

Pharmacy (PY)

Pharmacognosy & Phytochemistry: Chemistry of natural products, tests, isolation, purification & characterization and estimation of phytopharmaceuticals belonging to the group of Alkaloids, Glycosides, Terpenoids, Steroids, Bioflavanoids, Purines, lipids, proteins. Pharmacognosy of crude drugs and herbal products. Standardization of raw materials. Modern techniques used for evaluation.

Pharmaceutical Chemistry: Structure, nomenclature, classification, synthesis, SAR and metabolism of the following category of drugs, which are official in Indian Pharmacopoeia and British Pharmacopoeia. Introduction to drug design. Stereochemistry of drug molecules. Hypnotics and Sedatives, Analgesics, NSAIDS, Neuroleptics, Antidepressants, Anxiolytics, Anticonvulsants, Antihistaminics, Local Anaesthetics, Cardio Vascular drugs - Antianginal agents Vasodilators, Adrenergic & Cholinergic drugs, Cardiotonic agents, Diuretics, Antihypertensive drugs, Hypoglycemic agents, Antileptic agents, Coagulants, Anticoagulants, Antiplatelet agents. Chemotherapeutic agents - Antibiotics, Antibacterials, Sulphadiazine. Antiprotozoal drugs, Antiviral, Antitubercular, Antimalarial, Anticancer, Antiamoebic drugs. Diagnostic agents..

Pharmaceutics:

Formulation, Development and Storage of different dosage forms and new drug delivery systems. Biopharmaceutics and Pharmacokinetics and their importance in Pharmaceutical calculations. Study of physical properties of drugs: Particle size and shape, pKa, solubility, partition coefficient, crystallinity, polymorphism and hygroscopicity. Study of chemical properties of drugs: Hydrolysis, oxidation, reduction, racemization, polymerization and their influence on formulation and stability of drug products.

Pharmacology General pharmacological principles including Toxicology. Drug interaction and Pharmacology of drugs acting on Central nervous system, Cardiovascular system, Autonomic nervous system, Gastro intestinal system and Respiratory System Pharmacology of Autocoids, chemotherapeutic agents including anticancer drugs, Bioassays, Immuno Pharmacology. Drugs acting on the blood & blood forming organs. Clinical Pharmacy Therapeutic Drug Monitoring Dosage regimen in Renal and hepatic impairment. Drug - Drug interactions and Drug -food interactions, Adverse Drug reactions. Medication History, interview and Patient counseling

Pharmaceutical Analysis and quality assurance:

Concepts of qualitative and quantitative analysis, fundamentals of volumetric analysis, methods of expressing concentration, primary and secondary standards; concept of error, precision, accuracy, specificity, sensitivity, detection limit, linearity and range. Ruggedness, standards, standardization, calibration of analytical equipments. Principles, instrumentation and applications of the following: Absorption spectroscopy (UV, visible & IR). Fluorimetry, Flame photometry, Potentiometry. Conductometry and Plarography. Pharmacopoeial assays and chromatography methods. Quality assurance and quality control methods, concepts of GMP and GLP and forensic pharmacy.
