

### DSE-III, CHEMISTRY HONS.

1. Answer all the questions [1×8=8]

- i. Write the chemical formula of potash alum.
- iii. What is geothermal energy.
- iv. How phosgene is manufactured.
- v. What is asphyxiation.
- vi. Name some particulate air pollutants.
- vii. What is total hardness of water.
- viii. What is flocculation.

2. Answer any **Eight** the questions [1.5×8=12]

- i. What is meant by Q-value in a nuclear reaction.
- ii. What is bio fuel.
- iii. What are different types of coal.
- iv. What is meant by evapotranspiration.
- v. What is BOD.
- vi. What is trophic level.
- vii. Write the use of borax.
- viii. What is meant by steam reforming of hydrocarbon.
- ix. Which acid is commercially known as muriatic acid.
- x. Which gas is manufactured by coal gasification.

3. Answer any **Eight** the questions [2×8=16]

- i. How nitrogen is removed from effluents.
- ii. What is cyanide process.
- iii. Write chemical reaction involved in Van Arkel method.
- iv. What are the advantages of biocatalyst.
- v. What is meant by sustainable development.
- vi. What is water gas shift reaction.
- vii. What are the nuclear wastes.
- viii. Write difference between nuclear fission and fusion.
- ix. What is the basic of ozone photochemistry.

x. Write the cause of green house effect.

5. Discuss the methods of preparation of  $\text{Cl}_2$  gas production, its storage and application. [6]

OR

Write down the industrial method of preparation of Steel and discuss its application ?

7. Discuss in brief about working principle of effluent treatment plant. [6]

OR

Explain in brief about process of sludge disposal.

8. Discuss in detail about disposal of nuclear waste. [6]

OR

What is renewable energy? Explain how non-conventional energy sources i.e. geothermal, tidal, hydel enegy etc. can be used as an alternative to traditional energy sources.

9. Discuss the biogeochemical cycle of carbon. [6]

OR

Write the process for treatment of waste water released from textile industry.