



Phone: +91 9959390412
 Fax: +91-40-24220320
 Website: www.geethanjaliinstitutions.com

Geethanjali

Geethanjali College of Pharmacy

Approved by AICTE, PCI New Delhi, Permanently Affiliated to JNTUH & B. Pharmacy Accredited by NBA
 Recognized Under UGC Section 2F & 12B of UGC Act, 1956, by DSIR-SIRO & HI/BI of MSME, Certified by ISO
 9001:2015

Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist, Telangana State- 501301.

PROGRAM: DOCTOR OF PHARMACY

BATCH (15-21) AY (2020-2021) REGULATION R08

COURSE OUTCOMES WITH KNOWLEDGE LEVEL & ITS RELEVANCE TO PROGRAM OUTCOMES

Course Name	Code	Course Outcome No	CO Statement	Knowledge Level	Relevance to PO's
PROGRAM: DOCTOR OF PHARMACY I/VI					
HUMAN ANATOMY AND PHYSIOLOGY	PD.C11	PD.C11.1	Describe the anatomy and physiology of various organs of the human body	K4	PO1 PO3 PO4 PO6 PO7 PO9 PO10 PO11
		PD.C11.2	Describe the various homeostatic mechanisms and their imbalances of various Systems	K5	
		PD.C11.3	Understand and differentiate various tissues and organs of the different systems of the human body	K3	
		PD.C11.4	Perform the hematological tests and also record blood pressure, heart rate, pulse and Respiratory volumes	K5	
		PD.C11.5	Understand coordinated working pattern of different organs of each system	K4	
		PD.C11.6	Appreciate the interlinked mechanisms in homeostasis of human body	K4	
PHARMACEUTICS	PD.C12	PD.C12.1	Classify and define different types of dosage forms, Prescription, parts of prescription, illustrate	K3	PO1 PO2 PO3 PO4

			posology factors		PO5
		PD.C12.2	Illustrate historical background and development of pharmaceutical industry,	K3	PO6 PO7 PO8

			development of Indian pharmacopoeia and introduction to other pharmacopoeias, calculate calculations involved in weights and measures,		PO9 PO10 PO11
		PD.C12.3	Formulate and differentiate different types of powders, granules, monophasic and biphasic liquid dosage forms	K5	
		PD.C12.4	Demonstrate the methods of preparation and evaluation of suppositories and Pessaries.	K3	
		PD.C12.5	Correlate various extraction methods and equipments used in different extraction processes, and perform pharmaceutical calculations.	K3	
		PD.C12.6	Distinguish various methods to overcome the incompatibilities and Represent different types of surgical aids.	K3	
MEDICINAL BIOCHEMISTRY	PD.C13	PD.C13.1	Illustrate about the biochemical organization and bio energetics, respiratory chain and Oxidative phosphorylation of cell.	K3	PO1 PO2 PO3 PO4
		PD.C13.2	Illustrate about biochemistry and metabolism of carbohydrates, lipids, proteins, amino acids, nucleic acids.	K3	PO5 PO6 PO7 PO8 PO9
		PD.C13.3	Abstract about the Roll of the clinical chemistry laboratory.	K3	PO10 PO11
		PD.C13.4	Demonstrate the tests for the liver function, kidney function and lipid profile	K3	
		PD.C13.5	Present the Immunochemical techniques for determination of hormone levels and protein levels in serum.	K3	
		PD.C13.6	Illustrate about Body water,	K3	

			compartments, water		
PHARMACEUTICAL ORGANIC CHEMISTRY	PD.C14	PD.C14.1	Explain the structure and physical properties of organic molecules.	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C14.2	Understand the principles of free radical chain reactions of alkanes, nucleophilic aliphatic substitution, and dehydrohalogenation reactions of alkyl halides.	K4	
		PD.C14.3	Understand, and reproduce the mechanisms of organic reactions in alkenes, and allyl compounds.	K4	
		PD.C14.4	Understand the principles of electrophilic aromatic and nucleophilic addition reactions.	K4	
		PD.C14.5	Appreciate the importance of oxidation, reduction, and named organic reactions.	K4	
		PD.C14.6	Know the analysis and uses of the official organic compounds.	K3	
PHARMACEUTICAL INORGANIC CHEMISTRY	PD.C15	PD.C15.1	Understand the principles and procedures of analysis of drugs and also regarding the application of inorganic pharmaceuticals	K4	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C15.2	Know the analysis of the inorganic pharmaceuticals their applications	K1	
		PD.C15.3	Appreciate the importance of inorganic pharmaceuticals in preventing and curing the disease	K4	
REMEDIAL MATHEMATICS	PD.C16	PD.C16.1	Solve problems related to matrices & determinants	K3	PO3 PO4

ICS		PD.C16.2	Understand the concepts of analytical geometry in problem solving	K3	PO9 PO11
		PD.C16.3	Solve calculus and differentiation problems	K3	
		PD.C16.4	Explain rules of integration and apply it to solve given definite integrals	K2	
		PD.C16.5	Understand differential equation , Laplace transform and apply in solving chemical kinetics and pharmacokinetics problems	K3	
REMEDIAL BIOLOGY	PD.C17	PD.C17.1	Discuss the organization of plants , its inclusion and Plant tissues	K2	PO1 PO3 PO4 PO6 PO7 PO9 PO10 PO11
		PD.C17.2	Explain the Plant kingdom, its classification and plant physiology.	K2	
		PD.C17.3	Explain the Morphology of plants, Root, Stem, Leaf, fruits, seeds and, Inflorescence and Pollination of flowers,	K2	
		PD.C17.4	Classify the taxonomy of Leguminosae, umbelliferae, Solanaceae, Lilliaceae, Zinziberaceae, Rubiaceae	K2	
		PD.C17.5	Memorize the Study of Fungi, Yeast, Penicillin and Bacteria.	K1	
		PD.C17.6	Summarize the Study of Animal cell, animal tissues and frog.	K2	
		PD.C17.7	Describe the general organization of mammals, Pisces, Raptiles, Aves, and poisonous animals	K1	
HUMAN ANATOMY AND	PD.C18	PD.C18.1	Identify the various tissues and organs of the different systems of the human body	K4	PO1 PO3 PO4

PHYSIOLOGY LAB		PD.C18.2	Describe the appliances used in hematological experiments	K5	PO6 PO7 PO9 PO10 PO11
		PD.C18.3	Understand various systems with the help of charts, models & specimens	K3	
		PD.C18.4	Perform the hematological tests and also record blood pressure, heart rate, pulse and Respiratory volumes	K5	
		PD.C18.5	Understand the different family planning appliances	K4	
		PD.C18.6	Appreciate the experimental physiology	K4	
PHARMACEUTICS LAB	PD.C19	PD.C19.1	Perform the preparation of monophasic liquid dosage forms	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C19.2	Perform the preparation of suspensions and emulsions.	K3	
		PD.C19.3	Perform the preparation of powders.	K3	
		PD.C19.4	Perform the preparation of suppositories	K3	
		PD.C19.5	Perform the preparation containing liniments	K3	
		PD.C19.6	Perform preparation of the mixtures containing incompatibilities	K3	
MEDICINAL BIOCHEMISTRY LAB	PD.C110	PD.C110.1	Perform the Qualitative analysis of normal, abnormal constituents of urine	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C110.2	Perform the Quantitative estimation of sugar, chlorides, creatinine, and calcium in urine	K3	
		PD.C110.3	Perform the estimation of, cholesterol, SGOT, SGPT, Urea, Proteins in serum.	K3	

		PD.C110.4	Perform the Quantitative estimation of sugar, creatinine in blood.	K3	
		PD.C110.5	Perform the preparation and pH measurement of standard buffers. And study the effect of PH and Temperature on Enzyme activity	K3	
		PD.C110.6	Perform Determination of glucose, sodium, calcium and potassium in serum	K3	
PHARMACEUTICAL ORGANIC CHEMISTRY LAB	PD.C111	PD.C111.1	Demonstrate atomic models	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C111.2	Determine the melting, and boiling point of organic compounds	K3	
		PD.C111.3	Prepare acetanilide, aspirin, benzanilide, and p-bromo acetanilide	K4	
		PD.C111.4	Prepare salicylic acid, m-dinitro benzene, benzoic acid, and benzophenone oxime	K4	
		PD.C111.5	Identify the physical and chemical properties of common organic functional groups	K4	
		PD.C111.6	Perform qualitative organic analysis of organic compounds	K4	
PHARMACEUTICAL INORGANIC CHEMISTRY LAB	PD.C112	PD.C112.1	Carry out the limit test for chlorides, sulphates, heavy metals and Iron as per procedure given in IP 1996.	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10
		PD.C112.2	Identify magnesium hydroxide, ferrous sulphate and sodium bicarbonate by using suitable identification tests as per IP.	K2	
		PD.C112.3	Identify calcium gluconate and copper sulphate by using	K2	

			suitable identification tests as per IP.		PO11
		PD.C112.3	Report the purity of bentonite, aluminum hydroxide gel, potassium iodate and iodine in potassium iodide as per test procedures given in IP.	K4	
		PD.C112.3	Prepare boric acid, potash alum and ferrous sulphate.	K4	
		PD.C112.3	Carryout the limit test for chlorides, sulphates, heavy metals and Iron as per procedure given in IP 1996.	K3	
REMEDIAL BIOLOGY LAB	PD.C113	PD.C113.1	Summarize the experiments in biology, microscope, section cutting techniques and permanent slide preparation .	KK2	PO1 PO3 PO4 PO6 PO7 PO9 PO10 PO11
		PD.C113.2	Explain the cell and its inclusions and study of stem, root, leaf and its modifications , fruits and seeds.	K2	
		PD.C113.3	Expain the plant physiological experiments and T.S. of Senna, Cassia, Ephedra, Podophyllum.	K2	
		PD.C113.4	List out the various animals.	K2	
		PD.C113.5	Outline the anatomy of frog by using computer models.	K2	
DOCTOR OF PHARMACY II/VI					
PATHOPHYSIOLOGY	PD.C21	PD.C21.1	Outline the basic principles of cell injury, inflammation and cellular adaptations.	K3	PO1 PO2 PO3
		PD.C21.2	Interpret the diseases of Immunity.	K3	PO4 PO5
		PD.C21.3	Illustrate the basic principles,etiology and pathogenesis of cancer.	K3	PO6 PO7 PO8
		PD.C21.4	Elaborate the types of shock,its mechanism,stages and management.	K3	PO9 PO10 PO11

		PD.C21.5	Discuss the Biological effects of Radiation.	K3	
		PD.C21.6	Represent in detail about environmental, nutritional and infectious diseases.	K3	
		PD.C21.7	Summarize the pathophysiological basis of diseases affecting cardiovascular, respiratory, renal, endocrine, nervous and gastrointestinal systems.	K3	
PHARMACEUTICAL MICROBIOLOGY	PD.C22	PD.C22.1	Make use of various techniques to identify, isolate, cultivate, maintain and preserve microorganisms	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C22.2	Execute sterilization techniques of equipment, action of disinfectants and sterility testing of pharmaceutical products.	K3	
		PD.C22.3	Illustrate antigen antibody reactions and immunization techniques	K3	
		PD.C22.4	Demonstrate microbiological assays of antibiotics, vitamins and standardization of vaccines	K3	
		PD.C22.5	Identify the diseases by performing the diagnostic tests, mode of transmission, symptoms and treatment of infectious diseases.	K2	
PHARMACOGNOSY & PHYTOPHARMACEUTICALS	PD.C23	PD.C23.1	Appraise the history and scope of Pharmacognosy and Classify the crude drugs	K4	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C23.2	Construct steps to cultivate, collect, process and store crude drugs according to pharmaceutical standards	K3	
		PD.C23.3	Illustrate the constituents present in Plant cell wall, cell, intact crude drugs and powdered crude drugs	K3	

		PD.C23.4	Employ natural pesticides and surgical dressings obtained from plant sources	K4	
		PD.C23.5	Summarize carbohydrates, Proteins and Lipids and Analyze Proteins and lipids	K4	
		PD.C23.6	Identify adulteration in crude drugs	K4	
PHARMACOLOGY-I	PD.C24	PD.C24.1	Demonstrate about the general pharmacology, Introduction, definitions and scope of pharmacology.	K3	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C24.2	Distinguish the Pharmacology of drugs acting on ANS and Central Nervous System.	K4	
		PD.C24.3	Distinguish the Pharmacology of drugs acting on cardiovascular system and respiratory tract.	K4	
		PD.C24.4	Examine the Pharmacology of various hormones and their antagonists.	K4	
		PD.C24.5	Recognize the Pharmacology of autocooids and their antagonists.	K2	
COMMUNITY PHARMACY	PD.C25	PD.C25.1	Describing pharmaceutical care services	K4	PO1 PO3 PO4 PO6 PO7 PO9 PO10 PO11
		PD.C25.2	Demonstrating the business and professional practice management skills in community pharmacies	K3	
		PD.C25.3	Demonstrating patient counselling & provide health screening services to public in community pharmacy	K3	
		PD.C25.4	Prioritize in Responding to minor ailments and provide appropriate medication	K4	
		PD.C25.5	Interpreting empathy and sympathy to patients	K3	
		PD.C25.6	Assess the concept of	K6	

			Rational drug therapy.		
PHARMACO THERAPEUT ICS-I	PD.C26	PD.C.26.1	Describe the pathophysiology of selected disease states and the rationale for drug therapy of cardiovascular, respiratory and endocrine diseases	K3	PO1 PO2 PO3 PO4 PO5
		PD.C.26.2	Discover the therapeutic approach in management of various diseases	K4	PO6 PO7 PO8
		PD.C.26.3	Appreciate the controversies in drug therapy, guidelines of special population	K4	PO9 PO10 PO11
		PD.C.26.4	Analyze the importance of preparation of individualized therapeutic plans based on etiology & diagnosis	K4	
		PD.C.26.5	Choose the latest available evidence to manage diseases and role of pharmacist in improving health care	K3	
		PD.C.26.6	Identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy	K3	
PHARMACE UTICAL MICROBIOL OGY LAB	PD.C27	PD.C27.1	Show techniques of preparation, sterilization and aseptic transfer of pure cultures into various culture media	K3	PO1 PO2 PO3 PO4 PO5
		PD.C27.2	Demonstrate pure culture isolation methods	K3	PO6 PO7
		PD.C27.3	Differentiate bacteria using staining techniques.	K3	PO8 PO9 PO10
		PD.C27.4	Make use of bio chemical tests to identify micro organisms	K3	PO11
		PD.C27.5	Perform microbiological assays and evaluation tests of disinfectants	K3	
PHARMACO GNOSY &	PD.C28	PD.C.28.1	Appraise Pharmacognosy lab and equipments	K5	PO1 PO2

PHYTOPHARMACEUTICALS LAB		PD.C. 28.2	Analyze constituents present in plant cell wall and cell.	K4	PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C. 28.3	Examine the microscopical characters of intact crude drugs and their Powdered forms.	K4	
		PD.C. 28.4	Estimate the analytical parameters of lipid drugs	K5	
		PD.C. 28.5	Differentiate carbohydrate drugs by chemical tests	K4	
		PD.C. 28.6	Test lipids and proteins using relevant chemical reagents	K4	
PHARMACOLOGY-I LAB	PD.C29	PD.C.29.1	Explain the introduction, various laboratory equipments and animals used in experimental pharmacology .	K2	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C29.2	Demonstrate the various activities of drugs on analgesic, muscle relaxant, antiinflammatory and anti convulsant effects.	K3	
		PD.C29.3	Summarize the taming effect , loco motor activity and chlorpromazine on apomorphine induced compulsive behavior in rats,	K2	
		PD.C29.4	Show and tell the antihelmentic activity, antihistaminic property, oxyperline on the isolated vas deferens of male rat.	K2	
		PD.C29.5	Outline the agonistic and antagonistic effects, action of isoprenaline and acidosis, alkalosis effects.	K2	
PHARMACOTHERAPEUTICS-I LAB	PD.C210	PD.C210.1	Explain the rationale for drug therapy and role of pharmacist in improving health care	K5	PO1 PO2 PO3

		PD.C210.2	Apply the therapeutic approach to management of diseases including reference to the latest available evidence	K3	PO4 PO5 PO6 PO7
		PD.C210.3	Identify the controversies in drug therapy in various diseases	K3	PO8 PO9 PO10
		PD.C210.4	Recommend individualized therapeutic plans based on diagnosis	K5	PO11
		PD.C210.5	Identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy (including alternatives, time-course of clinical and laboratory indices of therapeutic response and adverse effects)	K3	
DOCTOR OF PHARMACY III/VI					
PHARMACOLOGY-II	PD.C31	PD.C31.1	Prioritize the pharmacological aspects of drugs acting on blood and renal system.	K5	PO1 PO2 PO3
		PD.C31.2	Explain pharmacology of various chemotherapeutic agents.	K5	PO4 PO5 PO6
		PD.C31.3	Illustrate the importance of immuno-suppressants, immuno-stimulants and animal toxicology.	K3	PO7 PO8 PO9
		PD.C31.4	Outline the Cell and macromolecules, Chromosome structure, DNA replication, cell cycle, Cell signaling.	K4	PO10 PO11
		PD.C31.5	Summarize Gene structure, Gene expression, Transcription, RNA processing.	K2	
PHARMACEUTICAL ANALYSIS	PD.C32	PD.C32.1	Appreciate the importance of quality guidelines & validation procedures to formulate best quality	K2	PO1 PO2 PO3 PO4

			pharmaceutical product.		PO5
		PD.C32.2	Identify the various theoretical concepts of chromatographic techniques with instrumentation & applications	K2	PO6
		PD.C32.3	Understand the principles of electrochemical analysis	K2	PO7
		PD.C32.4	Know spectroscopy and their applications in pharmacy	K2	PO8
					PO9
					PO10
					PO11
PHARMACOTHERAPEUTICS-II	PD.C33	PD.C33.1	Describe the pathophysiology of selected disease states and the rationale for drug therapy	K3	PO1
		PD.C33.2	Discover the therapeutic approach to manage diseases	K4	PO2
		PD.C33.3	Appreciate the controversies in drug therapy	K4	PO3
		PD.C33.4	Analyze the importance of preparation of individualized therapeutic plans based on diagnosis	K4	PO4
		PD.C33.5	Choose the latest available evidence to manage diseases	K3	PO5
		PD.C33.6	Identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy	K3	PO6
					PO7
					PO8
					PO9
					PO10
					PO11
PHARMACEUTICAL JURISPRUDENCE	PD.C34	PD.C.34.1	Elaborate the pharmaceutical legislations and its implications in the development of pharmaceuticals ethics drafted by PCI	K5	PO1
		PD.C.34.2	Outline the various laws governing the Sales, Import, labeling and packaging of drugs & cosmetics, constitution and function of DTAB, DCC, CDL, pharmacy act-1948.	K4	PO2
		PD.C.34.3	Analyze potential fraud and abuse legal issues of narcotic & psychotropic substances-	K4	PO3
					PO4
					PO5
					PO6
					PO7
					PO8
					PO9
					PO10
					PO11

			1985, medicinal and toilet preparation act-1955		
		PD.C.34.4	Discuss Study of Salient Features of Drugs and magic remedies Act and its rules. Study of essential Commodities Act Relevant to drugs price control Order	K5	
		PD.C.34.5	Functions Drug Price control Order & National Drug Policy (Current). Prevention Of Cruelty to animals Act-1960.	K4	
		PD.C.34.6	Discuss the Patents & design Act-1970. study of prescription and Non-prescription Products.	K5	
MEDICINAL CHEMISTRY	PD.C35	PD.C.35.1	Illustrate about QSAR, Prodrug and CADD, Antisense molecules.	K3	PO1 PO2 PO3
		PD.C.35.2	Present about the classification, synthesis, m.o.a, s.a.r, uses and brand names of anti infectives, sulphonamides, anti-malarials.	K3	PO4 PO5 PO6 PO7 PO8
		PD.C.35.3	Present about the classification, synthesis, m.o.a, s.a.r, uses and brand names of antibiotics, anti-neoplastic agents, cardiovascular agents.	K3	PO9 PO10 PO11
		PD.C.35.4	Present about the classification, synthesis, m.o.a, s.a.r, uses and brand names of Hypoglycemic agents, thyroid and Antithyroid agents, Diuretics.	K3	
		PD.C.35.5	Chart the Diagnostic agents in different organ functions	K4	
		PD.C.35.6	Present about the classification, synthesis, m.o.a,	K3	

			s.a.r, uses and brand names of steroidal hormones and adrenocorticoids		
PHARMACEUTICAL FORMULATIONS	PD.C36	PD.C.36.1	Explain and classify various pharmaceutical dosage forms	K4	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C.36.2	Classify tablets , capsules and explain formulation and evaluation of tablets and capsules	K4	
		PD.C.36.3	Explain formulation and evaluation of liquid oral dosage forms	K4	
		PD.C.36.4	Explain formulation and evaluation of parenterals	K4	
		PD.C.36.5	Classify semisolid dosage forms and explain formulation and evaluation of semisolid dosage forms	K4	
		PD.C.36.6	Explain the concept of controlled and novel drug delivery system	K4	
		PHARMACOLOGY-II LAB	PD.C37	PD.C311.1	
PD.C311.2	Evaluate the given Capsules			K5	
PD.C311.3	Formulate and evaluate the suspensions			K5	
PD.C311.4	Formulate the parenterals			K5	
PD.C311.5	Formulate and evaluate the creams			K5	
PD.C311.6	Formulate and evaluate the tooth powder			K5	
PHARMACEUTICAL	PD.C38	PD.C38.1	Perform separation and identification of amino acids by	K3	PO1 PO3

ANALYSIS LAB			ascending paper chromatography and thin layer chromatography.		PO4 PO6 PO7 PO9 PO10 PO11
		PD.C38.2	Perform electrochemical analysis techniques using potentiometer and conductometer.	K3	
		PD.C38.3	Study quenching effect and estimation of riboflavin using fluorimetry.	K3	
		PD.C38.4	Perform an estimation of paracetmol and sulphamethoxazone using colorimetry	K3	
		PD.C38.5	Perform the determination of lamda max and isobestic point, estimation of paracetmol & simultaneous estimation of trimethoprim and sulphamethoxazole using UV spectroscopy.	K3	
PHARMACO THERAPEUT ICS-II LAB	PD.C39	PD.C39.1	Explain the rationale for drug therapy	K5	PO1 PO2
		PD.C39.2	Apply the therapeutic approach to management of diseases including reference to the latest available evidence	K3	PO3 PO4 PO5 PO6
		PD.C39.3	Identify the controversies in drug therapy	K3	PO7 PO8
		PD.C39.4	Recommend individualized therapeutic plans based on diagnosis	K5	PO9 PO10
		PD.C39.5	Identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy (including alternatives, time-course of clinical and laboratory indices of therapeutic response and adverse effects)	K3	PO11
MEDICINAL CHEMISTRY LAB	PD.C310	PD.C310.1	Perform the Assay of Boric acid, Furosemide, Metronidazole, Diethyl	K3	PO1 PO2 PO3

			carbamazine citrate.		PO4
		PD.C310.2	Perform the preparation of 7-Hydroxy-4-methyl coumarin, Sulphadiazine.	K3	PO5
		PD.C310.3	Perform the detailed analysis of Aspirin.	K3	PO6
		PD.C310.4	Perform the Determination of partition coefficient of Methyldopa.	K3	PO7
		PD.C310.5	Perform the Determination of dissociation constants and molar refractivity of Antifungal drugs.	K3	PO8
		PD.C310.6	Perform the Determination of molar refractivity of drugs	K3	PO9
					PO10
					PO11
PHARMACEUTICAL FORMULATIONS LAB	PD.C311	PD.C311.1	Formulate and evaluate the Tablets	K5	PO1
		PD.C311.2	Evaluate the given Capsules	K5	PO2
		PD.C311.3	Formulate and evaluate the suspensions	K5	PO3
		PD.C311.4	Formulate the parenterals	K5	PO4
		PD.C311.5	Formulate and evaluate the creams	K5	PO5
		PD.C311.6	Formulate and evaluate the tooth powder	K5	PO6
					PO7
					PO8
					PO9
					PO10
					PO11
DOCTOR OF PHARMACY IV/VI					
PHARMACOTHERAPEUTICS-III	PD.C41	PD.C.41.1	Describe the pathophysiology of selected disease states and the rationale for drug therapy	K3	PO1
		PD.C.41.2	Discover the therapeutic approach to manage diseases	K4	PO2
		PD.C.41.3	Appreciate the controversies in drug therapy	K4	PO3
		PD.C.41.4	Analyze the importance of preparation of individualized therapeutic plans based on	K4	PO4
					PO5
					PO6
					PO7
					PO8
					PO9
					PO10

			Diagnosis		PO11
		PD.C.41.5	Choose the latest available evidence to manage diseases	K3	
		PD.C.41.6	Identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy	K3	
HOSPITAL PHARMACY	PD.C42	PD.C.42.1	Use professional practice management skills in hospital pharmacies	K3	PO1 PO2 PO3
		PD.C.42.2	Recommend unbiased drug information to the doctors	K5	PO4 PO5
		PD.C.42.3	Develop the manufacturing practices of various formulations in hospital set up	K3	PO6 PO7 PO8 PO9
		PD.C.42.4	Select the practice based research methods	K4	PO10 PO11
		PD.C.42.5	Adapt the stores management and inventory control skills	K4	
CLINICAL PHARMACY	PD.C43	PD.C.43.1	Monitor drug therapy of patient through medication chart review and clinical review	K4	
		PD.C.43.2	Analyse medication history interview and counsel the patients	K4	PO1 PO2 PO4 PO6
		PD.C.43.3	Determine and resolve drug related problems	K6	PO7 PO8 PO9
		PD.C.43.4	Determine, assess and investigate adverse drug reaction	K4	PO10 PO11
		PD.C.43.5	Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states	K6	
		PD.C.43.6	Adapt, analyse, interpret and formulate drug or medicine	K5	

			information		
BIOSTATISTICS & RESEARCH METHODOLOGY	PD.C44	PD.C44.1	Choose the appropriate research design and develop research hypothesis for a research project.	K3	PO3 PO4 PO9 PO11
		PD.C44.2	Discuss the various steps involved in conducting research and describe the sample size calculation methods.	K3	
		PD.C44.3	Construct a frequency table, histogram, pie chart to represent a data set	K3	
		PD.C44.4	Identify the fundamentals of the most parametric and non parametric techniques for statistical inference	K3	
		PD.C44.5	Compute and interpret the Spearman correlation coefficient and test the significance	K3	
		PD.C44.6	Operate various softwares for statistical analysis of data and appreciate the importance of Computers in hospital and Community Pharmacy	K3	
BIOPHARMACEUTICS & PHARMACOKINETICS	PD.C45	PD.C.45.1	Discuss and broader understanding about the concepts of biopharmaceutics and pharmacokinetics.	K4	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10
		PD.C.45.2	Select the correct pharmacokinetic model based on plasma level or urinary excretion data that best describes the process of drug absorption, distribution, metabolism and elimination (ADME)	K6	

					PO11
		PD.C.45.3	Ability to calculate the various pharmacokinetic parameters by using various mathematical models.	K5	
		PD.C.45.4	Carry out biopharmaceutical studies and use data so obtained in the development of new drugs or dosage forms	K4	
		PD.C.45.5	Calculate various pharmacokinetic parameters from plasma and urinary excretion data applying compartment modeling and model independent methods	K4	
		PD.C.45.6	Design dosage regimens for patients based on calculated pharmacokinetic parameters	K4	
		PD.C.45.7	Design Bioavailability and Bioequivalence studies of new drugs or dosage form	K6	
		PD.C.45.8	Evaluate drug-protein binding as a tool to predict pharmacokinetics of drugs	K5	
CLINICAL TOXICOLOGY	PD.C46	PD.C.46.1	Illustrate general principles and management practice of poisoning	K3	PO1 PO3 PO4 PO6 PO7 PO9 PO10 PO11
		PD.C.46.2	Differentiate the history, assessment, and therapy considerations associated with the management of a toxic exposure	K4	
		PD.C.46.3	Demonstrating and understanding of the characteristics of and treatment	K3	

			guidelines for specific toxic substances		
		PD.C.46.4	Relationship of the pharmacist to function as contributing health care team in poison management	K4	
		PD.C.46.5	Comparing symptoms and management of various types of toxic exposures	K2	
		PD.C.46.6	Proposing several preventive approaches to reduce unintentional drug, plant and animal poisonings	K5	
PHARMACO THERAPEUTICS-III LAB	PD.C47	PD.C.47.1	Explain the rationale for drug therapy	K5	PO1
		PD.C.47.2	Apply the therapeutic approach to management of diseases including reference to the latest available evidence	K3	PO2
		PD.C.47.3	Identify the controversies in drug therapy	K3	PO3
		PD.C.47.4	Recommend individualized therapeutic plans based on diagnosis	K5	PO4
		PD.C.47.5	Identify the patient-specific parameters relevant in initiating drug therapy, and monitoring therapy (including alternatives, time-course of clinical and laboratory indices of therapeutic response and adverse effects)	K3	PO5
					PO6
					PO7
					PO8
					PO9
					PO10
					PO11
HOSPITAL PHARMACY LAB	PD.C48	PD.C.48.1	Analyze prescriptions for drug interactions	K4	PO1
		PD.C.48.2	Illustrate, Formulate and prepare parenteral formulations and powders	K3	PO2
		PD.C.48.3	Perform inventory analysis	K3	PO3
		PD.C.48.4	Analyze and Answer drug information queries through	K4	PO4
					PO5
					PO6
					PO7
					PO8

			literature search		PO9
		PD.C.48.5	Conduct planned experiments and prepare laboratory report in a standard format	K5	PO10 PO11
CLINICAL PHARMACY LAB	PD.C49	PD.C.49.1	Discuss Drug information questions and answering	K4	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9
		PD.C.49.2	Discuss effective Patient medication counselling	K6	PO10 PO11
		PD.C.49.3	Discuss case studies related to laboratory investigations and examine laboratory values	K5	
		PD.C.49.4	Discuss Patient medication history interview	K4	
		PD.C.49.5	Find drug drug interactions in case studies	K4	
BIOPHARMACEUTICS & PHARMACOKINETICS LAB	PD.C410	PD.C410.1	Compare the invitro drug release profile of different marketed products	K4	
		PD.C.410.2	Perform the solubility enhancement techniques for improvement of drug release of poorly water soluble drug	K4	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C.410.3	Estimate the bioavailability (absolute and relative) and bioequivalence from the given clinical data	K6	
		PD.C.410.4	Calculate the drug content in blood sample using Area Under Curve approach	K4	
		PD.C.410.5	Calculate and interpret various pharmacokinetic parameters from the given clinical data	K6	
		PD.C.410.6	Conduct planned experiments and prepare laboratory report in a standard format	K5	

DOCTOR OF PHARMACY V/VI

CLINICAL RESEARCH	PD.C51	PD.C51.1	Outline the new drug development process as per regulatory and ethical requirements	K2	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C51.2	Explain the roles and responsibilities of various personnel involved in clinical trials as per ICH-GCP	K2	
		PD.C51.3	Demonstrate competencies in evaluating clinical research data and communicating results	K3	
		PD.C51.4	List out various clinical trial activity & its documentation as per regulatory and ethical requirements	K4	
		PD.C51.5	Distinguish about various regulatory submissions & its environment in India, USA & Europe	K4	
PHARMACO EPIDEMIOLOGY AND PHARMACO ECONOMICS	PD.C52	PD.C52.1	Explain about definition and scope of pharmacoepidemiology and discuss measurement of outcomes in pharmacoepidemiology.	K6	PO1 PO2 PO3 PO4 PO5 PO6 PO7 PO8 PO9 PO10 PO11
		PD.C52.2	Measure concept of risk in pharmacoepidemiology	K6	
		PD.C52.3	Classify various methods of pharmacoepidemiology and Classify sources of data for pharmacoepidemiological studies	K4	
		PD.C52.4	Explain about selected special applications of pharmacoepidemiology	K6	
		PD.C52.5	Explain about role in formulary management decision	K6	
		PD.C52.6	Explain the methods used in pharmacoeconomic analysis and Discuss about applications of pharmacoeconomics	K6	
CLINICAL PHARMACO	PD.C53	PD.C.53.1	Describing Pharmacokinetic principles in drug monitoring	K4	

KINETICS & PHARMACO THERAPEUT IC DRUG MONITORIN G	PD.C.53.2	Demonstrating the Conversion of dosage forms	K3	PO1 PO2 PO3 PO4 PO6 PO7 PO9 PO10 PO11
	PD.C.53.3	Interpretation of Pharmacokinetic druginteractions	K3	
	PD.C.53.4	Make up the individualizationof dosage regimen as per demographic parameters	K5	
	PD.C.53.5	Prioritize the dosage adjustments in Renal andHepatic diseases	K4	
	PD.C.53.6	Assess the use of pharmacogenetics in Pk and pharmacodynamic principles	K6	

Sponsored by TEJA EDUCATIONAL SOCIETY, HYDERABAD

Office : Sy. No: 33 & 34, Cheeryal (V), Keesara (M), Medchal-Malkajgiri Dist, Telangana State-501301.

Mobile : 9866308259