



DADHICHI EDUCATIONAL TRUST

DADHICHI COLLEGE OF PHARMACY

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COURSE OUTCOMES OF B.PHARMACY

COURSE OUTCOMES OF B. PHARMACY 1st YEAR 1st SEMESTER	
Subject Code: BP101T	Subject Name: Human Anatomy and Physiology
CO 1	To acquire knowledge about structure and function of various organs of human body.
CO 2	To know about various tissue and different tissue system present in human body.
CO 3	To learn about various homeostatic mechanism and their imbalances.
CO 4	To get basic knowledge of special sense organs and nervous system.
CO 5	To learn about basic idea of Integumentary system.
Subject Code: BP102T	Subject Name: Pharmaceutical Analysis-I
CO 4	Carry out biopharmaceutical research and used the information to obtain the development of recent dosage forms.
CO 5	Calculate diverse pharmacokinetic parameters from plasma & urinary excretion records by observing compartment modelling.
Subject Code: BP103T	Subject Name: Pharmaceutics-I
CO 1	To know the historical background, development & profession of pharmacy in relation to pharmacy, education, Industry & Organization.
CO 2	To understand the importance of prescription & posology
CO 3	To solve pharmaceutical calculations & to understand regarding the types, preparation & application of different powders
CO 4	To understand the excipients, formulation, evaluation & applications of different monophasic & biphasic liquid dosage forms.
CO 5	To understand about different concepts of suppositories & different types of pharmaceutical Incompatibility
CO 6	To understand about different excipients, preparation, evaluation & classification of various semisolid dosage forms & to understand about mechanism & factors influencing dermal penetration of drugs.
Subject Code: BP104T	Subject Name: Pharmaceutical inorganic chemistry
CO 1	To understand the history and concept of pharmacopoeia and its editions.
CO 2	To know the sources of impurities and methods to determine the impurities in inorganic pharmaceuticals.
CO 3	To gain knowledge on limit tests of different pharmaceutical inorganic compounds.

CO 4	To understand the method to prepare inorganic pharmaceuticals.
CO 5	To justify the medicinal importance of acidifiers, antacids, cathartics and antimicrobial agents as gastrointestinal agents
CO 6	To discuss the handling and applications of radiopharmaceuticals.
Subject Code: BP105T	Subject Name: Communication Skills
CO 1	Learn behavioral needs of a pharmacist to work effectively in the areas of pharmaceutical operation.
CO 2	Plan presentation and seminars in an organized manner.
CO 3	Adopt good pronunciation, good Communicative Styles.
CO 4	Develop language skills like Listening, Speaking, reading and writing.
CO 5	Manage the team effectively as a team player.
CO 6	Develop the skills of PI, PD and GD.
Subject Code: BP106RBT	Subject Name: Remedial Biology
CO 1	Students are able to know the classification and salient features of five kingdoms of life in the living system.
CO 2	Students can understand easily the anatomy and physiology of the plants (Gymnosperms and Angiosperms).
CO 3	Students can understand the basic components of anatomy and physiology of animal with special reference to human which helps them to understand Human anatomy and physiology, pathophysiology and pharmacology.
CO 4	Students can know the basic structures and functions of cell and cell organelles, cell division process and various tissue types which helps them to understand human anatomy and physiology.
CO 5	Students can understand easily the basic processes of plants like photosynthesis, respiration and mineral nutrition.
Subject Code: BP106RMT	Subject Name: Remedial Mathematics
CO 1	Apply mathematical concepts and principles to perform computations for pharmaceutical sciences.
CO 2	Create, use & analyze mathematical representations & mathematical relationships.
CO 3	Communicate mathematical knowledge & understanding to help in the field of clinical pharmacy.
CO 4	Perform abstract mathematical reasoning.
CO 5	Identify the types of differential equation & use the right method to solve & also apply the knowledge in pharmaceutical sciences.
CO 6	Use the knowledge of integral calculus to find the areas & apply in pharmaceutical sciences accurately.
COURSE OUTCOMES OF B. PHARMACY 1st YEAR 2nd SEMESTER	
Subject Code: BP201T	Subject Name: Human Anatomy & Physiology-II
CO 1	Students are able to explain the gross morphology, structure and functions of various organs of the human body.

CO 2	Students are able to describe the various homeostatic mechanisms and their imbalances.
CO 3	Students can identify the various tissues and organs of different systems of human body.
CO 4	Students can perform the hematological tests like blood cell counts, hemoglobin estimation, bleeding/clotting time etc. and also record blood pressure, heart rate, pulse and respiratory volume.
CO 5	Students can easily understand the coordinated working pattern of different organs of each system.
CO 6	Student can appreciate the interlinked mechanisms in the maintenance of normal functioning (homeostasis) of human body.
Subject Code: BP202T	Subject Name: Pharmaceutical Organic Chemistry –I
CO 4	Carry out biopharmaceutical research and used the information to obtain the development of recent dosage forms.
CO 5	Calculate diverse pharmacokinetic parameters from plasma & urinary excretion records by observing compartment modelling.
Subject Code: BP203T	Subject Name: BIOCHEMISTRY
CO 1	Understand the molecular levels of the chemical process associated with living cells.
CO 2	Understand the metabolism of nutrient molecules in physiological and pathological conditions.
CO 3	Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.
CO 4	Understand the metabolism of different biomolecules
CO 5	Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes
Subject Code: BP204T	Subject Name: Pathophysiology
CO 1	To acknowledge the students regarding different diseases with their names.
CO 2	To learn about the etiology and pathogenesis of selected diseases.
CO 3	The students should learn regarding the signs and symptoms of the diseases.
CO 4	To educate the students regarding the complications of the diseases.
CO 5	To learn about the adversity and severity of multiple diseases conditions.
Subject Code: BP205T	Subject Name: Computer Application
CO 1	Understand the concept of idea collection & treatment.
CO 2	Design & develop solutions to analyze pharmaceutical problems using computer .
CO 3	Understand the concept of CRD, RDD & LSD and evaluate to the design concept.
CO 4	Demonstrate the basic concept of MS-Excel & MS-Power Point.
CO 5	Analyze benefits of Data base Management systems & structured query languages.

Subject Code: BP206T	Subject Name: B. Pharm (Environmental Science)
CO 1	To create awareness among learners about environmental problems and to encourage them to take action to solve them.
CO 2	The study of the environment encompasses not only the analysis of physical and biological characteristics of the environment, but the analysis of social and cultural factors, and the impact of man on the environment as well.
CO 3	During this course, students will demonstrate an understanding of major concepts in environmental science as well as multidisciplinary subjects like physics, chemistry, and mathematics. An understanding of the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena, as well as their relevance in the day-to-day life of individuals, as well as their relevance in society at large.
CO 4	Assimilate moral and social values into one's personal and social life, thus resulting in a highly cultural and civilized personality.
CO 5	Educate students about the dangers of environmental pollution as well as how it impacts humans and ecosystems and the controls that can be taken.
CO 6	As part of this course, students will gain a better understanding of natural resources, their importance, and human activities' environmental impact on natural resources. Discover the importance of biodiversity conservation and the role it plays in preserving the environment.
COURSE OUTCOMES OF B. PHARMACY 2nd YEAR 1st SEMESTER	
Subject Code: BP301T	Subject Name: Pharmaceutical Organic Chemistry –II
CO 2	Determine the impact of pharmacokinetic parameters on the biological outcomes of the drug.
Subject Code: BP302T	Subject Name: Physical Pharmacy-I
CO 1	To know about the physicochemical properties of drug molecules, PH and solubility.
CO 2	Explain the role of surfactants, interfacial phenomenon and adsorption isotherm
CO 3	Understand principles such as aerosols, phase systems, critical solution temperature
CO 4	Understand physical properties of drugs including solubility, buffers, isotonicity
CO 5	To demonstrate use of physicochemical properties in the formulation development and evaluation of dosage forms.
Subject Code: BP303T	Subject Name: PHARMACEUTICAL MICROBIOLOGY
CO 1	Understand methods of identification, cultivation and preservation of various microorganisms
CO 2	Calculate diverse pharmacokinetic parameters from plasma & urinary excretion records by observing compartment modelling.
CO 3	To understand the importance and implementation of sterilization in pharmaceutical processing and industry
CO 4	To Learn sterility testing of pharmaceutical products.
CO 5	Carried out microbiological standardization of Pharmaceuticals

Subject Code: BP304T	Subject Name: Pharmaceutical Engineering
CO 1	To know about Pharma Industry and material used for construction of plant.
CO 2	To know about the Corrosion and Prevention of equipment used for Pharma Industry.
CO 3	To know the knowledge of different type of Machinery used in Pharmaceutical Industry.
CO 4	To understand the working principle of different equipments used in Pharma Industry.
CO 5	To know the type of machinery used in various processes like Coating, Compression, Granulation, Drying and Packing.
CO 6	To understand about different technology used to operate pharmaceutical machinery operation.
COURSE OUTCOMES OF B. PHARMACY 2nd YEAR 2nd SEMESTER	
Subject Code: BP401T	Subject Name: Pharm. Organic Chemistry III
CO 2	Determine the impact of pharmacokinetic parameters on the biological outcomes of the drug.
Subject Code: BP402T	Subject Name: Medicinal Chemistry – I
CO 1	
CO 2	
CO 3	
CO 4	
CO 5	
CO 6	
Subject Code: BP403T	Subject Name: Physical Pharmacy-II
CO 1	To understand the basic concepts behind colloids and its applications
CO 2	To know about the flow properties of powders and its role in formulations development
CO 3	To understand flow behaviour of fluids and identify characteristics according to formulations
CO 4	To study the different types of deformation of solids and stress - strain
CO 5	To learn about formulation concepts of suspension and emulsions
CO 6	Study the reaction concepts , reaction order, factors affecting the rate of reactions
Subject Code: BP404T	Subject Name: Pharmacology-I
CO 1	To know the basic Pharmacological Knowledge in the prevention of various disease.

CO 2	To know about Preclinical and clinical method of study of different drugs.
CO 3	To understand the Mechanism of drug action at different organ system, sub-cellular level and macromolecular level.
CO 4	To learn Adverse Drug Reaction (ADR) of different drugs.
CO 5	To understand Pharmacokinetics and Pharmacodynamics of different groups of drugs.
CO 6	To understand the Co-relation of Pharmacology with other bio-medical sciences.
Subject Code: BP405T	Subject Name: Pharmacognosy &Phytochemistry-I
CO 1	To learn about History, Scope and various sources of Crude drugs.
CO 2	To learn about various classification of Crude drugs and also to know about the cultivation, collection, processing and storage of crude drugs.
CO 3	To understand about adulteration & various methods of evaluation of crude drugs.
CO 4	To study and understand about the Plant tissue culture.
CO 5	To know about primary and secondary metabolites of plants.
CO 6	To study about various Systems of medicines.
COURSE OUTCOMES OF B. PHARMACY 3rd YEAR 1st SEMESTER	
Subject Code: BP501T	Subject Name: Medicinal chemistry II
CO 1	To know the fundamental knowledge on the structure, iupac name and nomenclature of drugs
CO 2	Understand the chemistry and therapeutic value with respect to their pharmacological activity
CO 3	To know the classes of drugs ,classification and mechanism of action mentioned in the course
CO 4	Understand the metabolic pathways ,adverse effect and uses of drugs
CO 5	Important of physiochemical properties and synthesis of important drugs under each class
CO 6	Know the structural activity relationship of selective class of drugs
Subject Code: BP502T	Subject Name: Industrial Pharmacy – I (Formulative Pharmacy)
CO 1	Students are able to know the various pharmaceutical dosage forms and their manufacturing techniques.
CO 2	Students are able to know various considerations in development of pharmaceutical dosage forms.
CO 3	Students are able to formulate solid, liquid and semisolid dosage forms and evaluate them for their quality.
CO 4	Students are able to know the required materials used for packaging of pharmaceutical products.
CO 5	Students are able to know the formulation and preparation of different cosmetic products.
Subject Code: BP503T	Subject Name: Pharmacology – II
CO 1	Understand the mechanism of drug action of different drugs and its relevance in the

	treatment of diseases related to cardio vascular system.
CO 2	Learn about pharmacology of different drugs and to understand its relevance in the treatment of diseases related to urinary system and autocooids.
CO 3	Understand the basic principles of drugs acting on endocrine system and their applications.
CO 4	Demonstrate isolation of different organs/tissues from laboratory animals by simulated experiments.
CO 5	Demonstrate the various receptor actions using isolated tissue preparation.
CO 6	Understand the basic principles of Bioassay, its significance, types and applications
Subject Code: BP504T	Subject Name: Pharmacognosy &Phytochemistry-II
CO 1	To study about the basic metabolic pathways.
CO 1	To learn about isolation, identification and analysis of phytoconstituents.
CO 1	To know the modern methods of extraction techniques and application of latest techniques like spectroscopy, chromatography and electrophoresis.
CO 1	To know the biological sources, chemical classes, composition, therapeutical uses and commercial applications of crude drugs.
CO 5	To learn about the utilization of radioactive isotopes in the investigation of biogenetic studies.
CO 6	To know the industrial production, estimation and utilization of phytoconstituents present in the plant parts.
Subject Code: BP505T	Subject Name: Pharmaceutical Jurisprudence
CO 1	To know the various Pharmaceutical Act and Laws.
CO 2	To learn the code of ethics during Pharmaceutical practice.
CO 3	To know different Drug schedules with its rules and regulations for the ethical practice of Pharmacy.
CO 4	To learn Pharmaceutical Legislation for the development and marketing of Pharmaceuticals.
CO 5	To know about the regulatory authorities of manufacturing and selling of Pharmaceuticals.
COURSE OUTCOMES OF B. PHARMACY 3rd YEAR 2nd SEMESTER	
Subject Code: BP601T	Subject Name: Medicinal Chemistry III
CO 1	To impart fundamental knowledge on the structure ,chemistry and therapeutic value of drugs.
CO 2	To know the prodrug concept ,combinatorial chemistry and computer aided drug design(CADD)
CO 3	Subject about emphasis on modern techniques of rational drug design like quantitative structure activity relationship
CO 4	Know the historical background ,chemical degradation ,classification of important drug
CO 5	Know the metabolism ,adverse effect and therapeutics value of specific drugs
CO 6	Emphasize on the mechanism of action ,important of structure active relationship and synthesis of specified drugs

Subject Code: BP602T	Subject Name: Pharmacology-III
CO 1	To educate the students regarding various pharmacological experiments of different diseases.
CO 2	The students should learn regarding the mechanism of action of drugs and treatment of different infectious diseases.
CO 3	To practice the choice of drugs against different diseases with their highest specificity and lowest side effects.
CO 4	To acknowledge different principles of toxicology and the effect of toxin / poison in the physiological system with treatment.
CO 5	To recognize and diagnosis of different diseases with the help of their symptoms with reference to medical sciences.
CO 6	To educate the students regarding the use of chemotherapy drugs and the limitations of excess use of antibiotics in day to day life in the biological system.
Subject Code: BP603T	Subject Name: Herbal Drug Technology
CO 1	To learn about the herbal medicines, their preparations, selection, identification, authentication and processing of herbal raw material.
CO 2	To study about biodynamic agriculture and their benefits.
CO 3	To understand about the basic principles of various systems of medicines, their preparation and standardization.
CO 4	To know about Nutraceuticals.
CO 5	To learn about patenting, regulatory requirements of natural products and regulatory issues.
CO 6	To know about Good Manufacturing Practices (GMP) of Indian system of medicine.
Subject Code: BP604T	Subject Name: Bio-pharmaceutics&Pharmacokinetics
CO 1	Define basic concepts in biopharmaceutics & Pharmacokinetics.
CO 2	Determine the impact of pharmacokinetic parameters on the biological outcomes of the drug.
CO 3	Considered the appropriate pharmacokinetic parameters (ADME) on the biological effects of the drug.
CO 4	Carry out biopharmaceutical research and used the information to obtain the development of recent dosage forms.
CO 5	Calculate diverse pharmacokinetic parameters from plasma & urinary excretion records by observing compartment modelling.
CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.
Subject Code: BP605T	Subject Name: PHARMACEUTICAL BIOTECHNOLOGY
CO 1	Understanding the importance of Immobilized enzymes in Pharmaceutical Industries
CO 2	Understand the applications of Genetic engineering in relation to production of pharmaceuticals products

CO 3	Importance of Monoclonal antibodies in Industries
CO 4	Understand the use of microorganisms in fermentation technology
CO 5	Understand the diagnosis, prevention and cure of diseases, new and cheaper pharmaceutical drugs
Subject Code: BP606T	Subject Name: Quality Assurance
CO 1	To understand the concept of Quality Control, Quality Assurance and GMP. Get the basic knowledge about Total Quality Management, ICH guidelines, Quality by Design, ISO 9000 and ISO 14000, NABL Accreditation, etc.
CO 2	Get a brief Idea about the Organization and Personnel, construction and maintenance of premises. Selection, Purchase and maintenance of equipments and Raw materials.
CO 3	To know the quality control test for containers and packaging materials & GLP.
CO 4	To learn about the Complaints & document maintenance in Pharmaceutical Industry.
CO 5	Get basic understanding about Calibration, Qualification, Analytical method Validation, Good warehousing practice and materials management.

COURSE OUTCOMES OF B. PHARMACY 4th YEAR 1st SEMESTER

Subject Code: BP701T	Subject Name: Instrumental Methods of Analysis
CO 1	
CO 2	
CO 3	
CO 4	
CO 5	
Subject Code: BP702T	Subject Name: Industrial Pharmacy – II
CO 1	Know the process of pilot plant and scale up techniques of different types of pharmaceutical dosage forms
CO 2	Understand the process of technology transfer from lab scale to commercial batch with proper documentation
CO 3	Know different Laws and Acts that regulate pharmaceutical industry
CO 4	Understand the approval process and regulatory requirements for drug products
CO 5	Know different Indian regulatory requirements and approval procedure for new drug
Subject Code: BP703T	Subject Name: Pharmacy Practice
CO 1	To know the various drug distribution methods in a hospital.
CO 2	To know about the pharmacy stores management and inventory control.
CO 3	To know, how to monitor drug therapy of patient through medication chart review and clinical review and to conduct medication history interview and counsel the patients.
CO 4	To know, how to identify drug related problems and assessing adverse drug reactions.

CO 5	To interpret selected laboratory results (as monitoring parameters in therapeutics)of specific disease states.
CO 6	To give pharmaceutical care services and do patient counseling in community pharmacy.
CO 7	To appreciate the concept of Rational drug therapy.
Subject Code: BP704T	Subject Name: B. Pharm (Novel Drug Delivery System) (Theory)
CO 1	Students will learn regarding the principles and technology used in the design of sustained release and controlled release drug delivery systems.
CO 2	Learn the about criteria for selection of a drugs and polymers for the development of Novel drug delivery systems.
CO 3	Learn the various approaches for development of novel drug delivery systems.Understand biochemistry of proteins and applications in drug delivery systems.
CO 4	Learn the various approaches for development of novel drug delivery systems.Grasp the formulation and evaluation of Novel drug delivery systems.
CO 5	Learn the formulation and characterization of transdermal drug Delivery systems. Understand the formulation and evaluation of Gastro-retentive & Naso-pulmonary drug delivery systems.
CO 6	Know about various approaches for the development of targeted drug Delivery systems. Can surely develop insight regarding thedevelopment of ocular formulations and intra uterine devices (IUDs) and its applications.

COURSE OUTCOMES OF B. PHARMACY 4th YEAR 2nd SEMESTER

Subject Code: BP801T	Subject Name: Biostatistics and Research Methodology
CO 2	Determine the impact of pharmacokinetic parameters on the biological outcomes of the drug.
Subject Code: BP802T	Subject Name: Social and Preventive Pharmacy
CO 1	To acquire consciousness about current issues related to health and pharmaceutical problem with in the country and worldwide.
CO 2	To understand different healthcare programs provided by Govt. on various issues.
CO 3	To know about prevention and control on various disease.
CO 4	To learn about 1 st aids and primary health care treatment of various diseases.
CO 5	To understand the process of sanitization and public health care treatment.
CO 6	To understand malnutrition and nutritional deficiency diseases.
Subject Code: BP803ET	Subject Name:
CO 4	
CO 5	

Subject Code: BP804ET	Subject Name:
CO 4	
Subject Code: BP805ET	Subject Name: Pharmacovigilance
CO1	Students are able to know <ul style="list-style-type: none"> • History and development of pharmacovigilance. • National and international scenario of pharmacovigilance.
CO2	Students are able to know <ul style="list-style-type: none"> • The drug safety monitoring. • Dictionaries, coding and terminologies used in pharmacovigilance • Detection of new adverse drug reactions and their assessment
CO3	Students are able to know <ul style="list-style-type: none"> • International standards for classification of diseases and drugs • Adverse drug reaction reporting systems and communication in pharmacovigilance.
CO4	Students are able to know <ul style="list-style-type: none"> • Methods to generate safety data during pre-clinical, clinical and post approval phases of drugs' life cycle. • Drug safety evaluation in pediatrics, geriatrics, pregnancy and lactation.
CO5	Students are able to know <ul style="list-style-type: none"> • Pharmacovigilance Program of India (PvPI) requirement for ADR reporting in India. • ICH guidelines for ICSR, PSUR, expedited reporting, pharmacovigilance planning.
Subject Code: BP806T	Subject Name:
CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.
Subject Code: BP807ET	Subject Name:
CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.
Subject Code: BP808ET	Subject Name:
CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.
Subject Code: BP809ET	Subject Name: Cosmetic Science
CO 1	To get the general Idea about cosmetic and cosmeceutical products. Also to know the different excipients used for cosmetic preparations. Get a basic Idea about the Structure and function of Skin, Hair and Oral Cavity
CO 2	Get a brief Idea about the Principles of formulation and building blocks of Skin Care, Hair Care and Oral Care Products
CO 3	To know the Role of Herbs in Cosmetics like Skin Care, Hair Care and Oral care Products. Also to know about Sun Protection Factors, BIS Specification and Analytical methods.
CO 4	To learn about the Principles of Cosmetic Evaluation, Hair tensile strength, Hair combing properties, Evolution and Skin benefits.
CO 5	Get basic understanding about Comedogenic and dermatitis. Cosmetic problems associated with Hair, Scalp and Skin.
Subject Code: BP810ET	Subject Name: Pharmacological screening methods

CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.
Subject Code: BP811ET	Subject Name: Advanced Instrumentation Techniques
CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.
Subject Code: BP812PW	Subject Name: Dietary Supplements and Nutraceuticals
CO 6	Design bioavailability & bioequivalence research of new drugs or dosage forms.