CHEMISTRY

Lectures/ week=3Hrs
Sessional Marks 30
Exam. Marks 70

1. Water Chemistry and pollution:


Water Pollution: Source – BOD – COD – Sewage treatment preliminary, Primary, secondary and tertiary.
Air Pollution: Source – Air pollutants – CO, SOx, NOx, Hydrocarbons and particulates. Acid rain – Green House effect – control of Air pollution (General).

2. Solid State Chemistry:


3. Energy Sources:


Nuclear Energy: Fission and fusion - power rector – Atomic pile applications.


4. Corrosion Chemistry:


5. Fuels and Lubricants:


Lubricants: Classification – mechanism – properties of lubricating oils – Selection of lubricants for engineering applications.

6. Polymers and Plastics:

7. Building Materials:


**Refractories:** Classifications – properties – Engineering applications.

**Ceramics:** Classification – Properties – uses.

**Prescribed Text Books:**

5. Material Science and Engineering V. Raghavan – Prentice – Hall India Ltd.,
Chemistry Laboratory

(Practicals / week = 3, Exam = 3 Hrs.

Sessional Marks 50
Exam. Marks 50

List of Experiments:

01. Determination of Sodium Carbonate.
02. Determination of Sulfuric acid using strong base.
03. Estimation of Iron (II) using Potassium Permanganate.
05. Determination of volume strength of Hydrogen Peroxide.
06. Estimation of Calcium in a sample of Portland cement.
07. Estimation of Chromium (VI) using Ferrous Ammonium Sulphate.
08. Estimation of Copper (II) using Sodium thiosulphate.
09. Analysis of Bleaching powder of Chlorine content.
12. Determination of alkalinity of a water sample.

Demonstration Experiments:

14. Preparation of Copper pigment.
17. Digital potentiometer.