

621. PHARMACEUTICAL SCIENCES

- 1. Pharmaceutical Technology:** Theory of solubilisation and techniques, theory of compaction and compression. Applications of polymers in pharmaceutical Technology. Kinetics and Drug stability, sustained release dosage forms, new drug delivery systems, process validation, Good manufacturing practices, pharmacokinetics of Drugs and Biopharmaceutics. Drug interactions. Drug- excipients interaction, IPQC tests for Solid Dosage forms and liquid Dosage forms.
- 2. Pharmaceutical Chemistry:** Stereo Chemistry of Carbon and Nitrogen Compounds. Mechanisms of organic reactions and Molecular rearrangements. Unit processes , Alkaloids, Steroids, Antibiotics, Genesis of New Drugs. Theoretical aspects of drug design and drug action. Enzyme Inhibitions, Chemotherapy of cancer, Drugs related to Harmonics, Psychopharmacological agents, Recent advances in Immunosuppressive and Immunostimulant agents, Anti-malarials, anti-inflammatory; cardio-vascular agents, -adrenergic Blockers.
- 3. Pharmacology:** Screening methods in Drug research and Bioassays. Molecular Pharmacology and Toxicology, Chemical pharmacy aspects of infective diseases, Gastrointestinal diseases, Neoplastic Diseases, Cardio-vascular Diseases, Respiratory disease. Recent advances in Chemotherapy. Chemical mediations, Drugs acting on central nervous system and autonomic nervous system. Anova, t-test, F-test & chi-square test.
- 4. Pharmacognosy:** Medicinal plants tissue culture: Herbal drugs belonging to anti-cancer, anti-hypertension and anti-diabetics, Bio-transformations. Types of pest and pesticides. Herbal formulations. Quality control of crude drugs. Problems and prospects in discovering new drugs from plants. Neutraceuticals.
- 5. Pharmaceutical Analysis:** Principles, Instrumentations and Applications of GC, HPLC, HPTLC, Mass spectroscopy; UV, IR and NMR spectrophotometry, Immunological methods, Radio-Immunoassays, Fluorimetry, Colorimetry Electrophoresis for evaluation of medicinal and biomedicinals.