

PHARMACEUTICS: Dispensing and Community Pharmacy, Physical Pharmacy, Pharmaceutical Engineering, Pharmaceutical Technology, Bio-Pharmaceutics and Pharmacokinetics, Hospital Pharmacy, Jurisprudence & Ethics, Microbiology.

NUMBER OF CLASSES / TESTS

SUBJECT	2ND YEAR	3RD YEAR	4TH YEAR
OFFLINE & HYBRID CLASSES SYLLABUS AND TEST (No. of classes and test dates will be announced during live classes)	No. of class	No. of class	No. of class
	1 st Test Date	1 st Test Date	1 st Test Date
	2 nd Test Date	2 nd Test Date	2 nd Test Date
SYLLABUS FOR TEST- (CE-1) Pharmacy Profession, Kinetic Principles, and Stability Testing, Prolonged Action Pharmaceuticals, Novel Drug delivery system, GMP and Validation, ADME, Sources of drug information, Introduction to Pharmaceuticals,			
SYLLABUS FOR TEST- (CE-2) PHYSICAL PHARMACY: Matter, properties of matter; Viscosity and rheology; Dispersion systems; Micromeritics and powder rheology; Surface and interfacial phenomenon; Complexation; Buffer; Solubility			
SYLLABUS FOR TEST- (CE-3) PHARMACEUTICAL ENGINEERING Importance of unit operations in manufacturing, Stoichiometry. Fluid Flow, Filtration, and Centrifugation. Material Handling Systems. Industrial Hazards and Safety Precautions.			
SYLLABUS FOR TEST- (CE-4) PHARMACEUTICAL ENGINEERING Heat transfer, Evaporation, Size Reduction. Mixing, Crystallization, Material of Construction.			
SYLLABUS FOR TEST- (CE-5) PHARMACEUTICAL ENGINEERING Distillation. Drying. Dehumidification and Humidity Control. Refrigeration and Air Conditioning. Automated Process Control Systems.			

<p>SYLLABUS FOR TEST- (CE-6) PHARMACEUTICAL TECHNOLOGY Liquid Dosages Forms. Semisolid Dosage Forms. Extraction and Galenical Products. Blood Products and Plasma Substitutes. Ophthalmic Preparations. Suppositories. Preformulations. Pharmaceutical Aerosols, Radio Pharmaceuticals, Stability of formulated products, The pilot plant scale-up techniques.</p>			
<p>SYLLABUS FOR TEST- (CE-7) PHARMACEUTICAL TECHNOLOGY Tablets.</p>			
<p>SYLLABUS FOR TEST- (CE-8) PHARMACEUTICAL TECHNOLOGY Capsules.</p>			
<p>SYLLABUS FOR TEST- (CE-9) PHARMACEUTICAL TECHNOLOGY Cosmeticology and Cosmetic Preparations.</p>			
<p>SYLLABUS FOR TEST- (CE-10) PHARMACEUTICAL TECHNOLOGY Parenteral Products.</p>			
<p>SYLLABUS FOR TEST- (CE-11) PHARMACEUTICAL TECHNOLOGY Surgical products. Packaging of Pharmaceutical Products.</p>			
<p>SYLLABUS FOR TEST- (CE-12) PHARMACEUTICAL TECHNOLOGY Micro-Encapsulation.</p>			
<p>SYLLABUS FOR TEST- (CE-13) BIO-PHARMACEUTICS AND KINETICS Introduction to biopharmaceutics. Pharmacokinetics. Clinical Pharmacokinetics. Bioavailability and bioequivalence.</p>			

<p>SYLLABUS FOR TEST- (CE-14) HOSPITAL & CLINICAL PHARMACY Organization and Structure of hospital pharmacy. Hospital Formulary. Drug Store Management and Inventory Control. Drug distribution Systems in Hospitals. Central Sterile Supply Unit and their management. Manufacture of Sterile and Non-sterile Products. Drug information Services. Records and Reports.</p>			
<p>SYLLABUS FOR TEST- (CE-15) JURISPRUDENCE</p>			
<p>SYLLABUS FOR TEST- (CE-16) MICROBIOLOGY IN PHARMACY Structure of bacterial cell; Identification of Microbes. Control of microbes by physical and chemical methods. Sterilization. Immunology and Immunological Preparations, Antibiotics.</p>			
<p>SYLLABUS FOR TEST- (CE-17) BIOTECHNOLOGY & MICROBIOLOGY Plant Cell and Tissue Culture, Process and Applications, Biotechnology-Derived Products, Proteomics, Animal Cell Culture Fermentation technology and Industrial Microbiology, R-DNA, Formulation of Proteins and peptides.</p>			

PHARMACEUTICAL CHEMISTRY: [Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Bio-Chemistry, Medicinal Chemistry]

SUBJECT	2ND YEAR	3RD YEAR	4TH YEAR
<p>SYLLABUS FOR TEST- (CH-1) INORGANIC CHEMISTRY: Inorganic pharmaceutical & medicinal chemistry. Gastrointestinal agents. Major Intra- and Extracellular Electrolytes. Essential and Trace Elements. Topical Agents. Gases and Vapors. Dental Products. Miscellaneous Agents. Pharmaceutical Aids used in the</p>			

Pharmaceutical Industry. Acids, Bases, and Buffers. Inorganic Radiopharmaceuticals.			
SYLLABUS FOR TEST- (CH-2) PHYSICAL CHEMISTRY: Composition & physical states of matter; Colligative Properties; Thermodynamics; Refractive index; Solutions; Electrochemistry; Ionic equilibrium; Kinetics			
SYLLABUS FOR TEST- (CH-3) ORGANIC CHEMISTRY: General principles; Carbonyl Chemistry; Protection & deprotection of groups; Aromaticity & aromatic chemistry; Different aromatic classes of compounds; Polycyclic aromatic hydrocarbons; Stereochemistry;			
SYLLABUS FOR TEST- (CH-4) ORGANIC CHEMISTRY Heterocyclic Chemistry; Bridged rings; Kinetic & thermodynamic control; Different classes of compounds; Carbohydrates; Amino acids & proteins; Organometallic chemistry; Pericyclic reactions			
SYLLABUS FOR TEST- (CH-5) BIOCHEMISTRY Lipids; Vitamins; Biological oxidations & reductions; Cell;			
SYLLABUS FOR TEST- (CH-6) BIOCHEMISTRY Carbohydrates; proteins; enzymes; nucleic acids; hereditary diseases.			
SYLLABUS FOR TEST- (CH-7) MEDICINAL CHEMISTRY Medicinal Chemistry Basic Principles. Drug metabolism and Concept of Prodrugs; Principles of Drug Design (Theoretical Aspects).			
SYLLABUS FOR TEST- (CH-8) MEDICINAL CHEMISTRY Properties of the following classes of Drugs. Drugs acting at synaptic and neuro-effector junction sites: Cholinergic, anti-cholinergics and cholinesterase inhibitors, Adrenergic drugs, Antispasmodic and anti-			

ulcer drugs, local anesthetics, Neuromuscular blocking agents			
SYLLABUS FOR TEST- (CH-9) MEDICINAL CHEMISTRY Autacoids.			
SYLLABUS FOR TEST- (CH-10) MEDICINAL CHEMISTRY Steroidal Drugs.			
SYLLABUS FOR TEST- (CH-11) MEDICINAL CHEMISTRY Drugs acting on the central nervous system.			
SYLLABUS FOR TEST- (CH-12) MEDICINAL CHEMISTRY Diuretics; Cardiovascular drugs.			
SYLLABUS FOR TEST- (CH-13) MEDICINAL CHEMISTRY Thyroid and Antithyroid drugs; Insulin and oral hypoglycemic agents			

PHARMACOLOGY: (CL)

SUBJECT	2ND YEAR	3RD YEAR	4TH YEAR
SYLLABUS FOR TEST- (CL-1) General Pharmacological Principles 1. Introduction, Routes of Drug Administration 2. Pharmacokinetics: Membrane Transport, Absorption, and Distribution of Drugs 3. Pharmacokinetics: Metabolism and Excretion of Drugs, Kinetics of Elimination 4. Pharmacodynamics: Mechanism of Drug Action; Receptor Pharmacology 5. Aspects of Pharmacotherapy, Clinical Pharmacology and Drug Development 6. Adverse Drug Effects			

<p>SYLLABUS FOR TEST- (CL-2) <u>Drugs Acting on Autonomic Nervous System</u> 7a. Autonomic Nervous System: General Considerations 7b. Cholinergic System and Drugs 8. Anticholinergic Drugs and Drugs Acting on Autonomic Ganglia 9. Adrenergic System and Drugs 10. Antiadrenergic Drugs (Adrenergic Receptor Antagonists) and Drugs for Glaucoma</p>			
<p>SYLLABUS FOR TEST- (CL-3) <u>Autacoids and Related Drugs</u> 11. Histamine and Antihistamines 12. 5-Hydroxytryptamine, its Antagonists and Drug Therapy of Migraine 13. Prostaglandins, Leukotrienes (Eicosanoids), and Platelet Activating Factor 14. Nonsteroidal Anti-inflammatory Drugs and Antipyretic-Analgesics 15. antirheumatic and Antigout Drugs</p>			
<p>SYLLABUS FOR TEST- (CL-4) <u>Respiratory System Drugs</u> 16. Drugs for Cough and Bronchial Asthma</p>			
<p>SYSTEM FOR TEST- (CL-5) <u>Hormones and Related Drugs</u> 17a. Introduction 17b. Anterior Pituitary Hormones 18. Thyroid Hormone and Thyroid Inhibitors 19. Insulin, Oral Hypoglycaemic Drugs, and Glucagon 20. Corticosteroids 21. Androgens and Drugs for Erectile Dysfunction 22. Oestrogens, Progestins, and Contraceptives 23. Oxytocin and Other Drugs Acting on Uterus 24. Drugs Affecting Calcium Balance</p>			
<p>SYSTEM FOR TEST- (CL-6) <u>Drugs Acting on the Peripheral (Somatic) Nervous System</u> 25. Skeletal Muscle Relaxants 26. Local Anaesthetics</p>			
<p>SYSTEM FOR TEST- (CL-7)</p>			

<p><u>Drugs Acting on Central Nervous System</u> 27. General Anaesthetics 28. Ethyl and Methyl Alcohols 29. Sedative-Hypnotics 30. Antiepileptic Drugs 31. Antiparkinsonian Drugs 32. Drugs Used in Mental Illness: Antipsychotic and Antimanic Drugs 33. Drugs Used in Mental Illness: Antidepressant and Antianxiety Drugs 34. Opioid Analgesics and Antagonists 35. CNS Stimulants and Cognition Enhancers</p>			
<p>SYSTEM FOR TEST- (CL-8) <u>Cardiovascular Drugs</u> 36a. Cardiac Electrophysiological Considerations 36b. Drugs Affecting Renin-Angiotensin System and Plasma Kinins 37. Cardiac Glycosides and Drugs for Heart Failure 512 38. Antiarrhythmic Drugs 39. Antianginal and Other Anti-ischaemic Drugs 40. Antihypertensive Drugs</p>			
<p>SYSTEM FOR TEST- (CL-9) <u>Drugs Acting on Kidney</u> 41a. Relevant Physiology of Urine Formation 41b. Diuretics 42. Antidiuretics</p>			
<p>SYSTEM FOR TEST- (CL-10) <u>Drugs Affecting Blood and Blood Formation</u> 43. Haematinics and Erythropoietin 44. Drugs Affecting Coagulation, Bleeding, and Thrombosis 45. Hyperlipidaemic Drugs and Plasma Expanders</p>			
<p>SYSTEM FOR TEST-(CL-11) <u>Gastrointestinal Drugs</u> 46. Drugs for Peptic Ulcer and Gastroesophageal Reflux Disease 47. Antiemetic, Prokinetic, and Digestant Drugs 48. Drugs for Constipation and Diarrhoea</p>			

<p>SYSTEM FOR TEST- (CL-12) <u>Antimicrobial Drugs</u> 49. Antimicrobial Drugs: General Considerations 50. Sulphonamides, Cotrimoxazole and Quinolones 51. Beta-Lactam Antibiotics 52. Tetracyclines and Chloramphenicol (Broad-Spectrum Antibiotics) 53. Aminoglycoside Antibiotics 54. Macrolide, Lincosamide, Glycopeptide and Other Antibacterial Antibiotics; Urinary Antiseptics 55. Antitubercular Drugs 56. Antileprotic Drugs 57. Antifungal Drugs 58. Antiviral Drugs 59. Antimalarial Drugs 60. Ant amoebic and Other Antiprotozoal Drugs 61. Anthelmintic Drugs</p>			
<p>SYSTEM FOR TEST- (CL-13) <u>Chemotherapy of Neoplastic Diseases</u> 62. Anticancer Drugs</p>			

PHARMACEUTICAL ANALYSIS: (AN)

SUBJECT	2ND YEAR	3RD YEAR	4TH YEAR
<p>SYLLABUS FOR TEST- (AN-1) Fundamentals of volumetric analysis Acid-Base Titrations Oxidation-Reduction Titrations Gravimetric Analysis</p>			
<p>SYLLABUS FOR TEST- (AN-2) Non-aqueous titrations Complexometric titrations Miscellaneous Methods of Analysis</p>			
<p>SYLLABUS FOR TEST- (AN-3) Extraction procedure including separation of drugs from excipients Potentiometry Conductometry Coulometry Polarography Amperometry</p>			

SYLLABUS FOR TEST- (AN-4) Chromatography			
SYLLABUS FOR TEST- (AN-5) Ultraviolet and visible spectrophotometry			
SYLLABUS FOR TEST- (AN-6) Fluorimetry, Infrared Spectrophotometry, Flame Photometry			
SYLLABUS FOR TEST- (AN-7) Nuclear Magnetic Resonance spectroscopy [Proton technique only], Mass Spectrometry (EI & CI only),			
SYLLABUS FOR TEST- (AN-8) Atomic Absorption Spectro, X-Ray Diffraction Analysis, Radioimmunoassay.			
SYLLABUS FOR TEST- (AN-9) Quality assurance			

PHARMACOGNOSY:

SUBJECT	2ND YEAR	3RD YEAR	4TH YEAR
SYLLABUS FOR TEST- (CG-1) Sources Of Drugs; Classification Of Drugs; Study Of Medicinally Important Plants Belonging To The Families; Cultivation; Collection; Processing And Storage Of Crude Drugs; Quality Control Of Crude Drugs; Introduction To Active Constituents Of Drugs; General Techniques Of Biosynthetic Studies And Basic Metabolic Pathways/Biogenesis Phytochemical Screening			
SYLLABUS FOR TEST- (CG-2) CARBOHYDRATES AND DERIVED PRODUCTS			

SYLLABUS FOR TEST- (CG-3) RESINS; TANNINS			
SYLLABUS FOR TEST- (CG-4) VOLATILE OILS			
SYLLABUS FOR TEST- (CG-5) FIBERS			
SYLLABUS FOR TEST- (CG-6) GLYCOSIDE CONTAINING DRUGS; SAPONINS; CARDIOACTIVE GLYCOSIDES; ANTHRAQUINONE CATHARTICS; OTHERS			
SYLLABUS FOR TEST- (CG-7) ALKALOID CONTAINING DRUGS PYRIDINE-PIPERIDINE: TROPANE QUINOLINE AND ISOQUINOLINE: INDOLE IMIDAZOLE STEROIDAL ALKALOIDAL AMINE GLYCOALKALOID PURINES			
SYLLABUS FOR TEST- (CG-8) STUDIES OF TRADITIONAL DRUGS LIGNANS, QUASSINOIDS, AND FLAVONOIDS. ROLE OF PLANT- BASED DRUGS ON THE NATIONAL ECONOMY			
SYLLABUS FOR TEST- (CG-9) PLANT TISSUE CULTURE MARINE PHARMACOGNOSY			