

Course Code	Course Title	C	H	I	E	T
17P3CNM1	CHEMISTRY AND ITS APPLICATIONS	4	4	25	75	100

UNIT I SMALL SCALE UNITS 12 Hrs

Safety matches – Agarbattis - Naphthalene balls - Wax candles - Shoe polish - Gum paste - Writing /Fountain pen ink - Chalk (Rayons - Plaster of paris).

Basics of Chemistry: Periodic table – electronic configuration-classification of elements on the basis of electronic configuration - Oxidation number (Eg. KMnO_4 , $\text{K}_2\text{Cr}_2\text{O}_7$, H_2SO_4 , CO_2 , SO_3 , NH_3) – oxidation - oxidising agents with example - Reduction – Reducing agent with example.

UNIT II CORROSION 12 Hrs

Corrosion – definition - rusting of iron with examples – protection methods of corrosion-anodicprotection – Soaps – Detergents - Paints – acrylic emulsion paints – varnishes.

UNIT III POLLUTION 12 Hrs

Pollution: Introduction – pollution – definition- classification – Air pollution – air pollutants – acid rain – green house effect – ozone layer depletion – control of air pollution – water pollution – effects of impurities in water – Sewage, industrial effluents (textile/leather).

UNIT IV POLYMERS 12 Hrs

Monomer – polymer – definition – classification – thermoplastic – thermosetting – differences between the thermoplastics and thermosetting polymers - polymerization – addition polymer-condensation polymer (Rubber, PVC, polyethylene, nylon-66-Terylene and Bakelite).

UNIT V WATER TREATMENT 12 Hrs

Water: Source of water – characteristics of water – Hardness of water – Types – Temporary hardness – permanent hardness – disadvantages of hard water – Removal of hardness – Reverse osmosis – zeolite process.

Text Book(s):

1. Sharma, B. K., Industrial chemistry, Goel Puplicsihing House, 1994.
2. Charrabarthly B.N., Industrial Chemistry, Oxford and IBH Publishing co. Pvt. Ltd. 1981.
3. Jain, P. C., Jain, M. Engineering chemistry, 15th edition., 1998.