

PHARM D COURSE OUTCOMES

Course Number & Course Name	CO No	Course Outcome (CO)
PHD10110 Human Anatomy and Physiology-I (Theory)	Upon completion of this course the graduate is able to	
	C10110T1.	Understand the anatomical aspects, tissues and membrane permeability of compounds/drugs(1,3,5,6)
	C10110T2.	Explain the functions of nervous system and special sensory organs(1,3,5,6)
	C10110T3.	Describe the anatomy and physiology of cardiovascular system.(1,3,5,6)
	C10110T4.	Discuss the structure and functions of digestive and respiratory systems(1,3,5,6)
	C10110T5.	Explain the endocrine and urogenital systems.(1,3,5,6)
PHD10210 Pharmaceutics (Theory)	Upon completion of this course the graduate is able to	
	C10210T1.	Understand the different kinds of dosage forms, historical background of pharmacy profession, different pharmacopeia's, handling of prescription and pediatric dose calculations(1,6)
	C10210T2.	Perform various pharmaceutical calculations and understand about the powders(1,6)
	C10210T3.	Formulate and evaluate different kinds of monophasic and biphasic liquid dosage forms(1,6)
	C10210T4.	Know about the preparations of Suppositories and pessaries, Galenicals.(1,6)
	C10210T5.	Identify and solve pharmaceutical incompatibilities in prescriptions and understand about Surgical aids.(1,6)
PHD10310 Medicinal Biochemistry (Theory)	Upon completion of this course the graduate is able to	
	C10310T1	Understand catalytic activity of enzymes and importance of isoenzymes in diagnosis of diseases(1,2,5)
	C10310T2	know the metabolic process of Biomolecules and metabolic disorders(1,2,5)
	C10310T3	Acquire knowledge in genetic organisation of mammalian genome , protein synthesis, replication and repair mechanism.(1,2,5)
	C10310T4	Know biochemical principles of organ function tests of kidney, liver and endocrine glands.(1,2,5)
	C10310T5	Acquire knowledge to do qualitative analysis and determination of biomolecules in the body fluids.(1,2,5)
PHD10410 Pharmaceutical Organic Chemistry (Theory)	Upon completion of this course the graduate is able to	
	C10410T1	Naming of simple organic compounds belonging to different classes of organic compounds(1,2,5)
	C10410T2	Know about the Physical properties of organic compounds (1,2,5)
	C10410T3	Know about various reactions with mechanism, orientation, order of reactivity, stability of organic compounds (1,2,5)

	C10410T4	Know about named organic reactions with mechanisms (1,2,5)
	C10410T5	Various uses of organic compounds in pharmacy(1,2,5)
PHD10510 Pharmaceutical Inorganic Chemistry (Theory)	Upon completion of this course the graduate is able to	
	C10510T1	Understand the basic concepts of errors and various analytical methods like volumetric, acid-base, redox and non-aqueous and their application for the analysis of inorganic pharmaceuticals.(1,2,5)
	C10510T2	Understand the concepts of analytical methods like precipitation, complexometry, gravimetry and theory of indicators.(1,2,5)
	C10510T3	Know the basic principles and methods of limit tests to control common impurities in pharmaceutical substances(1,2,5)
	C10510T4	Acquire knowledge and understand the medicinal importance of inorganic pharmaceuticals.(1,2,5)
	C10510T5	Acquire knowledge of radiopharmaceuticals used in the diagnostics and therapy.(1,2,5)
PHD106A10 Remedial Mathematics (Theory)	Upon completion of this course the graduate is able to	
	C106A10T1	Apply the knowledge of partial fractions, logarithms, functions and limits for interpreting the pharmaceutical Problems(1,2,6)
	C106A10T2	Understand the theory and applications of matrices and determinant in solving pharmacokinetic equations(1,2,6)
	C106A10T3	Interpret the calculations using differential calculus(1,2,6)
	C106A10T4	Calculate the slope and other parameters using integrations(1,2,6)
	C106A10T5	Integrate the differential equations and laplace transform(1,2,6)
PHD106B10 Remedial Biology (Theory)	Upon completion of this course the graduate is able to	
	C106B10T1	Classify Monera, Protista, Fungi, Animalia and Plantae (1,2,6)
	C106B10T2	Understand the cardiovascular, digestive and respiratory systems in the human body(1,2,6)
	C106B10T3	Describe the human excretory, nervous, endocrine and reproductive systems(1,2,6)
	C106B10T4	Explain the photosynthesis, essential nutrients and nitrogen metabolism in plants(1,2,6)
	C106B10T5	Differentiate cells, tissues, cell division and explain the plant respiration and growth(1,2,6)
	Upon completion of this course the graduate is able to	
	C10710P1	Identify tissue and organ slides.(1,3,5,6)
PHD10710	C10710P2	Determine bleeding time, clotting time, E.S.R and blood grouping.(1,3,5,6)

Human Anatomy and Physiology (Practical)	C10710P3	Determine the haemoglobin content, erythrocyte count, leukocyte count and differential leukocyte count.(1,3,5,6)
	C10710P4	Perform pregnancy diagnosis test and understand various family planning devices.(1,3,5,6)
	C10710P5	Record the blood pressure, simple muscle curve effect of different parameters on gastrocnemius sciatic nerve preparation.(1,3,5,6)
PHD10810 Pharmaceutics (Practical)	Upon completion of this course the graduate is able to	
	C10810P1	Prepare and submit syrups, elixirs, linctus and solutions(1,6)
	C10810P2	Formulate and dispense lotions and liniment(1,6)
	C10810P3	Prepare and dispense suspensions and emulsion(1,6)
	C10810P4	Formulate and prepare powders and suppositories(1,6)
PHD10910 Medicinal Biochemistry (Practical)	Upon completion of this course the graduate is able to	
	C10910P1	Identify the normal and abnormal constituents of urine sample by qualitative analysis(1,2,5)
	C10910P2	Analyze, determine and estimate normal and abnormal constituents of blood sample(1,2,5)
	C10910P3	Analyze, determine and estimate Lipids in blood sample(1,2,5)
	C10910P4	Analyze, determine and estimate amino acids in blood sample.(1,2,5)
PHD11010 Pharmaceutical Organic Chemistry Practical	Upon completion of this course the graduate is able to	
	C11010P1	Determination of some important physical properties like m.pt, b.pt, solubility etc (1,2,5)
	C11010P2	Purification of Organic compounds (1,2,5)
	C11010P3	Synthesis of organic compounds and study about principles, reactions and mechanism (1,2,5)
	C11010P4	Synthesis of organic compounds with named reactions and study about mechanisms (1,2,5)
PHD11110 Pharmaceutical Inorganic Chemistry (Practical)	Upon completion of this course the graduate is able to	
	C11110P1	Acquire knowledge about the sources of impurities and methods to determine the impurities in different classes of inorganic pharmaceuticals.(1,2,5)
	C11110P2	Acquire knowledge and skills on volumetric analytical methodologies.(1,2,5)
	C11110P3	Perform the systematic qualitative analysis and confirm the unknown inorganic anions and cations.(1,2,5)

	C11110P4	Perform the identification tests for different inorganic pharmaceutical compounds and their analysis.(1,2,5)
	C11110P5	Acquire basic knowledge regarding general methods of preparation of inorganic compounds of pharmaceutical importance.(1,2,5)
PHD11210 Remedial Biology (Practical)	Upon completion of this course the graduate is able to	
	C11210P1	Handle microscope for scientific examinations(1,2,5)
	C11210P2	Describe the anatomy and physiology of frog by using computer models(1,2,5)
	C11210P3	Identify bones(1,2,5)
	C11210P4	Determine blood groups and blood pressure(1,2,5)
	C11210P5	Estimate the tidal volume(1,2,5)
PHD20110 Pathophysiology (Theory)	Upon completion of this course the graduate is able to	
	C20110T1	Understand basic pathophysiology mechanisms(1,3,5)
	C20110T2	Describe etiology and pathogenesis of the selected disease states (1,3,5)
	C20110T3	Gain knowledge of pathology related to pharmacological applications (1,3,5)
	C20110T4	Acquire knowledge regarding mechanisms, signs and symptoms of diseases (1,3,5)
	C20110T5	Gather applications related to pharmacy (1,3,5)
PHD20210 Pharmaceutical Microbiology (Theory)	Upon completion of this course the graduate is able to	
	C20210T1	Define the basics of microorganisms and their identification of key growth parameters (1,2,4,5,6)
	C20210T2	Explain the concepts of staining techniques (1,2,4,5,6)
	C20210T3	Explain the principles of sterilization and Disinfection process used in the different fields of science (1,2,4,5,6)
	C20210T4	Apply sterility testing for different pharmaceutical products (1,2,4,5,6)
	C20210T5	Discuss the concepts of immunology and microbiological assays and interpolate the same in disease diagnosis (1,2,4,5,6)
PHD20310 Pharmacognosy & Phytopharmaceuticals (Theory)	Upon completion of this course the graduate is able to	
	C20310T1	Extend the introduction to cell constituents and elaborate the history and scope of pharmacognosy & classification of crude drugs(1,2,5)
	C20310T2	Discuss various aspects of the medicinal plant cultivation, collection, process and storage methods(1,2,5)
	C20310T3	Compare the microscopical & powder microscopical characters of crude drugs and study various aspects of drug adulteration.(1,2,5)
	C20310T4	Summarize sources of carbohydrates & their derivatives(1,2,5)

	C20310T5	Explain the pharmacognostic scheme and inspect the importance of lipids, oils, proteins and fibers. (1,2,5)
PHD20410 pharmacology-I (Theory)	Upon completion of this course the graduate is able to	
	C20410T1	Apply the concepts of pharmacokinetics of various drugs acting on human body on regular day today life.(1,2,3,5)
	C20410T2	Evaluate the pharmacological aspects of drugs acting on ANS (1,2,3,5)
	C20410T3	Analyze the pharmacology of drugs acting on CNS (1,2,3,5)
	C20410T4	Understand the information pertaining to the principles of pharmacodynamics of drugs acting on human body (1,2,3,5)
	C20410T5	Remember the concepts of drug addiction, abuse and correlate them with their negative impact on society (1,2,3,5)
PHD20510 Community Pharmacy (Theory)	Upon completion of this course the graduate is able to	
	C20510T1	Know the business and professional practice management skills in community pharmacy(3,4,6)
	C20510T2	Respond to minor ailments and provide appropriate medications (3,4,6)
	C20510T3	Apply Knowledge to do patient counseling and provide health care screening services to public (3,4,6)
	C20510T4	Knowledge about pharmaceutical care services to public (3,4,6)
	C20510T5	Appreciate the concept of Rational drug Therapy and Code of ethics (3,4,6)
PHD20610 Pharmacotherapeutics-I (Theory)	Upon completion of this course the graduate is able to	
	C20610T1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (3,4,6)
	C20610T2	Students able to describe the prescription and co relate the clinical manifestations with disease (3,4,6)
	C20610T3	Able to develop patient care based assessment skills (3,4,6)
	C20610T4	Able to monitor drug therapy of patient through prescription (3,4,6)
	C20610T5	Continue to develop communication skills (3,4,6)
PHD20710 Pharmaceutical Microbiology (Practical)	Upon completion of this course the graduate is able to	
	C20710P1	Prepare various culture media for the growth of microorganisms(1,2,4,5,6)
	C20710P2	Identify and isolate different microorganisms(1,2,4,5,6)
	C20710P3	Select and demonstrate aseptic procedures(1,2,4,5,6)
	C20710P4	Analyze the test for sterility of different pharmaceutical products(1,2,4,5,6)

	C20710P5	Evaluate and estimate the potency of antimicrobials and determine the MIC of antimicrobial agents(1,2,4,5,6)
PHD20810 Pharmacognosy & Phytopharmaceuticals (practical)	Upon completion of this course the graduate is able to	
	C20810P1	Examine the cell wall constituents and its inclusions(1,2,5)
	C20810P2	Analyse the macroscopic study of different crude drugs (1,2,5)
	C20810P3	Inspect the microscopic study of different crude drugs(1,2,5)
	C20810P4	Examine the powder microscopic study of different crude drugs (1,2,5)
	C20810P5	Analyse the crude drugs by systematic chemical evaluation and estimate the authenticity of oils.(1,2,5)
PHD20910 Pharmacology -1 (practical)	Upon completion of this course the graduate is able to	
	C20910P1	Create certain drugs and techniques by studying the maintenance of laboratory animals.(1,2,3,5)
	C20910P2	Analyze the concepts of various routes of drug administration and blood withdrawal techniques (1,2,3,5)
	C20910P3	Apply the concepts of drugs affecting ciliary motility on animal experimentation. (1,2,3,5)
	C20910P4	Evaluate the effect of drugs acting on CNS. (1,2,3,5)
	C20910P5	Understand the mechanism of action of locally acting drugs by performing animal experimentation. (1,2,3,5)
PHD21010 Pharmacotherapeutics- I(practical)	Upon completion of this course the graduate is able to	
	C21010P1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (3,4,6)
	C21010P2	Students able to describe the prescription and co relate the clinical manifestations with disease (3,4,6)
	C21010P3	Able to develop patient care based assessment skills (3,4,6)
	C21010P4	Able to monitor drug therapy of patient through prescription (3,4,6)
	C21010P5	Continue to develop communication skills (3,4,6)
PHD30110 Pharmacology-II (Theory)	Upon completion of this course the graduate is able to	
	C30110T1	Identify and explain the pharmacodynamics and pharmacokinetic properties of drugs of various categories(1,2,3,5)
	C30110T2	Recognize the adverse effects of drugs(1,2,3,5)
	C30110T3	Recognize indications of different drugs and avoid contraindications(1,2,3,5)
	C30110T4	Provide vital information to patients about drugs during patient counseling(1,2,3,5)
	C30110T5	Design & execute animal experiments to identify the pharmacological properties of known drugs and unknown samples.(1,2,3,5)
	Upon completion of this course the graduate is able to	

PHD30210 Pharmaceutical Analysis (Theory)	C30210T1	Recall all the regulatory guidelines, fundamental aspects in quality assurance and quality control(1,2,5,6)
	C30210T2	Explain different techniques of separation of drugs from excipients and to demonstrate modern techniques of separation (1,2,5,6)
	C30210T3	Make use of different techniques of separation of drugs and to apply them for day by day increase in scope of methods (1,2,5,6)
	C30210T4	Distinguish different electrometric methods, their interpretation, Basic UV Vis spectrometric methods, implementation and applications (1,2,5,6)
	C30210T5	Explain theoretical aspects and instrumentation of different spectroscopic techniques and interpretation of spectra and data (1,2,5,6)
PHD30310 Pharmacotherapeutics- II (Theory)	Upon completion of this course the graduate is able to	
	C30310T1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (1,3,4,6)
	C30310T2	Students able to describe the prescription and co relate the clinical manifestations with disease (1,3,4,6)
	C30310T3	Able to develop patient care based assessment skills (1,3,4,6)
	C30310T4	Able to monitor drug therapy of patient through prescription (1,3,4,6)
C30310T5	Continue to develop communication skills (1,3,4,6)	
PHD30410 Pharmaceutical Jurisprudence (Theory)	Upon completion of this course the graduate is able to	
	C30410T1	Tell the basic concepts of import, manufacture and conditions for grant of license in different facilities in drug and cosmetics act(1,6)
	C30410T2	Classify the different schedules and explain sale, labeling. Outline the administration of the act. Describe the government drug analyst and drug inspector (1,6)
	C30410T3	Identify the different statutory bodies like PCI, state and joint state pharmacy council's. applying the knowledge in construction of in-bond and outside bond and list the narcotic drugs and psychotropic substances and categorize different forms of narcotic and psychotropic substances (1,6)
	C30410T4	Justify the prohibition of advertisements in drugs and magic remedies. Explain the importance of animal ethics. Estimate the price of formulations (1,6)
	C30410T5	Discuss various pharmaceutical legislations. Elaborate the theory of patents. Create awareness in pharmacist in various fields (1,6)
PHD30510	Upon completion of this course the graduate is able to	
	C30510T1	Understand modern concept of rational drug design.(1,2,5)

Medicinal Chemistry (Theory)	C30510T2	Learn development of the anti-infective drugs including structure activity relationship, mechanism of action, synthesis, chemical nomenclature, brand names and side effects of important compound (1,2,5)
	C30510T3	Understand classification, mechanism of action, structure activity relationship, synthesis, nomenclature and side effects of the drugs acting as antineoplastic agents (1,2,5)
	C30510T4	Understand classification, mechanism of action, structure activity relationship, synthesis, nomenclature and side effects of the drugs acting as Cardiovascular agents (1,2,5)
	C30510T5	Understand classification, mechanism of action, structure activity relationship, of Hypoglycemic agents, Diuretics, Steroidal Hormones and Adrenocorticoids etc. (1,2,5)
PHD30610 Pharmaceutical Formulations (Theory)	Upon completion of this course the graduate is able to	
	C30610T1	Recall and outline various pharmaceutical dosage forms (1,2,4)
	C30610T2	Summarize different types of tablets, tablet excipients and demonstrate production, evaluation of compressed tablets and coated tablets. (1,2,4)
	C30610T3	Choose suitable ingredients for the production, filling and evaluation of hard gelatin and soft gelatin capsules (1,2,4)
	C30610T4	Simplify formulation, manufacturing and evaluation of liquid oral dosage forms and parenteral products (1,2,4)
	C30610T5	Discuss various controlled and novel drug delivery systems(1,2,4)
PHD30710 Pharmacology-II (practical)	Upon completion of this course the graduate is able to	
	C30710P1	Define the basic concepts of experimental pharmacology. (1,2,3,5)
	C30710P2	Calculate the dose and decide the route of administration of drugs.(1,2,3,5)
	C30710P3	Design experiments to test the safety and efficacy of experimental drugs (1,2,3,5)
	C30710P4	Execute a bioassay to determine the potency of experimental drugs (1,2,3,5)
	C30710P5	Evaluate the different techniques used in molecular pharmacology (1,2,3,5)
PHD30810 Pharmaceutical Analysis (practical)	Upon completion of this course the graduate is able to	
	C30810P1	Recall the separation and identification of compounds by various chromatographic techniques(1,2,5,6)
	C30810P2	Interpret different techniques of spectroscopy for identification and quantification of drugs (1,2,5,6)
	C30810P3	Analyse compounds using different analytical techniques, and interpretation of spectrum and data (1,2,5,6)
	C30810P4	Estimate the concentration of ions by using electrometric methods (1,2,5,6)

	C30810P5	Elaborate various advanced techniques, improve knowledge in instrumentation, handling and maximize Applications (1,2,5,6)
PHD30910 Pharmacotherapeutics-II (Practical)	Upon completion of this course the graduate is able to	
	C30910P1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (3,4,6)
	C30910P2	Students able to describe the prescription and co relate the clinical manifestations with disease (3,4,6)
	C30910P3	Able to develop patient care based assessment skills (3,4,6)
	C30910P4	Able to monitor drug therapy of patient through prescription (3,4,6)
	C30910P5	Continue to develop communication skills (3,4,6)
PHD31010 Medicinal Chemistry (practical)	Upon completion of this course the graduate is able to	
	C31010P1	Learn assays of important drugs from the course (1,2,5)
	C31010P2	Learn synthesis of medicinally important compounds / drug intermediates with recrystallization, TLC techniques(1,2,5)
	C31010P3	Understand monograph analysis of important drugs. (1,2,5)
	C31010P4	Determine partition coefficients of compounds (1,2,5)
	C31010P5	Determine dissociation constants and molar refractivity of compounds for QSAR analysis. (1,2,5)
PHD31110 Pharmaceutical Formulations (Practical)	Upon completion of this course the graduate is able to	
	C31110P1	Recall the basics of various dosage forms and demonstrate manufacture of different types of tablets(1,2,4)
	C31110P2	Select suitable ingredients and develop hard gelatin capsules (1,2,4)
	C31110P3	Experiment with the manufacture of parenterals (1,2,4)
	C31110P4	Perceive formulation of liquid oral preparations and take part in the evaluation of different pharmaceutical products (1,2,4)
	C31110P5	Formulate and test various types of cosmetic preparations & elaborate tablet coating process (1,2,4)
PHD40110 Pharmacotherapeutics-III (Theory)	Upon completion of this course the graduate is able to	
	C40110T1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (1,3,4,6)
	C40110T2	Students able to describe the prescription rationality and co relate the clinical manifestations with disease (1,3,4,6)
	C40110T3	Able to develop patient care based assessment skills
	C40110T4	Able to monitor drug therapy of patient through prescription (1,3,4,6)
	C40110T5	Continue to develop communication skills (1,3,4,6)

PHD40210 Hospital Pharmacy (Theory)	Upon completion of this course the graduate is able to	
	C40210T1	Recognize various hospital pharmacy services including preparation & implementation of budget, inventory control & drug distribution methods(2,4,6)
	C40210T2	Discuss hospital drug policy (2,4,6)
	C40210T3	Explain Manufacturing & packaging of various pharmaceutical preparations along with handling of Radiopharmaceuticals (2,4,6)
	C40210T4	Define organisation, functions & Management of hospital & hospital pharmacy (2,4,6)
	C40210T5	To develop programmes for professional upraising Continuously & to build inter professional relations in hospitals (2,4,6)
PHD40310 Clinical Pharmacy (Theory)	Upon completion of this course the graduate is able to	
	C40310T1	Define the role of clinical pharmacist at various health care settings (2,4,5,6)
	C40310T2	Infer drug therapy of the patient through medication chart review and clinical review and explain drug / poison information (2,4,5,6)
	C40310T3	Construct the medication history interview and counsel the patients (2,4,5,6)
	C40310T4	Analyze, assess and monitor ADR (2,4,5,6)
	C40310T5	Interpret selected laboratory results (as monitoring parameters) of specific disease states. (2,4,5,6)
PHD40410 Biostatistics & Research Methodology (Theory)	Upon completion of this course the graduate is able to	
	C40410T1	Define basic procedure involved in research methodology. (1,2,6)
	C40410T2	Demonstrate the appropriate statistical methods required for a particular research design (1,2,6)
	C40410T3	Make use of various available parameters for testing hypothesis and learn how to utilize statistical software in research methodology (1,2,6)
	C40410T4	Categorize and compare various statistical methods in epidemiology (1,2,6)
	C40410T5	Explain how computers are used in different types of pharmacies (1,2,6)
PHD40510 Biopharmaceutics & Pharmacokinetics (Theory)	Upon completion of this course the graduate is able to	
	C40510T1	Define the drug absorption, mechanisms of drug absorption and interpret various factors affecting drug absorption, distribution, metabolism and elimination of drugs. (1,2,5,6)
	C40510T2	Explain the use of pharmacokinetic models for the determination of pharmacokinetic parameters by compartment models and Non compartmental models.(1,2,5,6)

	C40510T3	Develop multiple dosage regimens based on pharmacokinetic parameters for maximizing therapeutic effectiveness and patient compliance (1,2,5,6)
	C40510T4	Analyze various pharmacokinetic parameters for the drugs exhibiting Non-linear pharmacokinetics(1,2,5,6)
	C40510T5	Estimate the bioavailability of a drug and compare the bioequivalence between formulations.(1,2,5,6)
PHD40610 Clinical Toxicology (Theory)	Upon completion of this course the graduate is able to	
	C40610T1	Explain about the basic understanding of general principles and fundamentals of poisoning(2,3,5)
	C40610T2	Demonstrate about the mechanism of action and toxic symptoms produced due to intake of various drugs and pesticides used commonly(2,3,5)
	C40610T3	Demonstrate about mechanism of toxicity, toxic symptoms, antidotes and treatment protocols of toxic gases, various metals and household chemicals used abundantly(2,3,5)
	C40610T4	discuss about common snake bites, plant and mushroom poisoning harmful for community (2,3,5)
	C40610T5	determine, identify and continuous learning by pharmacist regarding various abuses and treatment options to improve health of general public (2,3,5)
PHD40710 Pharmacotherapeutics- III (Practical)	Upon completion of this course the graduate is able to	
	C40710P1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (3,4,6)
	C40710P2	Students able to describe the prescription rationality and co relate the clinical manifestations with disease(3,4,6)
	C40710P3	Able to develop patient care based assessment skills(3,4,6)
	C40710P4	Able to monitor drug therapy of patient through prescription(3,4,6)
	C40710P5	Continue to develop communication skills(3,4,6)
PHD40810 Hospital Pharmacy (Practical)	Upon completion of this course the graduate is able to	
	C40810P1	Solve drug related problems like ADR, interactions and individualization of Therapy Through prescription Analysis.(2,4,6)
	C40810P2	Understand manufacturing & packaging of Various pharmaceuticals like parenterals & Powders(2,4,6)
	C40810P3	Compose response for drug information queries along with sources of unbiased drug information
	C40810P4	Describe various methods of inventory control, drug distribution systems, Functions & management of hospital pharmacy(2,4,6)
	C40810P5	Explain hospital drug policy & different phases of clinical trails(2,4,6)
	Upon completion of this course the graduate is able to	

PHD40910 Clinical Pharmacy (practical)	C40910P1	Provide Drug information sources & poison information services to the health care professionals.
	C40910P2	Identify & Reporting of Drug Related Problems (Drug-Drug Interactions & Pharmacist Interventions & Medication Errors) (2,3,4,5,6)
	C40910P3	Construct the medication history & patient counselling for the individual patient as a part of Pharmaceutical Care(2,3,4,5,6)
	C40910P4	Analyze, assess and monitor & Reporting of Adverse Drug Reactions (2,3,4,5,6)
	C40910P5	Interpret Selected Laboratory results (as monitoring Parameter in therapeutics) of specific disease conditions (2,3,4,5,6)
PHD41010 Biopharmaceutics & Pharmacokinetics (practical)	Upon completion of this course the graduate is able to	
	C41010P1	Recall the concepts in biopharmaceutics, basic pharmacokinetic parameters and their Significance and to predict the pharmacokinetic parameters for given data as per one and two compartment models(1,2,5,6)
	C41010P2	Interpret the effect of surfactant, diluents, lubricant and polymorphism on rate of drug dissolution(1,2,5,6)
	C41010P3	Solve bioavailability parameters of drugs by using plasma data and methods to improve bioavailability.(1,2,5,6)
	C41010P4	Analyze absorption rate constant, K E, biological half life, mean residence time and mean absorption time for the given data.(1,2,5,6)
C41010P5	Estimate the extent of protein binding by equilibrium dialysis or dynamic dialysis methods(1,2,5,6)	
PHD41110 Pharmacotherapeutics- I & II (Theory)	Upon completion of this course the graduate is able to	
	C41110T1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (3,4,6)
	C41110T2	Students able to describe the prescription rationality and co relate the clinical manifestations with disease(3,4,6)
	C41110T3	Able to develop patient care based assessment skills(3,4,6)
	C41110T4	Able to monitor drug therapy of patient through prescription(3,4,6)
C41110T5	Continue to develop communication skills(3,4,6)	
PHD41210 Pharmacotherapeutics- I & II practical	Upon completion of this course the graduate is able to	
	C41210P1	Able to describe the pathophysiology & management of cardiovascular, Respiratory, Endocrine, Nervous system & Gastroenterology (3,4,6)
	C41210P2	Students able to describe the prescription rationality and co relate the clinical manifestations with disease(3,4,6)
	C41210P3	Able to develop patient care based assessment skills(3,4,6)
C41210P4	Able to monitor drug therapy of patient through prescription (3,4,6)	

	C41210P5	Continue to develop communication skills (3,4,6)
PHD50110 Clinical Research (Theory)	Upon completion of this course the graduate is able to	
	C50110T1	Find the pharmacological and toxicological activities in process of development of new drugs (1,2,3,5,6)
	C50110T2	Classify the principles and phases in clinical trial of drug(1,2,3,5,6)
	C50110T3	Choose the guidelines of national and international regulatory bodies for clinical trial(1,2,3,5,6)
	C50110T4	Distinguish roles and obligations of the investigator, sponsor and institutional review board(1,2,3,5,6)
	C50110T5	Design and explain the importance of documents in clinical trial(1,2,3,5,6)
PHD50210 Pharmacoepidemiology and Pharmacoeconomics (Theory)	Upon completion of this course the graduate is able to	
	C50210T1	Remember and recall the origin and need; measurement of outcomes in pharmacoepidemiology and pharmacoeconomics.(1,2,5,6)
	C50210T2	Understand the various concepts of risk in various pharmacoepidemiology & to solve various case studies by applying the concepts of pharmacoepidemiology and pharmacoeconomics in designing a good outcome(1,2,5,6)
	C50210T3	Apply the concepts of pharmacoepidemiological methods in conducting various research studies with the help of case studies and the available soft ware's.(1,2,5,6)
	C50210T4	Distinguish the selected special applications of pharmacoepidemiology & Pharmacoeconomics (1,2,5,6)
	C50210T5	Evaluate the outcome by using various Pharmacoepidemiology & pharmacoeconomic methods (1,2,5,6)
PHD50310 Clinical Pharmacokinetics &Pharmacotherapeutic Drug Monitoring (Theory)	Upon completion of this course the graduate is able to	
	C50310T1	Understand the concepts of clinical pharmacokinetics to design dosage regimens in clinical settings(2,3,6)
	C50310T2	Explain mechanisms involved in pharmacokinetics of drug interaction (2,3,6)
	C50310T3	Design & implement therapeutic drug monitoring services and safety pharmacology in patients. (2,3,6)
	C50310T4	Demonstrate dosage adjustment in renal and hepatic disease (2,3,6)
	C50310T5	Describe the significance of pharmacogenetics, altered pharmacokinetics & pharmacometrics (2,3,6)
PHD50410 Clerkship	Upon completion of this course the graduate is able to	
	C50410C1	Discuss the role of the pharmacist in clinical pharmacy services.(2,3,6)
	C50410C2	Enlist the various therapeutic alternatives for the management of disease and disorders. (2,3,6)
	C50410C3	Exhibit the abilities of a clinical pharmacist(2,3,6)
	C50410C4	Create a drug treatment strategy for a specific situation(2,3,6)

	C50410C5	Recognize, understand and report drug interactions and medication errors.(2,3,6)
Project Work	Upon completion of this course the graduate is able	
	C50510P1	Organize literature review and integrate the objective of the research work(1,2,6)
	C50510P2	Attribute resources required to perform the research.(1,2,6)
	C50510P3	Implement the concepts of experimental procedures.(1,2,6)
	C50510P4	Illustrate the experimental data by statistical analysis.(1,2,6)
	C50510P5	Report the findings of the research work.(1,2,6)