Unit - I: Analysis of Dyes

Introduction to dyes, classification and relation between colour and chemical constitution.

(i) General methods for analysis of colours used in foods, drugs and cosmetics.
(ii) Brief idea about synthesis and analysis of following classes of dyes: azo dyes: indigoid dyes, triphenyl methane dyes.

Unit - II: Analysis of Food and Food Products

The chemical and nutritional composition of foods. Analysis of trace elements such as As, Cd, Pb in food. Analysis of tea, wines, milk, butter, cheese. Approximate analysis of honey. A general idea about preservatives.

Unit - III: Analysis of Pesticides and Fertilizers

(a) Pesticides: General introduction, brief classification and mode of action of pesticides. Analysis of pesticides in general with reference to DDT, dieldrin, diphacinone, heptachlor, malathion, parathion, sevin.

(b) Fertilizers: Sampling and sample preparation, determination of water, total phosphorus, potassium, total nitrogen, urea.

Unit - IV: Analysis of Petroleum and Petroleum Products

(i) Introduction, determination of flash and fire point, API Gravity, distillation of petroleum products, specific gravity of petroleum, cloud and pour points, water in petroleum products. Ammonia point, neutralization value of petroleum products, lead anti-knock compounds in gasoline, sulphur in petroleum products.

(ii) A General idea of (a) Embalming chemicals (b) Dry cleaning agents and (c) Materials used in match composition.

Unit - V: Analysis of Wood and Pulp

(i) Analysis of Wood: Sampling, determination of methoxyl group in wood. A brief idea of analysis of moisture in wood chips and saw dust by toluene methods, cellulose in wood.

(ii) Analysis of Pulp: General introduction, sampling, determination of cellulose in pulp, permanganate number of pulp, copper number of pulp.

Recommended

J. Vogel, Textbook of Quantitative Chemical Analysis, 5th ed., Addison Wesley
S. Man Singarpore Ltd. (1999)


Chairman B.O.S.
UNIT – I: Concepts of Industrial Management


UNIT – II: Intellectual Property Rights

TRIPS – Its scope and options, the changing R & D processes and IPR, The IPR tool kit, patents, the patenting process, patent cooperation treaty.

UNIT – III: Intellectual Property Protections of Living Species

Compatibility between conventions, protecting inventions in biotechnology, protections of traditional knowledge, biopiracy and documenting traditional knowledge, some case studies: The basmati rice issue, revocations of turmeric patent, revocation of neem patent.

UNIT – IV: Exercising and Enforcing of Intellectual Property Rights

Rights of an IPR owner, licensing agreements, criteria for patent infringement, case studies of patent infringement, IPR – a contract, unfair competitions and control, provisions in TRIPs, some case studies.

UNIT – V: Role of Patents in the Pharmaceutical Industry

Recent changes in IPR laws impacting pharmaceutical industry, intellectual cooperation in the pharmaceutical industry, some case studies

Books Recommended