

B.Sc.- III (CBCS Pattern) Semester-V
USCCHT11 - Chemistry-III - Industrial Chemicals and Environment

P. Pages : 2

Time : Three Hours



GUG/W/24/13091

Max. Marks :50

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- Notes : 1. All **five** questions are compulsory and carry equal marks.
2. Write chemical equation & draw diagram whenever necessary.

1. a) Describe the large-scale production, storage and uses of Oxygen. 5
- b) State analysis and hazards in handling following gases. 5
- i) Carbon monoxide ii) Phosgene

OR

- c) Write the industrial uses of acetylene. 2½
- d) Explain the hazards in handling of fluorine. 2½
- e) Explain applications of bleaching powder. 2½
- f) State manufacture processes for hydrogen peroxide. 2½
2. a) Explain the biogeochemical cycle of nitrogen? 5
- b) State importance of bio catalysis in green chemistry. 5

OR

- c) Write a short note on ecosystem. 2½
- d) Give the preparation of ferrous and non-ferrous metals. 2½
- e) Discuss biogeochemical cycle of carbon. 2½
- f) Give the importance of biocatalysis in chemical industry. 2½
3. a) What is air pollution? Discuss chemical and photochemical reactions in atmosphere 5
- b) Describe the methods for control of air pollution? How particle size and chemical nature affect air pollution? 5

OR

- c) Explain the harmful effect of photochemical smog? 2½
- d) Write a short note on Ozone layer depletion. 2½

- e) Explain methods of estimation of CO and NO₂. 2½
- f) What is greenhouse effect? How it affecting earth temperature? 2½

4. a) Write brief note on : 5
 i) Solid phase peptide synthesis. ii) End group synthesis.
- b) Discuss the nuclear disaster and its management. 5

OR

- c) What is tidal energy and hydel energy. 2½
- d) What is solar energy and geothermal energy. 2½
- e) Differentiate between nuclear fusion and nuclear fission. 2½
- f) Write a short note on disposal of nuclear waste? 2½

5. Attempt **any ten** question. **1x10**
=10

- i) Why industrial gases are harmful?
- ii) Write the use of potassium permanganate.
- iii) Define semiconductors?
- iv) Define green chemistry?
- v) Write harmful effects Chlorofluorocarbons on environment?
- vi) Write major regions of atmosphere?
- vii) What is nuclear pollution?
- viii) What is nuclear fission?
- ix) Write note on bio-catalysis?
- x) What is Global warming?
- xi) What are the hazards in handling caustic soda.
- xii) What is photochemical reaction?
