

CORPORATE INSTITUTE OF SCIENCE & SCIENCE & TECHNOLOGY, BHOPAL

Engineering Chemistry (First Semester) Important Question

UNIT-I

Q.1 Explain various methods of water softening along with their diagram.

1. Ion Exchange softening method

2. Zeolite softening method

Q.2 Explain internal conditioning of boiler feed water.

Q.3 Discuss various methods used for disinfection of water.

Q.4 What are scale & sludge. How is it formed write its disadvantages & methods of removal of scales in boilers.

Q.5 Write short note on

1. Boiler corrosion 2. Caustic embrittlement

UNIT-II

Q.1 Differentiate between proximate & ultimate analysis along with their significance.

Q.2 Explain the determination of calorific value of a solid fuel using Bomb calorimeter.

Q.3. Describe Otto – Hoffmann's process for preparing coke. Write the advantages of this process.

Q.4. Write a short note on cracking.

Q.5. What is knocking. Octane no & cetane no. How knocking can be improved.

UNIT-III

Q.1 What are the different mechanism of lubrication Explain with diagram.

Q.2 Define the term lubricant. Give classification of lubricant with examples. Write important function of lubricant.

Q.3 Define the following terms & explain their significance

1. Flash & fire point 2. S.E.N. 3. Saponification no

4. Viscosity 5. Aniline point

Q.4 Write a short note on graphite & grease.

Q.5 Explain the manufacturing of Portland cement in rotary kilns with chemical reactions.

Q.6 Short note on 1. RUL 2. Refractoriness 3. Thermal spalling

UNIT-IV

Q.1 Write a brief account of the classification of polymer & discuss the mechanism of free radical addition with suitable example.

Q.2 Differentiate between

1. Addition & condensation polymerization

2. Thermoplastic & thermosetting polymers

3. Natural & synthetic rubber

Q.3 What is natural rubber. Explain why natural rubber needs vulcanization & how it is carried out.

Q.4 Give flow sheet diagram of Nylon 66 & Dacron.

Q.5 Give preparation, properties & uses of

1 PVC 2. Teflon 3. Bakelite. 4. Plexiglass 5. Buna-s 6. Buna-N

UNIT-V

Q.1 Describe U.V. Spectroscopic instrument & mention its application.

Q.2 Explain the applications of IR & NMR spectroscopy.

Q.3 Write short note on

1. DO

2. BOD

3. Lambert's & Beer's law

Q.4 Explain the methods of determination of mixed alkalinity in water.

Q.5 Explain principle, Instrumentation & application of gas chromatography.