



ANNAMACHARYA COLLEGE OF PHARMACY

New Boyanapalli, Rajampet, YSR Kadapa Dist, A.P., India

B. Pharmacy Course Outcomes

S.NO	NAME OF THE PROGRAMME	NAME OF THE SUBJECT	COURSE OUTCOMES		
1	I B. Pharmacy I Semester	Remedial Mathematics	CO 1	The student is able to identify the type differential equations and uses the right method to solve the differential equations. Also the able to apply the theory of differential equations to the real world problems	
			CO 2	The student is able to transform functions on time domain to frequency domain using Laplace transforms	
			CO 3	The student will able to understand the methods of differential calculus to optimize single and multivariable functions	
		Remedial Biology	CO 1	Describe the structure and functions of animal and plant cell	
			CO 2	Describe the various salient features of animal and plant kingdom	
			CO 3	Student able to identify the morphology of various plant parts	
			CO 4	Student able to identify the structure of the various diseases causing parasite	
		2	Functional English	CO 1	Have improved communication in listening, speaking, reading and writing skills in general.
				CO 2	Have developed their oral communication and fluency in group discussions and interviews.
				CO 3	Have improved awareness of English in science and technology context.
CO 4	Have achieved familiarity with a variety of technical reports.				
3	Pharmaceutical Organic Chemistry - I	CO 1	Graduates will demonstrate the knowledge of the inter-link of pharmaceutical sciences with pharmaceutical organic chemistry by learning.		
		CO 2	Graduates will understand IUPAC Common system of nomenclature, types of organic reactions, mechanisms, named reaction with		

				mechanism.
			CO 3	Graduates will expertise their skills for pharmaceutical organic chemistry concepts, tools and atomic models.
4		Human Anatomy and Physiology – I	CO 1	Describe the structure (gross and histology) and functions of various organs of the human body.
			CO 2	Describe the various homeostatic mechanisms and their imbalances of various systems.
			CO 3	Identify the various tissues and organs of the different systems of the human body.
			CO 4	Perform the hematological tests and also record blood pressure, heart rate, pulse rate.
			CO 5	Appreciate coordinated working pattern of different organs of each system.
			CO 6	Appreciate the interlinked mechanisms in the maintenace of normal functioning of human body.
5		Pharmaceutical Inorganic Chemistry	CO 1	The graduates will develop the knowledge to find out the purity of pharmaceutical substances.
			CO 2	They came to know the importance of pharmaceutical inorganic agents in certain diseases.
1		Pharmaceutical Organic Chemistry – II	CO 1	The graduate can understand nomenclature and chemistry of various functional groups and chemical properties with their mechanisms.
			CO 2	Student can apply green chemical methods for the synthesis of new chemical entities in the view of environment protection.
2	I B. Pharmacy II Semester	General & Dispensing Pharmacy	CO 1	Recognize the formulation aspects of different dosage forms.
			CO 2	Do different pharmaceutical calculation involved in formulation.
			CO 3	Formulate different types of dosage forms
			CO 4	Appreciate the importance of good formulation for effectiveness.
3		Pharmaceutical Biochemistry	CO 1	Understand the chemistry involved I life
			CO 2	Understand biochemical reactions in the human body
			CO 3	Understand the metabolic pathways

				of various biomolecules.
4		Pharmacognosy – I	CO 1	Understand the basic principles and improved techniques of cultivation, collection and storage of crude drugs
			CO 2	Know the scientific name, geographical distribution, chemical nature and uses of crude drugs
			CO 3	Know the significance of carbohydrates, tannins, lipids, and fibres in pharmacy.
5		English for Professional Communication	CO 1	Have acquired ability to participate effectively in group discussions
			CO 2	Have developed ability in writing in various contexts
			CO 3	Have acquired a proper level of competence for employability.
1		Pharmaceutical Engineering	CO 1	Graduate understands the basic fundamentals of various unit operations required for drug development.
			CO 2	Apply the operating skills of pharmaceutical machinery required to work in the pharmaceutical field viz. drug manufacturing and production
2	II B. Pharmacy I Semester	Physical Pharmacy –I	CO 1	Understand the chemical and physical fundamental aspects of intermolecular forces
			CO 2	Relevant with laws of thermodynamics
			CO 3	Know the importance of solubilization of electrolytes and non electrolytes
			CO 4	Recognize the significance of P^H and tonicity that govern the <i>in vivo</i> and <i>in vitro</i> actions of pharmaceutical products
			CO 5	Define reaction kinetics, reaction order and discuss factors affecting the rate of reaction, degradation and stabilization of medicinal agents as well as accelerated stability testing.
3		Pharmaceutical Organic Chemistry – III	CO 1	Graduate will understand and apply the nomenclature, basic chemistry, stereochemistry, rearrangement reaction, mechanisms of heterocyclic and other organic compounds.
			CO 2	Graduate will be able to synthesize basic heterocyclic molecules,

				analyze, estimate organic compounds, and understand the recent methods of organic synthesis.
4		Pharmaceutical Microbiology	CO 1	Students can understand the importance of microbiology in industry and pharmacy
			CO 2	Students can learn the microbiological significance disease and its treatment.
5		Environmental Studies	CO 1	Students will get the sufficient information that will clarify modern environmental concepts like equitable use of natural resources, more sustainable life styles etc
			CO 2	Students will realize the need to change their approach so as to perceive our own environmental issues correctly using practical approach based on observation and self learning.
			CO 3	Students become conversant with the fact that there is need to create a concern for our environment that will trigger pro environmental action including simple activities we can do in our daily life to protect it.
			CO 4	By studying environmental sciences students is exposed to the environment that enables one to find out solution of various environmental problems encountered on and often.
			CO 5	At the end of the course, it is expected that students will be able to identify and analyze environmental problems as well as the risks associated with these problems and efforts to be taken to protect the environment from getting polluted. This will enable every human being to live in a more sustainable manner.
1	II B. Pharmacy II Semester	Pharmaceutical Analysis – I	CO 1	Graduates will conduct analyze and interpret data of experiments in production, Analytical and clinical aspects
2		Pharmacognosy – II	CO 1	Know the scientific name, geographical distribution, chemical nature and uses of crude drugs.
			CO 2	Know the role of glycosides,

				alkaloids in treating of various ailments of human beings.	
			CO 3	Know the significance of nutraceuticals and cosmeceuticals in maintaining the health conditions and appearance.	
			CO 4	Know various techniques used in biogenesis of secondary metabolites.	
3		Pharmaceutical Technology – I	CO 1	Acquire sufficient knowledge of preformulation and formulation of liquid and semi solids.	
			CO 2	Understand the importance of blood products.	
			CO 3	Describe what the pharmaceutical suspension and emulsion is and what roles they play in pharmaceutical science.	
4		Physical Pharmacy – II	CO 1	Acquire sufficient knowledge of surface and interfacial tension and its measurement.	
			CO 2	Appreciate the role of surface active agents in controlling the solubility and stability of the liquids	
			CO 3	Understand the different types of flow, thixotropic properties in order to identify and choice the suitable characters for each formulation	
			CO 4	Describe what the pharmaceutical suspension and emulsion is and what roles they play in pharmaceutical science.	
5		Pathophysiology	CO 1	Describe the etiology and pathogenesis of the selected disease states;	
			CO 2	Name the signs and symptoms of the diseases	
			CO 3	Mention the complications of the diseases.	
1	III B. Pharmacy I Semester	Medicinal Chemistry - I	CO 1	Acquire skills in the structure of drugs and their biological activity.	
			CO 2	Correlate and apply the knowledge.	
			CO 3	Assay of some official compounds.	
2			Pharmacology - I	CO 1	Acquire the knowledge in basic mechanism of action of drugs.
				CO 2	Therapeutic uses of drugs.
3			Pharmaceutical Technology - II	CO 1	Acquire skills in preparation of different types of tablets.
				CO 2	Demonstrate the handling of

				equipments for evaluation of various dosage forms.
			CO 3	Acquire the knowledge of processing of dosage form on large scale that suit pharmacy industry.
4		Pharmaceutical Biotechnology	CO 1	Applications of various technologies and uses of immunological preparations.
5		(MOOCS – I) Application of spectroscopic methods in molecular structure determination	CO 1	In the synthesized new molecule it is essential to determine its structure using spectroscopic techniques.
	CO 2		It deals with practical applications of spectroscopic methods for the determination of organic molecules.	
1	III B. Pharmacy II Semester	Pharmacology – II	CO 1	Acquire the knowledge in basis mechanism of action of drugs
			CO 2	Therapeutic uses of drugs of the following chapters
2		Pharmaceutical Analysis-II	CO 1	To gain knowledge on basis fundamentals of modern analytical instrumental techniques.
			CO 2	Analyze the drug structure, identification, purity determination, and quantification of the drug substance
3		Biopharmaceutics and Pharmacokinetics	CO 1	Graduate will acquire knowledge on the factors influence absorption, distribution, protein binding also on pharmacokinetic models.
			CO 2	Able to calculate the pharmacokinetic parameters based on plasma level-time data & urine data.
			CO 3	Understand the importance of clinical pharmacokinetics and the bioavailability and bio equivalence studies.
4		Pharmaceutical Jurisprudence	CO 1	Graduate will acquire knowledge on Pharmaceutical Education.
			CO 2	Able to understand drugs & Pharmaceutical industry
			CO 3	Understand the importance of Pharmacy Acts.
5	Pharmacy Administration (CBCC-I)	CO 1	To gain Knowledge on basis fundamentals of management and administration in pharma industry.	
			To acquire knowledge on organization of distribution and marketing (organization=correct spelling)	
		Clinical Trials	CO 1	To gain knowledge on clinical trials.

			CO 2	To acquire knowledge on Phase I, II, III toxicity studies and dosage calculations.
			CO 3	To learn the selection of volunteers for clinical trials.
		Cosmetic Technology	CO 1	Acquire skill in preparation of different types of cosmetics.
			CO 2	Demonstrate the handling of equipment for evaluation of various cosmetics.
			CO 3	Acquire the knowledge of processing of cosmetic, selection of materials for containers.
1	IV B. Pharmacy I Semester	Pharmacognosy-III	CO1	Student will acquire a knowledge on cosmetics, natural dyes, mineral drugs, Ayurvedic, Sidda, Unani and Homeopathy
2		Biopharmaceutics & Pharmacokinetics	CO 1	Graduates will acquire knowledge on the factors influencing absorption, distribution, protein binding and also on pharmacokinetic models
			CO 2	Able to calculate the pharmacokinetic parameters based on plasma level time data and urine data
			CO 3	Understand the importance of clinical pharmacokinetics and the bioavailability and bioequivalence studies.
3		Pharmacology-III	CO 1	Understand the pharmacokinetics and pharmacodynamics of chemotherapeutic agents
			CO 2	Understand the toxicokinetics and toxicodynamics of poisons
			CO 3	Correlate and apply the knowledge
4		Medicinal Chemistry-III	CO 1	Acquire skills in the structure of drugs and their biological activity.
			CO 2	Acquire the knowledge of synthesis of chemical compounds
			CO 3	Assay of some official compounds
5		Chemistry of Natural Products	CO 1	Acquire the skills in determination of structure, mechanism of action and uses of natural drugs.
		Clinical and Hospital Pharmacy	CO 1	To counsel the patients about usage of drugs and drug interactions
		Pharmacovigilance	CO 1	Should have the Knowledge about the terminology of adverse medication related events, roles and responsibilities in Pharmacovigilance

1	IV B. Pharmacy II Semester	Novel Drug Delivery Systems	CO 1	Student must able to formulate the drug delivery systems for drugs.
2		Pharmaceutical Biotechnology	CO 1	The Student has to know the Application of below mentioned technologies and uses of immunological preparations