

## CHEMISTRY- 2012

First question is compulsory. Answer any FOUR of the following.

1.
  - a) Explain WHO standards of drinking water.
  - b) Explain the causes and effects of acid rains.
  - c) What are intrinsic semi conductors?
  - d) Write the peaceful uses of nuclear energy.
  - e) Define octane number.
  - f) Write the preparation and application of Nylon 6,6.
  - g) What are special cements? Write their applications.
2.
  - a) Write the process of Primary sewage treatment process.
  - b) Explain the desalination of water by electro dialysis.
3.
  - a) Describe the types of crystals with examples. What are crystal defects?
  - b) Explain the chemistry of semi conductors.
4.
  - a) Write the ultimate analysis of coal.
  - b) Explain the construction and working of calomel electrode.

5. a) Describe the important components and principle of power reactors.  
b) Explain the factors affecting corrosion.
6. a) Write the refining of petroleum.  
b) Write the properties and applications of lubricants.
7. a) Describe the mechanism of addition polymerization with an example.  
b) Write the properties and engineering applications of polymers.
8. a) Write the manufacture of Portland cement.  
b) Write the properties and uses of ceramics.