

PHARMACEUTICS**Syllabus for Homeopathic Pharmacist in NDMC****PART-I**

- Definition
- Introduction to pharmacopoeia with special reference to HPI, HPUS, BHP, GHP.
- Meteorology systems of weights and measures including Homoeopathic scales calculation including conversion from one to another system.
- Vehicles, introduction to vehicles.
- Hahnemann's method of preparation of mother tincture
- Preparation of mother tincture by percolation and maceration, new method.
- Potentization, trituration and succession, conversion of dry trituration to liquid potency.
- Different method of preparation of homeopathic medicine-Drug trituration and potentization of homeopathic drug in decimal scale, centesimal scale and millisimal scale.
- Jenichen, finke's high potency, Dr. Skinners fluxion method and korsakoff's method of dynamisation.
- External applications, scope, components and preparation, glycerols, liniments, creams, ointments, lotion, plasters and protective.
- Medication of globules, tablet diskettes etc.
- Preservation of mother tincture and potencies.
- Posology.
- Routes of administration.
- Pharmacodynamics; mechanism of drug action, factors modifying drug action.
- Action of drugs: Physical, Chemical, Dynamic.

PART-II

- Surgical dressings, absorbents, bandages, plasters and protective.
- Size separation by sieving
- Mixing and homogenization, liquid mixing and powder mixing of semi solids.
- Filtration and its classification, theory of filtration, filter media, filter aid and selection of filters.

- Vehicle used for preparation of homoeopathic drugs, dispensing of medicine, base material used for ointments, liniments, lotion, plasters, poultices, oils and method of preparation
- Heat processes, evaporation, factors affecting evaporation, study of 'evaporating still and evaporating pan.
- Distillation; simple distillation, fractional, steam distillation, vacuum distillation. Study of vacuum still, preparation of purified water, construction and working of still's used for the same
- Introduction to drying process. Study of tray dryers, fluidized bed dryer, vacuum dryer and freeze dryer
- Sterilization, concept of sterilization and its difference from disinfection, thermal resistance of micro organism, detailed study of.
 - a) sterilization with moist heat
 - b) dry heat sterilization
 - c) sterilization by filtration
 - d) gaseous sterilization
- Tablets definition, different type of compressed tablets and their properties, process involved in the production of tablets, tablets excipients, physical standards including disintegration and dissolution, tablet coating sugar coating, film coating, enteric coating, micro capsulation
- Capsules manufacturing of empty hard gelatine capsule, soft gelatine capsule, formulation and equipment used for manufacturing of hard gelatin capsule and quality control
- Incompatible homoeopathic formulations based on homoeopathic Philosophy, incompatibilities in prescription, study of various types of incompatibilities-physical, chemical and therapeutic.
- Packing and labeling of pharmaceuticals, types of containers, desirable features of containers. Type of glass and plastic material for containers, rubber as a material for containers-their merits and demerits, introduction to aerosol packaging
- Good laboratory Practice.

INTRODUCTION TO HOMOEOPATHIC PRINCIPLES

PART-I

- History of origin and evolution of Homoeopathy
- Life and work of Dr. S. Hahnemann
- Hahnemann- a pharmacist
- Concept of Health, Disease, Recovery and Cure in Homoeopathy
- Introduction to the study of Organon of Medicine.
- Mission of a physician
- Ideal Cure
- Principles of Homoeopathic medicine
- Totality of symptoms
- Analysis and Evaluation of symptoms
- Portrait of disease

PART-II

- Disease- Natural and Artificial
- Primary and secondary action of medicine
- Drug proving (Homoeopathic pathogenetic trials)
- Susceptibility
- Theory of Chronic Disease
- Remedy reaction
- Posology
- Source of Homoeopathic Materia Medica
- Comparative study of Homoeopathic Materia Medica with materia medica of other systems of medicine
- Scope and limitations of Homoeopathic Therapeutic

**PHARMACOGNOSY
WITH HOMOEOPATHIC
MATERIA MEDICA**

- Definition, history and scope of Pharmacognosy including indigenous system of medicine.
- Adulteration and drug evaluation, significance of Pharmacopoeial standards
- Morphology, physical, chemical features of following groups with minimum five examples from each:-
 - (a) **Plant Kingdom Family**
 - Compositae
 - Cucurbitaceae
 - Loganiaceae
 - Papaveraceae
 - Ranunculaceae
 - Solanaceae
 - Anacardiaceae
 - Melanthiaceae
 - (b) **Mineral Kingdom**
 - Acid Group
 - Kali Group
 - Natrum Group
 - Baryta Group
 - Calcarea Group
 - Mercury Group
 - Carbon Group
 - (c) **Animal Kingdom**
 - Ophidia Group
 - Spider Group
 - Insect Group
 - Fish Group
 - (d) **Sarcodes**
 - (e) **Nosodes**

PHARMACOLOGY

- Introduction to Pharmacology, scope of Pharmacology

<p>and TOXICOLOGY</p>	<ul style="list-style-type: none"> • Routes of administration of drugs, their advantages and disadvantages. • General mechanism of drugs action and the factors which modify drugs action. • Definition of Toxicology • Relationship with Homoeopathic Materia Medica. • Basic principles of Toxicity — acute, sub-acute and chronic. • Local and systemic toxicity. • Factors influencing toxicity. • Common house hold poisons. • Classification of poisons. • Factor modifying action of poisons. • Fate of poison in body. • List of drugs to be studied — in relation to Pharmacological action (20 drugs).
<p>HUMAN ANATOMY, PHSIOLOGY and BIO — CHEMISTRY</p>	<ul style="list-style-type: none"> • Scope of Anatomy and Physiology. Definitions of various terms used in Anatomy. • Structure of cell, function of its components with special reference to mitochondria and microsomes. • Elementary tissues of the body i.e. epithelial tissue, muscular tissue, connective tissue and nervous tissue. • Structure and function and skeleton. Classification of joints and their function, joint disorder. • Composition of blood, functions of blood elements, blood group and coagulation of blood, brief information regarding disorders of blood. • Name and functions of lymph glands. • Structure and functions of various parts of the heart, arterial and venous system with special reference to the names and position of main arteries and veins. Blood pressure and its recording. Brief information about cardiovascular disorders. • Various parts of respiratory system and their functions, physiology of respiration. • Various parts of urinary system and their functions, structure and functions of kidney, physiology of urine formation, pathophysiology of renal disease and edema. • Structure of skeletal muscle, physiology of muscle contraction, names position, attachments and functions of various skeletal muscles, physiology of neuromuscular junction. • Various parts of central nervous system, brain and its parts, functions and reflex action. Anatomy and physiology of autonomic nervous system. • Elementary knowledge of structure and functions of the organs of taste, smell, ear and skin, physiology of pain. • Digestive system: names of the various parts of digestive system and their functions, structure and functions of liver, physiology of digestion and absorption.

	<ul style="list-style-type: none"> • Endocrine glands and hormones, locations of the glands, their hormones and functions, pituitary, thyroid, adrenal and pancreas. • Reproductive system — Physiology and anatomy of reproduction system. • The ear, eye and skin — Structure and function.
<p>PHARMACEUTICAL JURISPRUDENCE</p>	<ul style="list-style-type: none"> • Origin and nature of pharmaceutical legislation in India, its scope and objectives. Evolution of the "Concept of Pharmacy" as an integral part of the Health Care System. • Principles and significance of Professional Ethics. • Pharmacy Act, 1948 - The General study of the Pharmacy Act with special reference to Education Regulations, working of State and Central Councils, constitutions of these councils and functions. Registration procedures under the Act. • The Drug and Cosmetics Act, 1940 - General study of the Drugs and Cosmetics Act and the Rules there under. Definitions and salient features related to retail and wholesale distribution of drugs. The powers of Inspectors, the sampling procedures and the procedure and formalities in obtaining licenses under the rule. Facilities to be provided for running a Pharmacy effectively. General study of the Schedules with special reference of schedules C, C1, F, G, J, H, P and X and salient features of labeling and storage condition of drugs. • The Drugs and Magic Remedies (Objectionable Advertisement) Act, 1954 - General study of the Act Objectives, special reference to be laid on Advertisements. Magic remedies and- objectionable and permitted advertisements - disease which cannot be claimed to be cured. • Narcotic Drugs and Psychotropic Substances Act, 1985 - A brief study of the act with special reference to its objectives, offences and punishment. • Brief introduction to the study of the following acts : <ul style="list-style-type: none"> (a) Latest drugs (Price Control) Order in force. (b) Poisons Act, 1919 (as amended to date) (c) Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (as amended to date) (d) Medical Termination of Pregnancy Act, 1971 (as amended to date)
<p>DRUG STORE AND BUSINESS MANAGEMENT</p>	<p><u>PART-I (COMMERCE)</u></p> <ul style="list-style-type: none"> • Introduction — Trade, Industry and Commerce Functions and subdivision of Commerce, Introduction to Elements of Economics and Management. • Forms of Business Organisations • Channels of Distribution. • Drug House Management — Selection of site, Space Lay-out and legal requirements. Importance and objectives of Purchasing, selection of suppliers, credit information, tenders contracts and price

- determination and legal requirements thereto. Codification, handling of drug stores and other hospitals supplies.
- Sales Promotion, Market Research, Salesmanship, qualities of a salesman, Advertising and Window Display.
- Recruitment, training, evaluation and compensation of the pharmacist.
- Banking and finance service and functions of bank, Finance Planning and sources of finance.

PART-II (ACCOUNTANCY)

- Introduction to the accounting concepts and conventions, Double entry book keeping, Different kinds of accounts.
- Cash Book.
- General Ledger and Trial Balance.
- Profit and Loss Account and Balance Sheet.
- Simple technique of analysing financial statements.
- Introduction to Budgeting. {Books Recommended (Latest edition) Remington's Pharmaceutical Sciences}.

HOSPITAL AND CLINICAL PHARMACY

Hospital Pharmacy:

- Hospital Definitions, Function, Classification based on various criteria, organisation, management and health delivery system in India.
- (ii) Hospital Pharmacy:
 - (a) Definition.
 - (b) Functions and objectives of Hospital Pharmaceutical services.
 - (c) Location, Layout, Flow chart of material and men.
 - (d) Personnel and facilities requirements including equipments based on individual and basic needs.
 - (e) Requirements and abilities required for Hospital Pharmacists.
- Drug Distribution system in Hospitals:
 - (a) Out - patient services.
 - (b) In-patient services — (a) types of services (b) detailed discussion of Unit Dose system, Floor ward stock system, Satellite pharmacy services, Central sterile, Bed Side Pharmacy.
- Manufacturing:
 - (a) Economical considerations, estimation of demand.
 - (b) Sterile manufacture — large and small volume, parenteral facilities, requirements, layout production planning, manpower requirements.
 - (c) Non-sterile manufacture — Liquid orals, externals — bulk concentrates.
 - (d) Procurement for stores and testing of raw materials.
- Nomenclature and uses of surgical instruments and Hospital Equipments and health accessories.
- Surgical dressing like cotton, gauze, bandages and adhesive tapes

including their Pharmacopoeia) test for quality. Other hospital supply e.g, I.V. sets, B.G. sets, Ryle's tubes, Catheters, Syringes etc.

- Application of computer in maintenance of records, inventory control, medication monitoring, drug information and data storage and retrieval in hospital and retail pharmacy establishments .
- Clinical Pharmacy:
- Introduction to Clinical Pharmacy Practice — Definition, scope.
- Modern dispensing aspects — Pharmacists and Patients counseling and advice for the use of common drugs, medication history.
- Common daily terminology used in the Practice of Medicine.
- Bio-availability of drugs, including factors affecting it.
