

First Year D. Pharm

Subject: Pharmaceutics (Theory)

Subject Code: 20111 (T)

Course Objectives: This course will discuss the following aspects of pharmaceutical dosage forms

- C20111T.1 Basic concepts, types and need
- C20111T.2 Advantages and disadvantages, methods of preparation / formulation
- C20111T.3 Packaging and labelling requirements
- C20111T.4 Basic quality control tests, concepts of quality assurance and good manufacturing practices

Subject: Pharmaceutics (Practical)

Subject Code: 20111 (P)

Course Objectives: This course will discuss and train the following aspects of preparing and dispensing various pharmaceutical dosage forms

- C20111P.1 Calculation of working formula from the official master formula
- C20111P.2 Formulation of dosage forms based on working formula
- C20111P.3 Appropriate Packaging and labelling requirements
- C20111P.4 Methods of basic quality control tests.

Subject: Pharmaceutics Chemistry (Theory)

Subject Code: 20112 (T)

Course Objectives: This course will discuss the following aspects of the chemical substances used as drugs and pharmaceuticals for various disease conditions

- C20112T.1 Chemical classification, chemical name, chemical structure
- C20112T.2 Pharmacological uses, doses, stability and storage conditions
- C20112T.3 Different types of formulations / dosage form available and their brand names
- C20112T.4 Impurity testing and basic quality control tests.

Subject: Pharmaceutics Chemistry (Practical)

Subject Code: 20112 (P)

Course Objectives: This course will provide the hands-on experience on the following aspects of chemical substances used as drugs and pharmaceuticals

- C20112P.1** Limit tests and assays of selected chemical substances as per the monograph
- C20112P.2** Volumetric analysis of the chemical substances
- C20112P.3** Basics of preparatory chemistry and their analysis
- C20112P.4** Systematic qualitative analysis for the identification of the chemical drugs

Subject: Pharmacognosy (Theory)

Subject Code: 20113 (T)

Course Objectives: This course will discuss the following aspects of drug substances derived from natural resources.

- C20113T.1** Occurrence, distribution, isolation, and identification tests of common phytoconstituents
- C20113T.2** Therapeutic activity and pharmaceutical applications of various natural drug substances and phytoconstituents.
- C20113T.3** Biological source, chemical constituents of selected crude drugs and their therapeutic efficacy in common diseases and ailments
- C20113T.4** Basic concepts in quality control of crude drugs and various system of medicines
- C20113T.5** Applications of herbs in health foods and cosmetics

Subject: Pharmacognosy (Practical)

Subject Code: 20113 (P)

Course Objectives: This course will provide hands-on experiences to the students in

- C20113P.1** Identification of the crude drugs based on their morphological characteristics
- C20113P.2** Various characteristic anatomical characteristics of the herbal drugs studied through transverse section
- C20113P.3** Physical and chemical tests to evaluate the crude drugs

Subject: Human Anatomy And Physiology (Theory)

Subject Code: 20114 (T)

Course Objectives: This course will discuss the following

- C20114T.1** Structure and functions of the various organ systems and organs of the human body
- C20114T.2** Homeostatic mechanisms and their imbalances in the human body.
- C20114T.3** Various vital physiological parameters of the human body and their significances.

Subject: Human Anatomy And Physiology (Practical)

Subject Code: 20114 (P)

Course Objectives: This course will provide hands-on experience in the following

- C20114P.1** General Blood collection techniques and carrying out various haematological assessments and interpreting the results
- C20114P.2** Recording and monitoring the vital physiological parameters in human subjects and the basic interpretations of the results
- C20114P.3** Microscopic examinations of the various tissues permanently mounted in glass slides
- C20114P.4** Discuss the anatomical and physiological characteristics of various organ systems of the body using models, charts and other teaching aids

Subject: Social Pharmacy (Theory)

Subject Code: 20115 (T)

Course Objectives: This course will discuss about basic concepts of

- C20115T.1** Public health and national health programs
- C20115T.2** Preventive healthcare
- C20115T.3** Food and nutrition related health issues
- C20115T.4** Health education & promotion
- C20115T.5** General Roles and responsibilities of pharmacists in public health

Subject: Social Pharmacy (Practical)

Subject Code: 20115 (P)

Course Objectives: This course will train the students on various roles of pharmacists in public health and social pharmacy activities in the following areas

- C20115P.1** National immunization programs
- C20115P.2** Reproductive and child health programs
- C20115P.3** Food and nutrition related health programs
- C20115P.4** Health education and promotion
- C20115P.5** General Roles and responsibilities of the pharmacists in public health
- C20115P.6** First Aid for various emergency conditions including basic life support and cardiopulmonary Resuscitation

Second Year D. Pharm

Subject: Pharmaceutics-II (Theory)

Subject Code: 811 (T)

Course learning objectives related to knowledge and cognitive skills: Upon the completion of theory topics, learner should be able to:

- C811T.1** Read, judge, interpret, and translate into english any prescription or medication order written in latin or other.
- C811T.2** Apply basic mathematical calculations in the compounding and dispensing.
- C811T.3** Review basic requirements in the compounding and dispensing of pharmaceutical products.
- C811T.4** Generates accurate and appropriate drug information and provides consultation to patients and other health care professionals.
- C811T.5** Defines and describes the physical characteristics of pharmaceutical solution, suspensions, emulsions, semi-solid dosage forms, dental and cosmetic preparations.

Subject: Pharmaceutics-II (Practical)

Subject Code: 811 (P)

Course learning objectives related to knowledge, skill and attitude: on completion of laboratory experiments, learner should be able to:

- C811P.1** To understand the prescription and identify the type of formulation
- C811P.2** To understand method of preparation
- C811P.3** To select the suitable container
- C811P.4** To decide the general and special instructions to be given on the label

Subject: Pharmaceutical Chemistry II (Theory)

Subject Code: 812 (T)

Course learning objectives related to knowledge and cognitive skills: Upon the completion of theory topics, learner should be able to:

- C812T.1** Discuss basic concept of Pharmaceutical Chemistry and Recall the basic concepts of organic chemistry and compounds.
- C812T.2** Introduction to the nomenclature of organic chemical systems with particular reference to Hetero-cyclic system containing up to 3 rings.
- C812T.3** The chemistry of pharmaceutical organic compounds covering their nomenclature, Chemical structure, uses and the important physical and chemical properties, Stability and storage conditions.
- C812T.4** To discuss about stability and storage conditions and pharmaceutical formulations of discussed organic drugs.
- C812T.5** To learn some popular brand names of discussed drugs.

Subject: Pharmaceutical Chemistry-II (Practical)

Subject Code: 812 (P)

Course learning objectives related to knowledge, skill and attitude: on completion of laboratory experiments, learner should be able to:

- C812P.1** Discuss introduction to laboratory and determination of physical constants
- C812P.2** Explain systematic qualitative analysis of organic drugs.
- C812P.3** Discuss identification test of the official drugs included in IP.
- C812P.4** Discuss preparation of organic samples.

Subject: Pharmacology and Toxicology (Theory)

Subject Code: 813 (T)

Course learning objectives related to knowledge and cognitive skills: Upon the completion of theory topics, learner should be able to:

- C813T.1** Recall the basics of Pharmacology including Pharmacokinetics and Pharmacodynamics
- C813T.2** Discuss some drugs acting on central nervous system and autonomic nervous system.
- C813T.3** Discuss drugs acting on cardiovascular system including respiratory, digestive system, diuretics and eye.
- C813T.4** Discuss some chemotherapeutic agents used for various diseases.

Subject: Pharmacology and Toxicology (Practical)**Subject Code: 813 (P)**

Course learning objectives related to knowledge, skill and attitude: on completion of laboratory experiments, learner should be able to:

- C813P.1** Acquired skills of care and handling of laboratory animal including some techniques viz. anesthesia, euthanasia, route of administration and body fluid collection.
- C813P.2** Discuss commonly used instrument in experimental pharmacology including some experiments using computer simulated software programme.
- C813P.3** To interpret from the graph by observing the effect of some drug on heart rate and force of contraction on isolated heart of a frog by using the CD of MSBTE.
- C813P.4** To interpret from the graph by observing the effect of some drugs on ileum and muscle tissue. (using the CD of MSBTE.).
- C813P.5** Develop laboratory discipline, organize the work in the laboratory follow the instructions given in the laboratory.

Subject: Pharmaceutical Jurisprudence (Theory)**Subject Code: 814 (T)**

Course learning objectives related to knowledge and cognitive skills: Upon the completion of theory topics, learner should be able to:

- C814T.1** Brief about Origin and nature of pharmaceutical legislation decided by government of India.
- C814T.2** Explain Principles and significance of professional ethics required in pharmaceutical industry.
- C814T.3** Discuss Drugs and Cosmetics act which details on regulations on retail and whole sale, distribution of drugs and powers provided to governing body by this act.
- C814T.4** Explain various acts detailing Advertisement of medicines, Registration process required in pharma industry along with of introduction to acts guiding on Price control, Medicinal and Toilet preparations and Medical Terminations.
- C814T.5** Brief about the punishable offences made by violating the guidelines mentioned by these acts.

Subject: Drug Store & Business Management (Theory)

Subject Code: 815 (T)

Course learning objectives related to knowledge and cognitive skills: Upon the completion of theory topics, learner should be able to:

- C815T.1** Explain trade, industry and commerce and forms of business organization.
- C815T.2** Discuss channels of distribution and space lay-out and legal requirements to start drug store.
- C815T.3** Describe importance and objectives of purchasing along with codification.
- C815T.4** Explain methods of inventory control and sales promotion techniques.
- C815T.5** Describe sales promotion techniques and recruitment and training of pharmacist.
- C815T.6** Discuss service and functions of bank and introduction to accounting concepts.
- C815T.7** Explain cash book, general ledger, trial balance and profit and loss accounts.

Subject: Hospital and Clinical Pharmacy (Theory)

Subject Code: 816 (T)

Course learning objectives related to knowledge and cognitive skills: Upon the completion of theory topics, learner should be able to:

- C816T.1** Discuss in detail about Hospital, Hospital pharmacy and determine the role, requirements and abilities of the pharmacist practicing in the hospital
- C816T.2** Know various drug distribution systems, manufacturing practices & explain briefly the methods followed dispensing to out- patient & in-patient.
- C816T.3** Understand Pharmacy Therapeutic Committee and Hospital Formulary system; discuss drug information services and application of computer in hospital and clinical pharmacy.
- C816T.4** Demonstrate and explain surgical dressing, surgical equipments and health accessories.
- C816T.5** Describe clinical pharmacy, patient counselling and discuss common daily terminology used in the practice of medicines and physiological parameters.
- C816T.6** Identify drug interactions, adverse drug reactions, drug dependence and drug toxicity; recognize the disease, clinical manifestations, pathophysiology of selected hospital clinical disorders.
- C816T.7** Predict the clinical significance of bioavailability and bioequivalence.

Subject: Hospital and Clinical Pharmacy (Practical)

Subject Code: 816 (P)

Course learning objectives related to knowledge, skill and attitude: on completion of laboratory experiments, learner should be able to:

- C816P.1** Describe evaluation aspects of raw material and surgical dressings.
- C816P.2** Understand the concept of preparation of transfusion fluids.
- C816P.3** Demonstration on sterilization of hospital supplies.
- C816P.4** Describe handling and uses of data processing equipments.
- C816P.5** Understand the role of Pharmacist in first aid treatment, patient counselling and family planning.