26-3-18

DOON UNIVERSITY, DEHRADUN

Mid Semester Examination, 6th Semester, 2018

Academic Year 2017-18 (Even Semester)

School of Physical Sciences (SoPS) Department name: Chemistry

Programme Name: Integrated M.Sc. 5 Years (Chemistry)

Course Title: *Industrial Chemicals and Environment* **Course Code:** *CYD–351*

Time Allowed 2.00 Hours *Maximum Marks: 30*

*Note: Attempt All Questions from Sections A, B and C. (**All terms have their usual meaning**)*

SECTION: A *(Marks: 6)*

1. Why is He not produced by cryogenic separation of air? What are the sources of He and impurities that needs to be removed in pre-cleaning step of gas? [2]

2. Which method/technique is used in chlor-alkali industry? Explain the technique with chemical reactions involved. [2]

3. Give an account of large scale production of hydrogen. [2]

SECTION: B *(Marks: 12)*

4. What are the applications and hazards of sulphuric acid? What precautions must be taken while handling the chemical? [3]

5. Why is acetylene considered as most versatile fuel? Give its applications and storage conditions. [3]

6. Give a brief account of industrial production, uses and storage of fluorine. [3]

7. What is the commercial name of carbonyl dichloride gas? Discuss its production, uses and storage. [3]

SECTION: C *(Marks: 12)*

8. Write a short note on environmental hazards of : [1 x 3]
   (a) Chlorine
   (b) Carbon monoxide
   (c) Sulfur dioxide

9. Give an account of large scale production, applications and hazards of nitrogen, oxygen and argon. [6]

10. Explain the industrial production and applications of: [1 x 3]

(a) Aqua fortis

(b) Lye

(c) Hydrochloric acid