

AC-Che1 : - Industrial chemistry

Duration : 30Hours
Exam Marks : 50

Objectives: 1. Make the students well-grounded in the principles and through knowledge of scientific techniques industrial Chemistry.
 2. Educate and train Chemists to acquire a meaningful picture of Chemical industries.
 3. Prepare students for professional participation in Chemical industries so as to adapt themselves to jobs which are problem solving.
 4. Train students to be result-oriented in the Chemical, Petrochemical, biochemical and allied technological fields.

Scope:

These professionals may work in positions offered by the top companies and organizations are an analytical chemist, chemical engineer, forensic scientist, nanotechnologist, pharmacologist, toxicologist, research associate, etc.

Course Outcomes:

- Student will be able to know the chemistry underlying the properties and reaction of various food components, reactions in foods.
- Cleaning products enable to care for our home and possession. Chemistry used for cleaning and in cleaning products help to know about its efficiency and hygienic.
- Learnt about the role of soil tests (quality of soil and soil fertilizer) in fertilizer use and models. Gained knowledge on organic farming-concepts and applications

Module I: Chemicals in Food
05 Hours

Food additives, artificial sweetening agents, food preservatives and their structural formula, aspartane, alitame, sucralose. using alitame

Module II: Cleaning agents
06 Hours

Definition, classification, structural formula for soaps. Types of soaps, effects of soaps on hard water. Synthetic detergents and their classification.

Module III Soil and Water
04 Hours

Practical size distribution, carbon determination of porosity, soil moisture constants, soil P^H and electrical conductivity water soluble salts and available nutrient in soil physical chemical and biological characteristics of water

Module IV: Drugs
06 Hours

Definition, classification based on pharmacological effect, drug action, chemical structure, molecular targets, catalytic action of enzymes therapeutic action of different classes of drugs, antibiotics, antiseptics, preparation and uses of aspirin and paracetamol.

Module V: Industrial organic chemistry
04 Hours

Introduction and classification, colour and constitution, synthesis of cangored, malachite green, alizarin and indino . Synthesis and uses of diclofenate, ranitidine and sulphamilamide.

Module VI: Industrial materials
05 Hours

- i. **GLASS:** - properties, manufacture of soda glass, borosilicate and optical glasses, safety glass, fire and bullet glasses
- ii. **CEMENT:** - raw materials, manufacture of Portland cement setting process
- iii. **PAINTS:** - manufacture, relative merites of white lead, lithopone and titanium white

Scheme of Evaluation:
Total marks:50
Part-A: Two marks questions
10X2=20
Part-B: Six marks questions
6X5=30