SYLLABUS: Pharmacist (Unani) in Directorate of Ayush

Basic Principles of Unani Medicine

a) Introduction of Unani Medicines, Definition of Tib, its aims and adjectives. b) History of Unani Pharmacy. c) Introduction in of different subjects of Tib. d) Definition of Tabiyat and Umoor-e-Tabiyah. e) Definition of Arkaan, Number (Different theories and Mizaj of Arkaan). f) Mizaj-Definition, types and Importance ImzijahAsnan,Aqaalim. g) Akhlat-Definition, types, Khilt-e-Safra, Balgham, Dam,Sauda,Importance. h) An Introduction of Aza, types, Importance. i) Introduction of Arwah, types,Importance. j) Introduction of Quwa, types, Importance. k) Introduction of Afal, types,Importance. l) Introduction of Usool-e-ilaj. m) Brief introduction of tools for diagnosis

Anatomy

1. Introduction of Anatomy

a. A brief description of all systems of thebody

b. Anatomical position and relatedterminologies

c. Skin and its appendages

d. Superficial and deep Fasciae

e Tendon, Ligaments & Bursae

2. Bones: Types, functions and ossification

3. Muscles: Types and functions

4. Joints: Types and movements

5. Blood Vascular System

6. Lymphatic System

7. Nervous System & Special Senses

8. Respiratory System

9. Digestive System

10. Urogenital System

11. Endocrine System

Physiology

Definition of Physiology, Introduction& Terminologies of Physiology, Cell: Microscopic structure of cell & its functions, cell division, Cancerous cells. Genetics: Introduction, study of chromosomes, Deoxyribonucleic Acid, Ribonucleic Acid, Introduction of sexual diseases

Tissues,definition &types, Histological structure, Distribution & functions of Epithelial, Connective, Muscular and Nervous Tissues

Blood: Haemopoietic System, Definition, Functions, Blood volume, composition of blood

Formation & composition hri Batani of lymph, Lymphatic & Reticulo-Endothelial Systems

Digestive System: Introduction, Histological structure of Alimentary trac , Salivary Glands, Secretion, composition & functions of Digestive juices, Digestion & absorption of Carbohydrates, Proteins and Fats.

Metabaulism: Definition, Basal Metabaulic Rate, Physiological variations of B.M.R.

Blood Circulatory System:, Histological structure of Cardio Vascular System, types of Blood Circulation, Cardiac cycle. Heart sounds, Heart Block, Heart Beat, Stroke Volume, Cardic centre & its functions, ECG: blood pressure and its physiological factors

respiratory system: introduction of the various respiratory organs, functions of respiratory system, coughing reflex, sneezing reflex, mechanism of respiration, artificial respiration & its different methods, pulmonary volume, pulmonary capacity

Excretory system: structure and functions of kidney, formation of urine, composition of urine, study of normal and abnormal constituents of urine, acid base balance, structure of skin), functions of skin, perspiration, thermo regulation in the body , abnormal & sub-normal temperature.

reproductive system: composition of semen, spermatogenesis, menstrual cycle, effects of estrogen & progestrone on menstruation, ovulation, fertilization & implantation.

nervous system: general principles of nervous system, autonomous nervous system, hypothalamus and its functions. special sensory organs: endocrine system: general description of endocrine glands, hormones of all endocrine glands and their functions.

Pharmacology

1. Introduction and scope of Pharmacology2. Routes of administration of drugs, their advantages and disadvantages. 3. General mechanism of drugs action and the factors which modify drug action. Various process of absorption of drugs and the factors affection them, Metabolism, distribution and excretion of drugs. 4. Pharmacological classification of drugs. (i) Drugs acting on the Central Nervous System: (ii) Local anaesthetics (iii) Drug acting on

autonomic nervous system. (iv) Drugs acting on eye (v) Drugs acting on respiratory system (vi) Antacids (vii) Cardio Vascular drugs, (viii) Drugs acting on the blood and blood forming organs. 8 (ix) Drugs affecting renal function-Diuretics and antidiuretics. (x) Hormones and hormone antagonists (xi) Drugs acting on digestive system (xii) Chemotherapy of microbial disease

Preventive and Social Medicine

Preventive and Social Medicine :Definition, historical background, importance, aims and objectives

Health :aims & objectives and guidelines for health,Personal Hygiene and Public Health, Detailed discussion of Six essentials of life

Disease :Definition and causes of Disease

Physical Environment :Atmospheric environment, Environmental sanitation, Components of Physical Environment and its related causes. Factors affecting Physical Environment

Effects & complications of seasons on Health

Disposal of Waste: Methods of Disposal of refuse Water:Definition of normal and abnormal water, importance, qualities of safe and wholesome potable water, sources of water

Drinks :Effects of narcotics on health

Food and Nutrition : Definition, importance of Diet, classification of Diet according to the source, Dietary constituents and functions Calories of various Diets,Daily requirements of Diet in various age groups Balanced Diet,Selection of Diet according to age, sex, and season Various methods for safety and preservation of Diet,Malnutrition and Diet related diseases and their preventive measures Food Poisoning,Dietary importance of Milk, pasteurization, Milk born diseases and their prevention

Vitamins: Definition, types, sources, daily, requirements, Diseases related to the deficient or excess intake of Vitamins.

Minerals in Diet:Names of minerals and their advantages Diseases related to the deficient or excess intake of Minerals

Personal Hygiene: Clothing, Sources and types, selection of clothes according to season and their importance.

Vaccination :Definition, Hospital background, methods of Vaccine preparation, types of Vaccines,

Epidemic :Definition, Mode of Spread and their preventive measures

Infection: Definition, mode of spread, routes of entry of infection

Immunity: Definition, types, methods of Immunization

Pharmaceutical Jurisprudence

Definition of Toxicology and poison, Classification of poisons. Route of administration of poisons. Modifying factors of the action of poisons. Diagnosis & general principals of treatment in poisoning. Stomach tube its indications & contraindication. Indications & contraindications of emetics, Methods of neutralizing the absorbed poison.

Antidotes : - Modern & Unani antidotes, its type and uses methods of preservation of organs for chemical examination. Characteristic poisoning symptoms

Dispensing Pharmacy:

1. Prescriptions – Reading and understanding of prescription; Arabic and Persian terms commonly used (Detailed study is not necessary), Modern methods of prescribing, adoption of metric system. Calculations involved in dispensing. 2. Incompatibilities in Prescriptions – Study of various types of incompatibilities – physical, chemical and therapeutic. 3. Dose and Dosage of drugs, Factors influencing dose, Calculations of doses on the basis of age, sex and surface area.

Dispensed Medications:

Powders : Types of powders, Advantages and disadvantages of powders, Safoof as different dosage forms, Granules, and Tablet. Weighing methods, possible errors in weighing, minimum weighable amounts and weighing of material below the minimum weighable amount, geometric dilution and proper usage and care of dispensing balance.

(ii) Liquid: Theoretical aspects including commonly used vehicles, essential adjuvant like stabilizers, colorants and flavours, with examples. Review of the following liquids with details of formulation and practical methods. Sharbat, joshanda, Khesanda, Zulaal, Siknajabeen, Nabeez, Sirkah, Qatoor, Wajoor, Roghan, Huqnah,

(iii) Suspension: Suspensions containing diffusible solids and liquids and their preparations. Study of the adjuvants used like thickening agents, wetting agents, their necessity and quantity to be incorporated. Suspensions of precipitate forming liquids like, tinctures, their preparations and stability. Suspensions produced by chemical reaction. An introduction to flocculated, non-flocculated suspension system

Dental and Cosmetic Preparations: Introduction to Dentrifices, Facial cosmetics, Deodorants, Antiperspirants, Shampoos, Hair dressing and Hair removers

Ophthalmic Preparation: Study of essential characteristics of different ophthalmic preparations. Formulation additives, special precautions in handling and storage of ophthalmic products.

Drug Store and Business Management

Commerce :

Introduction-Trade, Industry and Commerce, Functions and subdivision of Commerce, Introduction of Elements of Economics and Management. 1. Forms of Business organisations. 2. Channels of Distribution. 3. Drug House Management – Selection of Site, Space Lay-out and legal requirements. 4. 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 hospital supplies. 5. Inventory Control – objects and importance, modern techniques like ABC,VED analysis, the lead time, inventory carrying cost, safety stock, minimum and maximum stock levels, economic order quantity, scrap and surplus disposal. 6. Sales Promotion, Market Research, Salesmanship, qualities of a salesman, Advertising and Window Display. 7. Recruitment, training, evaluation and compensation of the pharmacist. 8. Banking and Finance Service and functions of the bank, Finance Planning and sources of finance.

Accountancy:

Introduction to the accounting concepts and conventions, Double entry Book keeping, Different kinds of accounts. 2. Cash Book. 3. General Leger and Trial Balance. 4. Profit and Loss Account and Balance Sheet. 5. Simple technique of analyzing financial statements. 6. Introduction to Budgeting.

Hospital and Clinical Pharmacy

Hospital pharmacy:

Hospitals Definitions, Function, Classifications based on various criteria, organisation, Management and Health delivery system in India. 2. 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. 3. 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 services, Bed Side Pharmacy 4. Manufacturing : (a) Economical considerations, estimation of demand. (b) Sterile manufacture-large and small volume parenterals, facilities, requirements, layout production planning, man- power requirements. (c) Non-sterile manufacture – Liquids orals, externals-bulk concentrates. (d) Procurement of stores and testing of raw materials. 5. Nomenclature and uses of surgical instruments and Hospital Equipments and health accessories. 6. Hospital Formulary System and their organisation, functioning, composition. 7. Drug

Information service and Drug Information Bulletin. 8. Surgical dressing like cotton, gauze, bandages and adhesive tapes including their pharmacopoeial tests for quality. Other hospital supply e.g Ryals tubes, Catheters, Syringes etc. 9. 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. 2. Modern dispensing aspects – Pharmacists and Patient counselling and advice for the use of common drugs, medication history. 3. Common daily terminology used in the Practice of Medicine. 4. Disease, manifestation and pathophysiology including salient symptoms to understand the disease like Tuberculosis, Hepatitis, Rheumatoid Arthritis, Cardiovascular diseases, Epilepsy, Diabetes, Peptic Ulcer, Hypertension. 5. Physiological parameters with their significance. 6. Drug Interactions: (a) Definition and introduction. (b) Mechanism of Drug Interaction. (c) Drug – drug interaction (d) Drug – food interaction. 7. Adverse Drug Reactions. (a) Definition and Significance. (b) Drug – induced diseases and Teratogenicity. 8. Drugs in Clinical Toxicity – Introduction, general treatment of poisoning, systematic antidotes. Treatment of insecticide poisoning, heavy metal poison, Narcotic drugs, Barbiturate, Organophosphours poisons. 9. Drug dependences, Drug abuse, addictive drugs and their treatment, complications. 10. Bio- availability of drugs, including factors affecting it.