

BSIC - SN101
[w.e.f. 2020-21 Admitted Batch]

Dr.B.R.AMBEDKAR UNIVERSITY, SRIKAKULAM

(CBCS UG Proposed Syllabus)

Subject: Industrial Chemistry

I B.Sc - SEMESTER- I: INDUSTRIAL CHEMISTRY SYLLABUS

w.e.f. 2020-21

Paper- I CHEMICAL PROCESS INDUSTRIES-1

Total hours of teaching 60hrs @ 4 hrs per week

UNIT- I

12h

Water treatment:- Source of water, quality of natural water, water quality parameters, hardness of water causes, conditions of water, permutite, ion-exchange process, treatment of water for municipal purpose, desalting of sea water, composition, properties and quality of deposits in boilers and heat exchangers, treatment of boiler water, corrosion and treatment of heat power equipments, industrial water treatment, water analysis, BOD,COD, determination of hardness.

Sewage and Sewage treatment:-Municipal waste water, sewage and its compositions, aerobic process and anaerobic processes for the treatment of sewage bacteria, methods of sewage treatment – aerobic oxidation plants.

Industrial wastes and treatment process:- Types of industrial wastes, nature, effect and treatment of chemical wastes from some important industries.

UNIT- II

12h

Corrosion:-Introduction, economic aspects of corrosion, types of corrosion chemical corrosion and electrochemical corrosion, theories of chemical corrosion and electrochemical corrosion, factors effecting chemical corrosion, atmospheric corrosion, water corrosion, microbiological corrosion, prevention of corrosion.

Protective coating :-Introduction, types of metal coating, coating processes, galvanizing, tinning, metal cladding, electroplating, immersion plating, cementation, metal spraying.

UNIT – III

12h

Glass: :- Rawmaterials, methods of manufacture (pot furnace, tanks furnace, regenerative tank furnace), shaping, various glasses- coloured glass, safety glass, fibre glass, pyrex glass, photosensitive glass, glass wool.

Ceramics:- Introduction and properties of ceramics, basic raw materials, formation, types and properties of clay, manufacturing processes, glazing, porcelain, china ware- raw materials and manufacture.

