RESEARCH METHODOLOGY

General introduction to Research
History of Science & Technology: Importance of research, role of research, aims & objectives, research process, phases of research.

Research problem Formulation
Review of Research Literature: Purpose and use of literature review, locating relevant information, use of library & electronic databases, preparation & presentation of literature review, research article reviews, theoretical models and frame work. Identification of gaps in research, formulation of research problem, definition of research objectives.

Research Design

Research Publication & Presentation

Research Ethics and Morals
Natural Products
Pharmacognosy & Phytochemistry- Chemistry, tests, isolation, characterization and estimation of phytopharmaceuticals belonging to the group of Alkaloids, Glycosides, Terpenoids, Steroids, Bioflavanoids, Purines, Guggul lipids. Pharmacognosy of crude drugs that contain the above constituents. Standardization of raw materials and herbal products, WHO guidelines, Quantitative microscopy including modern techniques used for evaluation. Biotechnological principles and techniques for plant development, Tissue culture.

Pharmacology

Medicinal 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-SAR of Benzodiazepines, Barbiturates, synthesis of barbital; Analgesics-SAR of morphine analogues, synthesis of methadone; NSAIDS- Synthesis of ibuprofen; Neuroleptics, Antidepressants- SAR of Tricyclicantidepressants, synthesis of amphetamine, fluoxetine; Anxiolytics, Anticonvulsants, Local Anaesthetics- SAR of Benzoic acid and aniline derivatives & phenothiazines, synthesis of benzocaine, phenytoin, carbamazepine; Antihistaminics, Cardio Vascular drugs – Antianginal

Pharmaceutics

Pharmaceutical Jurisprudence
Drugs and cosmetics Act and rules with respect to manufacture, sales and storage. Pharmacy Act. Pharmaceutical ethics.

Pharmaceutical Analysis
Biochemistry
Biochemical role of hormones, Vitamins, Enzymes, Nucleic acids, Bioenergetics.

Microbiology

Clinical Pharmacy