. (a) Write a short note on reverse osmosis method for water treatment. 3  
(b) What are the different water quality parameters? 3  
(c) Briefly describe the industrial waste management. 4
7. (a) What do you mean by conventional and non-conventional energy sources? Give examples. 3  
(b) What are the advantages and disadvantages of solar energy? 4  
(c) Write a short note on hydrogen as energy source. 3
8. (a) What are the effects of nuclear pollution? How this can be prevented? 2+3  
(b) Discuss about the nuclear disposal management. 5

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