

B.Sc. (CBCS Pattern) Semester - V  
**USCDSECHT-11 / USCCHT-11 : Chemistry Paper-III**  
**(Industrial Chemicals and Environment)**

P. Pages : 2

Time : Three Hours



GUG/S/23/13091

Max. Marks : 50

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1. a) Explain manufacture and applications of 5  
i) Sulphuric acid ii) Nitric Acid
- b) State analysis and hazards in handling following chemicals 5  
i) Carbon Monoxide ii) Phosgene
- OR**
- c) Explain applications of bleaching powder. 2½
- d) State manufacture processes for sodium thiosulphate. 2½
- e) State hazards in handling of the industrial gases like acetylene and hydrogen. 2½
- f) What are the uses of following gases. 2½  
i) Borax ii) Caustic Soda
2. a) Explain preparation of ferrous and non ferrous metals in detail. 5
- b) State importance of biocatalysis in green chemistry. 5
- OR**
- c) Differentiate between metals and ultrapure metals. 2½
- d) State biogeochemical cycle of nitrogen. 2½
- e) State biogeochemical cycle of carbon. 2½
- f) What is Biocatalysis? Explain it's importance in chemical industry. 2½
3. a) Discuss the various regions of the atmosphere. Explain the different reactions occurring in the atmosphere. 5
- b) How is ozone formed in the atmosphere? What are the causes of depletion of ozone layer? Explain harmful effect of depletion of ozone layer. 5
- OR**
- c) Explain how does greenhouse affect on global warming. 2½
- d) Enlist sources of air pollution. Describe classification of air pollutants. 2½
- e) Write down the reactions involved during the formation of photochemical smog. 2½
- f) How does SO<sub>2</sub> causes pollution? Explain as to how this can be checked. 2½

4. a) Explain sources of energy in details. 5  
b) Explain in details about the nuclear disaster. How it can be managed? 5

**OR**

- c) Differentiate between nuclear fusion and nuclear fission. 2½  
d) State disposals of nuclear waste. 2½  
e) What is tidal energy and hydel energy? 2½  
f) Explain geothermal energy in detail. 2½
5. Attempt **any ten** questions. 10
- a) State any two applications of Hydrogen peroxide.  
b) Write chemical formula of potash alum.  
c) How hydrogen gas can be stored?  
d) Define semiconductors.  
e) What is ecosystem?  
f) What are different segments of Environment?  
g) What is photochemical reaction?  
h) Write molecular formula of chlorofluorocarbon.  
i) Name two gases air pollutants.  
j) What is nuclear pollution?  
k) What is meant by Nuclear disaster?  
l) What is Nuclear waste?

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