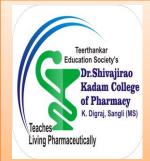
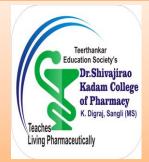


Program Name	Course Code	Course Name	CO No.	Course Outcome Upon completion of the course, the learner shall be able to:
			B101T.1	Explain how the separate systems interact to yield integrated physiological responses.
	BP101T	Human Anatomy and Physiology I Theory	B101T.2	Apply detailed concepts related to integumentary, skeletal, body fluids, lymphatic, special senses, peripheral nervous & cardiovascular system to novel technical and/or clinical scenarios.
			B101T.3	Critically interpret how different physiological systems of the body function with its mechanisms.
SM I	BP102T	Pharmaceutical Analysis I – Theory	B102T.1	Recognize and explain the fundamental concepts and tenets behind different analytical techniques of pharmaceutical analysis in order to specify the concentration, it's calculation, preparation and standardization of pharmaceutical substances.
B. PHARM SEM I			B102T.2	Apply the principles of titrimetric and gravimetric techniques while analyzing drugs and to illustrate the methods of conductometry, potentiometry and polarography and how they are used to analyze drugs for maintaining its purity and standards.
			B102T.3	Point out causes of errors that frequently occur during pharmaceutical analysis along with indicators used and offer solutions to overcome errors.
		Pharmaceutics I – Theory	B103T.1	Elucidate historical development of profession of pharmacy & pharmacopoeia in India
	BP103T		B103T.2	Comprehend the concepts of prescription, posology, pharmaceutical incompatibility and pharmaceutical calculations
			B103T.3	Classify and describe the formulation and evaluation of powder, liquid & semisolid dosage forms



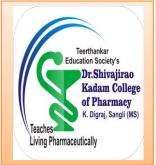
			B104T.1	Explain the basic fundamental principles of Pharm. Inorganic Chemistry and provide the updated knowledge of sources and determination of impurities in pharmaceutical substances and communicate in public for better health of society.
	BP104T	Pharmaceutical Inorganic Chemistry – Theory	B104T.2	Categorize and analyze the role of ions in human physiology and monographs of inorganic compounds with its pharmaceutical and medicinal importance useful to health care professionals.
RM I			B104T.3	Summarize the different aspects of radiopharmaceuticals and its pharmaceutical applications associated with environmental sustainability
		Communication skills – Theory	B105T.1	Understand the communication and its process, they will be identify barriers and how perception influences communication. Furthermore, they will learn how to communicate effectively face-to-face and use non-verbal communications
B. PHARM SEM I	BP105T		B105T.2	Improve basic listening skill and to identify situations in which written communication is appropriate and comprehend the challenges of effective writing.
			B105T.3	Enables students to prepare and structure effective presentations, deliver them confidently, and overcome their fear of public speaking. They will also learn interview tips and practice effective communication skills in group discussions.
		Remedial Biology	B106T.1	Identify the living world and morphology of different parts of flowering plants
	BP106RBT		B106T.2	Summarize functions of cells and organs in CVS, Digestive, Respiratory, Excretory, Nervous, Endocrine and Reproductive system
	B		B106T.3	Elaborate the physiology, nutritional requirement for plants and animals



			B106R	Know the theory and their application in Pharmacy
		Remedial		Know the theory and their application in Filarmacy
	LW		MT.1	
	SR I	Mathematics –	B106R	Solve the different types of problems by applying theory
	106	Theory	MT.2	
	BP106RMT	Theory	B106R	Appreciate the important application of mathematics in
	H		MT.3	Pharmacy
				Demonstrate the principle and working of various instruments
			B107P.1	used in Human Anatomy & Physiology.
				used in Human Anatomy & Thysiology.
	•	Human		Identify microscopic features of various types of cells and
	BP107P	Anatomy and	B107P.2	tissues as well as gross anatomy and physiology of various
	P1(Physiology –	210/112	bones.
	B	Practical		cones.
				Perform hematological tests and also record Blood Pressure,
			B107P.3	heart rate & pulse rate.
B. PHARM SEM1		Pharmaceutical Analysis I – Practical	B108P.1	Perform titrimetric analysis and limit tests to ascertain the
AR 41				purity of given pharmaceutical sample and operate equipment
H				instruments required for the pharmaceutical analysis of given
· · ·				samples.
	Ь			<u>F</u>
	BP108P			Formulate and standardize primary and secondary standard
	3P1		B108P.2	solutions and estimate normality of a solution by analytical
	Η			methods.
			B108P.3	Prepare students with formulas and calculations involved
			D108P.3	during pharmaceutical analysis.
			B109P.1	Recall the principles used in the preparation of solid, liquid and
			1071.1	semi solid dosage forms.
	•			
	J9 F	Pharmaceutics I	B109P.2	Experiment with monophasic & biphasic liquid dosage forms
	BP109P	– Practical	210/112	for internal and external administration.
	B			
			B109P.3	Design powders and granules, semi solid dosage forms &
				suppositories.



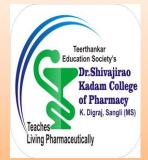
			B110P.1	Update the basic practical knowledge of Pharmaceutical Inorganic chemistry and Analyze; identify the Inorganic compounds qualitatively associate with good laboratory practices.
	BP110P	Pharmaceutical Inorganic Chemistry – Practical	B110P.2	Plan and prepare medicinally important inorganic compounds associate in safely handling of chemicals for environment sustainability.
			B110P.3	Analyze levels of impurities in inorganic compounds as per Pharmacopoeial standards and confirm the purity of Inorganic compounds by its physical and chemical properties.
RM I		Communication skills – Practical	B111P.1	Emphasise the key elements of skilled written communication required for professional success with effective presentations and to acquire confidence in facing job interviews
B. PHARM SEM I	BP111P		B111P.2	Students should be able to apply verbal and nonverbal communication techniques in a professional environment, as well as promote optimism and self-confidence.
			B111P.3	Gain knowledge, abilities, and judgment in human communication that will help them work productively with others
	ßP	Remedial Biology – Practical	B112RB P.1	Explain techniques for handling microscope and preparation of permanent slides, ultra structure of cells and bones, and discuss anatomy & physiology of frog using computer models
	BP112RBP		B112RB P.2	Examine and summarize morphology and microscopy of stem, root, leaf, seed, fruit, flower and their modifications
	Н		B112RB P.3	Evaluate physiological parameters like blood group, blood pressure, tidal volume



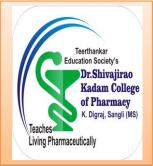
Program Name	Course Code	Course Name	CO No.	Course Outcome
			B201T.1	Explain the gross morphology, anatomy and physiology of various systems of the human body.
	L	Human	B201T.2	Summarize how the separate systems interact to yield integrated physiological responses.
	BP201T	Anatomy and Physiology II – Theory	B201T.3	Predict factors or situations affecting various organ systems that could disrupt homeostasis and the types of problems that would occur in the body if various organ systems could not maintain homeostasis and allowed regulated variables (body conditions) to deviate from normal.
	BP202T	Pharmaceutical Organic Chemistry I – Theory	B202T.1	Provide the basic and updated knowledge needed in the area of Pharm. Organic Chemistry associated with the classification, IUPAC nomenclature, Isomerism and drawing the structure of organic compound.
B. PHARM SEM II			B202T.2	Summarize the methods of preparation and analyze the reaction kinetics, Orientation, reactivity and stability of organic compound from its structure and functional group.
			B202T.3	Apply the contextual knowledge of different uses of organic compound to assess public health and safety benefits.
	E Biochemistry – Theory	•	B203T.1	Illustrate the chemistry and biological significance of biological macromolecules along with fundamentals of bioenergetics and biological oxidation
			B203T.2	Explain the metabolism of nutrient molecules in physiological and pathological conditions and catabolic processes that occur with respect to carbohydrates, lipids, amino acids etc.
		B203T.3	Classify enzymes, their functions, mechanism and factors that influence their action, and relate the structure of DNA with its function in replication and gene expression with organization of mammalian genome	



			B204T.1	Explain basic principles involved in cell injury, cellular adaptations, apoptosis, inflammation and healing, atherosclerosis and disturbances of homeostasis like pH and electrolyte imbalances
LRM II	BP204T	Pathophysiology – Theory	B204T.2	Summarize the etiopathogenesis and clinical manifestations of Cardiovascular, Respiratory, Renal, Hematologic, Gastrointestinal, Nervous, Endocrine, Integumentary, Neoplastic and Infectious Disorders
			B204T.3	Identify and differentiate diagnostically relevant clinical complications of Cardiovascular, Respiratory, Renal, Hematologic, Gastrointestinal, Nervous, Endocrine, Integumentary, Neoplastic and Infectious Disorders
	BP205T	Computer Applications in Pharmacy – Theory	B205T.1	Ability to understand, classify and utilize computers, recognize different input and output devices, and illustrate how a computer's numerical system works.
B. PHARM SEM II			B205T.2	Apply basic learning and assessment for designing and development of databases and websites using HTML, XML, CSS.
			B205T.3	Integrate and effectively use computers in all pharmacy- related tasks such as drug information services, pharmacokinetics, mathematical model in drug design, preclinical development etc.
			B205T.4	Understand about bioinformatics and their impact in vaccine discovery.
			B206T.1	Understand multidisciplinary nature of environmental studies
	BP206T	Environmental sciences – Theory	B206T.2	Acquire skills to help the concerned individuals in identifying and solving environmental problems
	B		B206T.3	Describe Environmental Pollution: Air pollution; Water pollution; Soil pollution



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			B207P.1	Describe anatomy & physiology of various organ systems
				with special reference to vital organs & gonads.
	BP207P	Human Anatomy and		Perform and interpret general neurological examinations to
			B207P.2	assess the physiology and functions of olfactory, hypoglossal,
		Physiology II –		optic nerves and central as well as spinal reflexes
		Practical		Evaluate respiratory, metabolic and hematologic parameters of
			B207P.3	human body & relate the condition with clinical significance
-				
			D200D 1	Update the basic practical knowledge of Pharmaceutical
			B208P.1	Organic Chemistry and analyze, identify Organic compounds
	d	Pharmaceutical		qualitatively associate with good laboratory practices.
	BP208P	Organic		Plan and prepare solid derivatives of Organic compound
	3P2	Chemistry I–	B208P.2	associate within safely handling of chemicals for environment
	H	Practical		sustainability.
			B208P.3	Construct different molecular models of organic compounds
M				by using modern tools.
B. PHARM SEM II		Biochemistry – Practical	B209P.1	Elaborate the principles and Qualitative analysis of
EN				Carbohydrates & proteins.
B.]	•			Examine and identify the variables influencing enzyme
	BP209P		B209P.2	activity and interpret the correlation of concentration of
				proteins or carbohydrates to optical density.
				Analyze physiological and pathological components of urine
			B209P.3	and formulate buffer solutions with defined pH.
				and formulate burier solutions with defined pri.
				Demonstrate and make use of MS Word, for designing
			B210P.1	questionnaire for diseases and labels as well as HTML to
				create web page to show personal information
	•	Computer		
	101	Applications in	B210P.2	Utilization of online tools, to gather more information about
	BP210P	Pharmacy –		such a medicine and its adverse effects.
	H	Practical		Create, design and generate database by using MS Access
			B210P.3	which can be exported into html and xml format and this may
				be implemented in numerous pharmaceutical specialties
				r

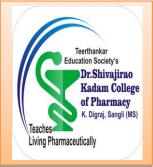


CRITERION 2: TEACHING LEARNING AND EVALUATION 2.6: STUDENT PERFORMANCE AND LEARNING OUTCOME 2.6.1 PROGRAM OUTCOMES AND COURSE OUTCOME

Program Course Course Name CO No. **Course Outcome** Code Name Explain methods of preparations, reactions, properties, B301T.1 mechanism, aromaticity, stability and uses of different organic **Pharmaceutical** compounds. **BP301T** Organic Illustrate the different analytical constants of fats and oils and B301T.2 Chemistry II evidences in derivation of structure of Benzene. Theory Analyze effect of different substituents on orientation, B301T.3 reactivity and properties of organic compounds. Acquire detail knowledge on different types of states of matter B302T.1 and solubility, as well as how to utilize them in the development of drugs and drug delivery systems. Demonstrate the basic principles of adsorption, solubilization BP302T Physical B302T.2 and differentiate type of interfaces by applying relevant **Pharmaceutics I** examples from pharmaceutical sciences. – Theory Describe, characterize, and distinguish the different forms of complexes and how they relate to drug action and protein B302T.3 binding and also acquire skills and working knowledge of the **B. PHARM** SEM III principles and concepts of pH buffers Learn about bacteriology and animal cell culture comprising understanding of methods of cultivation. isolation. B303T.1 identification, processing & storage of microorganisms and application of animal cell culture in production of Bio similar 3P303T **Pharmaceutical** Get expertise in sterilization includes methods, principle and Microbiology -B303T.2 instrumentation & sterility testing of various pharmaceutical Theory products according to official pharmacopoeias. Acquire knowledge of bioassay & microbial spoilage, B303T.3 assessment of microbial contamination, spoilage and preservation of pharmaceutical products Know various unit operations used in Pharmaceutical B 304T.1 industries. **BP304T Pharmaceutical** Understand the material handling techniques which is used in B 304T.2 Engineering – pharmaceutical Industry. Theory Perform various processes involved in pharmaceutical B 304T.3 manufacturing Unit.



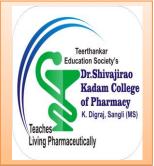
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	۵.	Pharmaceutical	B305P.1	Explain principle, reaction, mechanism, procedure and uses of synthesis and analytical constant determination
	BP305P	Organic Chemistry II –	B305P.2	Perform synthesis, recrystallization and analytical constant determination of different organic compounds
	Ι	Practical	B305P.3	Analyze the percentage yield and analytical constant of the given organic compounds
			B306P.1	Acquire skills and working knowledge of the principles and concepts of phase diagram
	BP306P	Physical Pharmaceutics I – Practical	B306P.2	Perform, determine and analyze the physical parameters such as solubility, surface tension, partition coefficient, and pKa in dosage form design.
B. PHARM SEM III	B	– Hacucai	B306P.3	Analyze the drug complexes by various methods an interpret the data
	BP307P	Pharmaceutical Microbiology – Practical	B307P.1	Learn preparation & maintenance of class 100 area, personal hygiene & sterilization of glassware, nutrition media for conductance of microbiology experiments aseptically.
B. I SI			B307P.2	Acquire abilities of handling different equipment used in microbiology practical Sterilization
			B307P.3	After completion of the course student will be able To implement different techniques for isolation of micro- organisms from various substances & to identify various types of micro-organisms
			B307P.4	Analyzing and solving the microbial analytical issue of various samples like water, Pharmaceutical dosage forms etc.
		Pharmaceutical Engineering – Practical	B308P.1	Know various unit operations used in Pharmaceutical industries.
	P 308P		B308P-2	Understand the material handling techniques which is used in pharmaceutical Industry
	BP		B308P.3	Perform various processes involved in pharmaceutical manufacturing Unit



Program Name	Course Code	Course Name	CO No.	Course Outcome
	T	Pharmaceutical	B401T.1	Explain the stereo-chemical aspects of optical isomerism Geometrical, Conformation and atropisomerism.
	BP401T	Organic Chemistry III–	B401T.2	Describe the methods of preparation, properties, reactions, mechanism and application of heterocyclic compound.
	B	Theory	B401T.3	Discuss the principal, properties, reaction, mechanism and application of synthetically important reactions.
			B402T.1	Explain history, fundamental concepts, classification, distribution and actions related to receptors and drugs.
	BP402T	Medicinal Chemistry I – Theory	B402T.2	Describe SAR, structure, IUPAC name, properties, mechanism of action, uses, adverse effects, synthesis and metabolism of different medicinal compounds, Hormones or neurotransmitters.
			B402T.3	Analyze therapeutic and adverse effect of different medicinal compounds.
B. PHARM SEM IV	BP403T	Physical Pharmaceutics II – Theory	B403T.1	Study physicochemical properties of drug and the flow behavior of fluid, deformation of solids.
B. PI SE			B403T.2	Describe various chemical and kinetic properties of system and explain the different reaction kinetics i.e. Zero, first and second order.
			B403T.3	Estimation of derived properties of powders and Compile the stability data for determination of expiry date of pharmaceutical drug products.
	BP404T	Pharmacology I – Theory	B404T.1	Classify drugs acting on various organ system on the basis of its therapeutic use
			B404T.2	Describe concept of pharmacology, pharmacodynamics and pharmacokinetics of drugs and steps and regulations concerned with drug discovery and clinical evaluation of new drugs
			B404T.3	Illustrate pharmacological effects, mechanism of action, indications, contraindications and adverse effects of drugs, pharmacological understanding in the averting and treatment of a variety of diseases



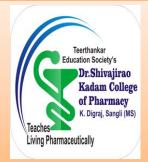
B. PHARM SEM IV	BP405T	Pharmacognosy and Phytochemistry I– Theory	B405T.1 B405T.2 B405T.3	Describe the development and scope of pharmacognosy and describe the chemical properties, applications, and evaluation of crude medications. Describe the cultivation, collection and preparation of medications with natural sources and describe the role of herbal medicines and of marine drugs in conventional medical practices. Describe Plant tissue culture, types of medicinal system and Primary metabolides
	BP406P	Medicinal Chemistry I – Practical	B406P.1 B406P.2 B406P.3	 Explain principle reaction, mechanism, procedure and uses in relation with synthesis, assay and determination of partition coefficient of different drugs. Perform synthesis, assay and determination of partition coefficient of different drugs. Analyze results of the synthesis, assay and determination of
	BP407P	Physical Pharmaceutics II – Practical	B407P.1 B407P.2 B407P.3	partition coefficient of different drugs.Know the principle of separation method & calculate particle size by sieving, microscopic method.Study different technique for measurement of viscosity and Characterize the derived properties of powderAnalyze the reaction rate constant of first andsecond order and construct the accelerated stability data.
	BP408P	Pharmacology I – Practical	B408P.1 B408P.2 B408P.3	Describe use of various animals in laboratory experiment for evaluation of pharmacological activities and as per CPCSEA guideline Demonstrate different routes of administration and common laboratory techniques for the animal studies, principle and procedures of various instruments /apparatus used in experimental pharmacology. Interpret effect of drug on animal testing model based on
	BP409P	Pharmacognosy and Phytochemistry I – Practical	B409P.1 B409P.2 B409P.3	simulated models. Demonstrate chemical tests to identify unorganized crude drugs and evaluate the quality and purity of crude drugs Perform linear measurements for crude drug identification Develop quality control methods for standardization of herbal drugs



CRITERION 2: TEACHING LEARNING AND EVALUATION 2.6: STUDENT PERFORMANCE AND LEARNING OUTCOME

2.6.1 PROGRAM OUTCOMES AND COURSE OUTCOME

Program Name	Course Code	Course Name	CO No.	Course Outcome
	-		B501T.1	Explain fundamental concepts, classification, distribution and actions related to receptors and drugs.
	BP501T	Medicinal Chemistry II – Theory	B501T.2	Describe SAR, structure, IUPAC name, properties, and mechanism of action, uses, adverse effects, synthesis and metabolism of different medicinal compounds, Hormones or neurotransmitters.
			B501T.3	Compare therapeutic and adverse effect of different medicinal compounds.
	F .		B502T.1	Understand the dosage forms such as tablets and capsules its design, formulation strategies, concept of mechanisms and packaging
	BP502T	Industrial Pharmacy I– Theory	B502T.2	Describe formulation development, manufacturing, excipients used and evaluation of pellets, suspension, emulsion and semisolid dosage forms
			B502T.3	Outline formulation, manufacturing, environmental processing, validation, packaging of parenteral and ophthalmic dosage form
W	BP503T	Pharmacology II – Theory	B503T.1	Classify the anti-inflammatory agents, drugs acting on Urinary, Cardiovascular and Endocrine system.
B. PHARM SEM V			B503T.2	Illustrate the pharmacology of autacoids, anti-inflammatory agents, drugs acting on Urinary, Cardiovascular and Endocrine system.
			B503T.3	Compare the bioassay of various drugs.
	4T	Pharmacognosy and	B504T.1	Emphasizes on basic metabolic pathways, techniques employed in the elucidation of biosynthetic pathway and formation of different secondary metabolites through these pathways.
	BP504T	Phytochemistry	B504T.2	Describes the source, chemistry and analysis secondary metabolites.
	B	II– Theory	B504T.3	Describes the source, chemistry and Production therapeutic/commercial applications of secondary metabolites.
	BP405T	Pharmacognosy and Phytochemistry	B405T.1	Describe the development and scope of pharmacognosy and describe the chemical properties, applications, and evaluation of crude medications.
			B405T.2	Describe the cultivation, collection and preparation of medications with natural sources and describe the role of herbal medicines and of marine drugs in conventional medical practices.
	[I– Theory	B405T.3	Describe Plant tissue culture, types of medicinal system and Primary metabolides



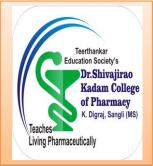
			B505T.1	Inculcate in students the ability to practice the code of pharmaceutical ethics and understand the various domains of the pharmaceutical legislation in India and its scope.
	BP505T	Pharmaceutical Jurisprudence –	B505T.2	Acquaint the students with the regulatory bodies monitoring Pharmacy education in India; various administrative authorities and agencies governing import, manufacture, distribution and sale of pharmaceuticals and to maintain standards and quality of drug product.
	B	Theory	B505T.3	study of various forensic laws with its objectives like Drug and Cosmetics Act 1940, Medical Termination Of Pregnancy Act 1971 and rules there under 1975, Narcotic and Psychotropic Substances Act 1985, Poisons Act 1919, Drug Price Control Order 1995, Medicinal and Toilet Preparations Act, Drug and Magic Remedies 1954,1955 etc
			B506P.1	Perform preformulation, preparation and evaluation of tablets,
B. PHARM SEM V	BP506P	Industrial Pharmacy I – Practical	B506P.2	capsules and liquid dosage forms Understand formulation of cosmetics and packaging material sciences
			B506P.3	Knowledge on sterile product preparation, tablet coating and its evaluation
	Ρ	Pharmacology II – Practical	B507P.1	Describe the analgesic, anti-inflammatory and diuretic activity, In vitro Pharmacology, Physiological salt solution, effects of spasmogens and spasmolytics using rabbit jejunum as well as effects of drugs on blood pressure and heart rate of dog.
	BP507P		B507P.2	Apply the appropriate method and procedure to carry out bioassay of various drugs.
			B507P.3	Interpret the bioassay of various dugs, pA ₂ , pD ₂ Value as well as effects of drugs on isolated frog heart.
	•	Pharmacognosy	B508P.1	Identify crude drugs by morphological and microscopical characteristics
	BP508P	and Phytochemistry II –	B508P.2	Isolate phytoconstituents from crude drugs and Perform Paper and Thin Layer Chromatography
	B	Practical	B508P.3	Carry out chemical tests for the identification of unorganized crude drugs



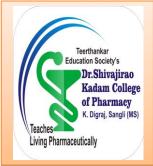
Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM VI	BP601T	Medicinal Chemistry III – Theory	B601T.1	Discuss the nomenclature, Classification, SAR, MOA, metabolism, synthesis, uses and adverse effect of antibiotics, anti-tubercular and antiviral, antifungal, antibacterial, antimalarial and antiprotozoal drugs
			B601T.2	Describe the basic concept and applications of prodrug
			B601T.3	Illustrate the importance of drug design and different techniques of drug design.
	BP602T	Pharmacology III – Theory	B602T.1	Classify chemotherapeutic agents, drugs for respiratory & gastrointestinal tract diseases as well as immunostimulants and immunosuppressants.
			B602T.2	Illustrate the pharmacology of chemotherapeutic agents, drugs acting on immune system drugs used in the management of respiratory and gastrointestinal tract diseases. chronopharmacology
			B602T.3	Compare the clinical symptoms and management of various poisoning as well as acute, sub acute and chronic toxicity.
	BP603T	Herbal Drug Technology – Theory	B603T.1	Describe the WHO guidelines for Good agricultural and collection practices of herbal raw material.
			B603T.2	Describe tradition system of medicine, benefits of various plants as nutraceuticals in ailments, herb-food interaction of various plant drugs and benefits of herbal cosmetics.
			B603T.3	Discuss WHO and ICH guidelines for the assessment of herbal drugs.
	BP604T	Biopharmaceutics and Pharmacokinetics – Theory	B604T.1	Explain and recall basic concepts in biopharmaceutics and pharmacokinetics also discuss, analyze their significance.
			B604T.2	Demonstrate the plasma drug concentration for construction of pharmacokinetic model , development of relation, analyze & interpretation of pharmacokinetic parameter
			B604T.3	Outline & relate concepts of bioavailability and bioequivalence of drug products to identify, categorize and to prove bioequivalence.



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	BP605T			Study fundamental principles of biotechnology in the field of genetic
				engineering, medicine and fermentation technology ultimately will
			B605T.1	comprehend the many methods employed in contemporary
		Pharmaceutical Biotechnology– Theory	D0031.1	biotechnology.
				Acquire scientific knowledge of production of monoclonal antibody,
				bio-similar, transgenic (genetically modified) crops and animals,
			B605T.2	also various pharmaceuticals using microorganisms and mammalian
			B0051.2	cells.
				Gain knowledge about the evolution of the immune system, the
				structural characteristics of its components, and the procedures by
			B605T.3	which our body produces an immunological response. It will assist
				students in making predictions about the type of immune response
				that arises in response to bacterial, viral, or parasite infection and
				supporting those predictions with innovative experimental designs.
	E	Quality Assurance– Theory	B606T.1	Explain fundamental knowledge about GMP and cGMP
	BP606T		B606T.2	Understand validation and calibration of instruments in industry
	BP			Learn importance of QA and QC departments in pharmaceutical
7	I		B606T.3	industry.
	BP607P	Medicinal	B607P.1	Plan and synthesize medicinally important compounds by
M			D (05D 0	conventional and microwave method.
B. PHARM SEM VI			B607P.2	Utilize drug design tools software to assertion the physicochemical
B	P6	chemistry III – Practical		characteristics of substance Determine the percentage yield purity of some pharmaceuticals by
	B	Fractical	B607P.3	assay or by Method ,construct the structure reaction of medicinally
			D0071.5	important drugs by chem draw software
				Describe the antiallergic, anti-ulcer, hypoglycemic activity, dose
			B608P.1	calculation, pyrogen testing as well as effect of drugs on
	Ч			gastrointestinal motility, guinea pig ileum and frog intestine.
	BP608P	Pharmacology III – Practical	B608P.2	Explain the acute skin and eye irritation/corrosion test, acute oral
				toxicity test.
				Interpret serum biochemical parameters, pharmacokinetic
			B608P.3	parameters and bio statistical methods in experimental
				pharmacology.
	BP609P	Herbal Drug	B609P.1	Prepare herbal formulations and herbal cosmetics using standardized
				extracts
			B609P.2	Evaluate excipients of natural origin
	P6(Technology –		
	Bl	Practical	B609P.3	After undergoing this course students will be able carryout
			20071.0	monograph analysis of herbal drugs determine alcohol content,
				aldehyde content, total alkaloids and phenol



Program Name	Course Code	Course Name	CO No.	Course Outcome
B. PHARM SEM VII	BP701T	Instrumental Methods of Analysis – Theory	B701T.1	Learn about the interaction of matter with electromagnetic radiations as well as with present other solvents for drugs as well as related problems analysis.
			B701T.2	Fully comprehend concepts of Spectroscopic methods and Chromatographic techniques for analysis purpose.
			B701T.3	Recall use of various modern tools for analysis of organic, inorganic, and natural products. Also upgrade with advanced technology for better outcomes.
	BP702T	Industrial Pharmacy II – Theory	B702T.1	Discuss the process of pilot plant scale up of pharmaceutical dosage forms.
			B702T.2	Demonstrate the practice and the process of technology transfer from lab scale to commercial.
			B702T.3	Explain the different laws and acts that regulate pharmaceutical industry.
	BP703T	Pharmacy Practice – Theory	B703T.1	Define various terminologies used in the pharmacy practice
			B703T.2	Illustrate the organizational structure, classification, functions and policies (including formularies) of hospitals and pharmacy organizations, distribution, use and monitoring of drug, clinical interpretations, Patient counseling and pharmacy management.
			B703T.3	Describe the personnel and their responsibilities in hospital and pharmacy organizations, importance of drug information services, education and training programmes in hospitals and the role of pharmacist in pharmacy stores management, inventory control, Budget preparation, adverse drug reactions, community pharmacy
	BP704T	Novel Drug Delivery System – Theory	B704T.1	Understand various approaches and applications for development of Novel Drug Delivery Systems
			B704T.2	Discuss and study oral, mucosal, dermal, pulmonary and nasal drug delivery systems over conventional dosage forms for prolonged action
			B704T.3	Illustrate the principles and fundamentals of drug targeting in the design of site-specific drug delivery system
	BP705 P	Instrumental Methods of Analysis – Practical	B705P.1	Fully comprehend concepts of modern tools for evaluation, separation and analysis purpose.
			B705P.2	Analyze drugs quantitatively and qualitatively using various analytical modern tools.
			B705P.3	Demonstrate proficiency in the use of various analytical modern.



CRITERION 2: TEACHING LEARNING AND EVALUATION 2.6: STUDENT PERFORMANCE AND LEARNING OUTCOME 2.6.1 PROGRAM OUTCOMES AND COURSE OUTCOME

Program **Course Name** CO No. Course **Course Outcome** Name Code B801T.1 Understand the fundamental concepts of statistics and to draw **Biostatistics** graphs and plots based on type of data BP801T Apply probability, regression, hypothesis while using statistical tools B801T.2 and Research Methodology to analyse data B801T.3 Theory Recognize the purpose of research, its methods, and its uses, as well as to explain experimental design in research. B802T.1 Review Concept of health And examine general principles of Social and prevention and control of various diseases. **BP802T** Preventive Facilitate information about various National health programs B802T.2 **Pharmacy** and understand objectives and outcome of the program Access and manage Community services in rural, urban and school – Theory B803T.3 health. Describe History, development, Pharmacovigilance Program of India (PvPI), vaccine safety surveillance, various terminologies used **B805ET** in Pharmacovigilance, significance of drug safety monitoring and evaluation of Medicine and in pediatrics, geriatrics, pregnancy and .1 lactation and in special population respectively, WHO international **B. PHARM** SEM VIII drug monitoring program, Pharmacogenomics of adverse drug **3P805ET** reactions. Pharmacovigilance Categorize methods for safety data generation of drugs life cycle at - Theory the phases of pre-clinical, clinical and post approval stages, drugs on **B805ET** the basis of anatomical, chemical and therapeutic use, drug .2 dictionaries and coding, Pharmacovigilance methods, adverse drug reactions and its reporting systems and communication in Pharmacovigilance. **B805ET** Discuss Pharmacovigilance planning, expedited reporting, CIOMS requirements for ADR reporting, ICH guidelines for ICSR, PSUR .3 **B811ET** Understand about the interaction of matter with electromagnetic .1 radiations, as well as the challenges that arise as a result of this interaction in drug analysis. **B811ET 3P811ET** Advanced Completely comprehend the concept of modern technologies as well Instrumentation as the calibration of advanced analytical modern instruments. .2 Techniques – Recall the use of numerous modern tools for organic, inorganic, and Theory **B811ET** natural product analysis, such as NMR, MASS spectroscopy, Thermal analysis, XRD, RIA, Extraction techniques, and .3 Hyphenated techniques. Upgrade utilizing advanced technologies in order to achieve excellent outcomes.