

**If it is necessary to hold Preliminary Test (PT) for the post of Drugs Inspector (Food & Drugs Control Administration) Gujarat State Service, Class-II, the syllabus of PT shall be as follows.**

**Total Marks : 200,**

**Medium : English,**

**Time : 50 Minutes**

**1. PHARMACOLOGY :-** 1. Drug-Drug Interaction. 2. Barriers affecting drug transportation. 3. Targetted Drug delivery. 4. Effect of food on bio-availability. 5. Routes of administration of drug & their advantage and disadvantage. 6. Facts which modify drug action. 7. Clinical Pharmacy. 8. Hospital Pharmacy. 9. Cardiovascular Drugs. Diuretic, Anti-ulcer Antihypertensive, antidiabetic, betablockers, ACE Inhibitors, anti-cancer drugs, Vitamins, Plasma Volume Expander, Hormones. 10. Toxicity study.

**2. PHARMACOGNOSY:-** 1. Identification of Herbal drugs-Morphology, Microscopy, Chemical Markers. 2. Isolation of active chemical constituents from herbal drugs. 3. Preservation of natural products. 4. Distillation, Extraction, Supercritical Fluid Extraction.

**3. ANALYTICAL CHEMISTRY :-** 1. spectroscopy (IR/FIR, U.V.,) Chromatography (TLC.Gas,HPLC, HPTLE). Assay - Calorimetry, Argentometry, Potentiometry. Iodimetry, Oxidation - mReduction. Advances in Pharmaceutical Analysis, Differential Scanning Calorimeter. X-ray diffraction (XRD). Scanning Electron Microscopy (SEM) Optical Microscopy.

**4. QUALITY ASSURANCE:-** GMP/GLP/Documentation Validation/Calibration.

**5. FORENSIC PHARMACY:-** Drugs & Cosmetics Act. Drugs & Magic Remedies (Objectionable Advertisement Act. Prevention of Food Adulteration Act.(PFA).

**6. MEDICINAL CHEMISTRY :-** 1. Drug Design - QSAR - Molecular Modeling. 2. Drug Metabolism - Drug Receptor Action;, Protein binding. 3. Drugs Acting on CNS:- (i) Hypnotic Sedatives (ii) Anxiolytic Agents (iii) Analgesics - Opiod (iv) Tranquilisers (Antipsychotic Agents) 4. Nonsteriodal Antinflammatory drugs 5. Drugs Acting on CHS :- (i) Diuretics (ii) Cardiotonic Agents (iii) Antihypertensive Agents (iv) Antianginal Agents. 6. Antihistamines 7. Drugs Affecing sugar Metabolism. 8. Chemotherapeutic Agents :- (i) Sulphonaluides (ii) Quinolone Antibacterials (iii) Antibiotics (iv) Anti T.B. (v) Antiprotozoal - Antimalarial, Antiamoebic. 9. Hormones:- (i) Sex Hormones (ii) Adrenal Cortex Hormones (iii) Thyroid Hormones. 10. Antineoplastic Agents. 11. Antiviral agents - Anti HIV Agents, 12. (a) Solvent Extraction. (b) Chromatography :- (i) Paper Chromatography (ii) Thin layer Chromatography (TLC) (iii) Gas Liquid Chromatography (GLC) (iv) Colum Chromatography (v) High Performance Liquid Chromatography (HPL.C). (c) UV - Visible spectroscopy (d) Infra Red. (e) Spectrofluorometry (f) X-ray Analysis (g) Radioimmune Assay (RIA) (h) Potentioometry (i) Conductometry (j) Flam Photometry (k) Non-queous titrations Karl-Fisher reaped (i) Application of instruments analysis to Pharmaceutica Analysis. Examples from Pharmacopoeia.

**7. PHARM. JURISPRUDANCE :-** (1) Pharmaceutical Jurisprudence (2) Solid Dosage form : Tablets, Capsules (3) Liquid: Syrup, Suspension, Emulsi, Extract (Herbal Drugs) (4) Genisole : Cream, Ointment (5) Aerisols (6) Cosmetics (7) Parenterals - LVP, SVP (8) Pharmacokinetics :- a) Factors affecting bioavailability b) Method of establishing in-vivi and in-vitro corelationship c) Estimation of Pharmacokinetic parameters and determination of AVL (9) General aspects of Pharmaceutical Technology (10) Stability Testing.

**8. PHARMACEUTICAL CHEMISTRY :-** 1. Drugs Isolated from natural sources 2. Mechanism of Drug action. 3. Oxidation, Reduction, Sulfonation, Nitration.

**9. PHARMACEUTICAL SCIENCES :-** Natural roducts: Chemistry, tests, uses and mode of action of cardiac glycosides, alkaloids, purines and terpenes. Pharmacognosy of senna, Digitals, Cinnamon, Rouwolfia Ergot, Opium, Clove, Belladonna Ginseng.

**10. MEDICINAL CHEMISTRY AND PHARMACOLOGY :-** A) Pharmacotherapeutic Agents: Structure, nomenclature, uses, mechanism of action and structure activity relationship of drugs belonging to the categories of neuroleptics, antidepressants antianxiolytics, antihypertensives, antiarrhythmics, vasodilators, diuretics, analgesics, antihistamines. Preparation and storage of official radiopharmaceuticals. B) Chemotherapeutic Agents, Structural formulae, classification nomenclature, uses, mechanism of action and structure-activity relationship of drugs belonging to the categories of sulphonamides, anticancer drugs, antibiotics, antiamoebic agents, antiviral drugs, antitubercular drugs, anthelmintyics. C) Drug Synthesis: Synthesis of drugs which are official in Indian and British Pharmacopoeia belonging to the categories of local anesthetics, barbiturates, anticonvulsants, antihistamines, tranquilisers, synthetic hormones, antihypertensives, diuretics, vasodilators.

**11. PHARMACEUTICS:-** a) Technology of Drug Delivery Systems: Manufacture, standards, presentation, labelling, packing and storage of formulations belonging to the categories of parentals, tablets, casules, aerosols, liquid orals, ophthalmic preparatiions and new drug delivery systems. Basics of pharmacokinetics and their importance in formulation. b) Pharmaccutical Jurisprudence: Legal aspects of manufacture, storage and sale of drugs. Pharmacy Act.

**12. PHARMACEUTICAL ANALYSIS:-** Principles and applications of the following: Absorption spectroscopy, chromatography, potentiometry, conductometry and polarography. Pharmacopoeial assays. Principles of NMR and mass Spectroscopy.

**13. BICHEMISTRY, BIOPHARMACEUTICALS AND CLINICAL PHARMACY:-** Drug distribution and metabolism. Absorption and bioavailability of drugs. Biochemical role of hormones, vitamins, enzymes and nucleic acids. Principles involved and apparatus used in the analysis of blood, urine, gastric juice, feaces etc. Clinical aspects of Pharmacy and drug interaction. General principles of immunology. Immunological techniques used in Pharmacy.

**14. MICROBIOLOGY:-** Classification of different microbes, Microbial flora of human pathogenicity. Methods used for identification. Sterilization of different pharmaceutical dosage forms. Sterility testing. Methods of preparation of official sera and vaccines. Serological and diagnostic tests. Principles and methods of microbiological assays of the pharmacopoeia. Applications of microorganisms in bioconversions and Pharmaceutical industry.