

YASHWANTRAO BHONSALE COLLEGE OF PHARMACY

Bldg. No. 02, BKC, A/P: Charathe - Vazarwadi, Tal: Sawantwadi, Dist.: Sindhudurg, Maharashtra- 416 510 Approved by AICTE, PCI, New Delhi, Govt. of Maharashtra, DTE. Affiliated to Mumbai University (B. Pharm, M. Pharm) and MSBTE (D. Pharm) DTE Code: 3480; University Code: 1027; MSBTE Code: 1878

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Email:ybpharmacy@gmail.com

Mr. Achyut K. Sawantbhonsale Executive Chairman Dr. Vijay A. Jagtap Principal

COURSE OUTCOMES ACADEMIC YEAR-2021-2022(TERM-I)

YEAR- FIRST YEAR B. PHARMACY	
(TERM-I) SEMESTER-I	
PCI SYLLABUS	

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
2.	Pharmaceutical Inorganic chemistry Pharmaceutical Analysis -I	BP104T	CO1-Describe the sources of impurities and methods of determination of the impurities in inorganic drugs and pharmaceuticals. CO2-Understand the pharmaceutical application of inorganic compounds. CO3-State the source, properties and medical significance of inorganic compounds. CO4-Identify Get an insight of medicinally important inorganic compounds. CO5-Understand pharmaceutically important radioactive substances. CO1-Estimate the basic concepts of pharmaceutical
			analysis, different analytical techniques, preparation and standardization of different solutions and errors. CO2- Illustrate the theories of acid-base indicators, neutralization curves and non-aqueous titration.
			CO3 -Generalize the basic principles of precipitation titration, complexometric titration and gravimetric analysis.
			CO4 -Understand the concept of oxidation reduction titration also principles and application of different types of redox titration.
			CO5- Describe the principles and concept of conductometry potentiometry and polarography.



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3.	Human Anatomy and Physiology -I	BP101T	CO1 -Define the anatomy & physiology of cells, various tissues, organs, and
	,		systems with basic terminologies.
			CO2-Illustrate the structure and
			underline function of Integumentary
			system, skeletal system, joints,
			Cardiovascular system, Peripheral
			nervous system, Special senses and
			Lymphatic system. CO3-Enlist the composition, functions of
			blood & describe the process of
			hemopoiesis, haemoglobin formation
			and blood coagulation.
			CO4- Express the regulation of cardiac
			cycle, blood pressure, ECG.
4.	Pharmaceutics-I	BP103T	CO1-Understand the historical
			background of the profession of
			pharmacy.
			CO2 -Explain the professional way of handling the prescription.
			CO3 -Understand the posology & pharmaceutical calculations.
			CO4- Explain the different types of dosage forms.
			CO5 -Understand the manufacturing process of different dosage forms.
5.	Communication Skills	BP105T	CO1 -Recognize verbs and passive voice in communication.
			CO2- Expertise in skills to confidently stand in group discussion.
			CO3 - Confidence to communicate effectively.
			CO4- Recognize the importance of
			ethics, human values, honesty and integrity.
			CO5 - Understand Ethical practice in pharmaceutical profession.
6.	Pharmaceutical Inorganic Chemistry lab-I		CO1- Identify impurities present in inorganic medicinal compounds by standard pharmacopoeia test



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			CO2 - Identify inorganic compound by qualitative analysis.
			CO3 - Analyze purity of inorganic pharmaceuticals
			CO4 -Understand preparation of inorganic pharmaceuticals.
7.	Human Anatomy and Physiology -I	BP107P	CO1 - Handle the instruments used in laboratory
			CO2-Describes the body tissues based onthe structure and organization cells. CO3-Identify the positions of human
			bonethe skeleton with their importance CO4- Calculate RBCs sedimentation rate,
			RBC count, WBC hemoglobin count, bleeding and clotting time by using different methods
			CO5-Record pulse rate, heart rate & blood pressure
8.	Pharmaceutical Analysis lab-I	BP108P	CO1-Prepare solutions of specific Normality and Molarity.
			CO2- Standardize solutions with respect to Normality and Molarity.
			CO3- Analyze the purity of pharmaceutical compounds using assay procedures.
			CO4- Determine Normality by Electroanalytical method.
8.	Pharmaceutics Lab-I	BP 109 P	CO1-Formulate monophasic liquids like syrup, elixir, linctus and solution
			CO2 - Understand the method of preparation for biphasic liquids like suspensions and emulsions
			CO3 - Prepare powders and granules
			CO4 - Understand the method of manufacturing for suppositories and semisolid dosage forms
			CO5 - Formulate mouthwashes and gargles



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YEAR- SECOND YEAR B. PHARMACY	
(TERM-I) SEMESTER-III	
PCI SYLLABUS	

SR.NO	COURSE	COURSE	COURSE OUTCOMES
1.	Physical Pharmaceutics-I	BP302T	CO1-Understand the concept of Solubility, Dissolution & Distribution Phenomenon influencing drug release & action. CO2- Recall the states of matter and estimate the physicochemical properties of drugs affecting quality of drug product. CO3- Illustrate the concept of surface and
			interfacial tension in biphasic system. CO4- Apply the pharmaceutical knowledge of Drug Complexation & Protein binding.
			CO5 -Demonstrate concept of pH & application of buffers in the formulation of dosage forms.
2.	Pharmaceutical organic chemistry-II	BP301T	CO1- Describe general methods of preparation of organic compounds.
			CO2- Understand the stability and reactions of organic compounds.CO3- Understand the chemistry, chemical reactions and analytical constants of fats and
			oils. CO4- Emphasize mechanisms of chemical reactions.
			CO5 - Explain the structure and uses oforganic compounds.
3.	Pharmaceutical engineering	BP304T	CO1-Illustrate the mechanics of fluid, fluid flow & its measurement in accordance with statics & movement of fluids.
			co2-Apply basic principles including description of equipment & accessories involved in unit operations of size reduction, size separation, evaporation & distillation co3-Understand the operations involved in
			heat measuring devices, heat interchangers & heat exchangers. CO4-Explain objective, application, principles, construction, working, uses, merits & demerits of instruments involved in drying,
			mixing, filtration & centrifugation.



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			CO5- Discuss the materials of pharmaceutical
			plant construction, corrosion & its prevention
			& also basics of material handling system with
			respect to pharmaceutical industry.
4.	Pharmaceutical	BP303T	CO1- Understand the methods of
	microbiology		identification, cultivation & preservation of
			various microorganisms.
			CO2- Explain the different staining techniques
			and biochemical tests.
			CO3-Understand the morphology,
			classification & reproduction of fungi and
			viruses.
			CO4-Explain the process of microbiological
			assay.
			CO5-Understand the types of microbial
			spoilage & animal cell culture techniques.
5	Dhysical Dharmacouties	BP306P	
)	Physical Pharmaceutics lab-I	БРЗООР	CO1-Estimate Solubility and Distribution
	lab-i		Phenomenon of drug. CO2-Illustrate Surface & interfacial
			phenomenon including adsorption in stability
			of biphasic dosage form.
			CO3-Apply the Concept of Hydrophilic Lipophilic
			Balance & Critical Micellar Concentration in
			practical Aspects.
			CO4 -Analyze the complex formation by
			solubility & pH titration method.
6	Pharmaceutical organic	BP305P	CO1- Determine analytical constants of fats
	chemistry lab-II		and oils
			CO2-Carry out preparation of organic
			compound and purify by recrystallization,
			steam distillation
			CO3- Explain principle, mechanism and
			procedure of synthesis of given organic
			compound
			CO4- Calculate theoretical yield, practical
			yield and percentage yield.
7	Pharmaceutical	BP307P	CO1- To demonstrate the use of various
	microbiology lab		equipment's and their processing used in
			experimental microbiology.
			CO2- To describe the process of
			sterilization and sub culturing.
			CO3- To illustrate different staining
			techniques and motility determination by
			hang drop method.
			CO4-To prepare media, nutritional stabs
			& slants and pure culture of micro-
			organisms.



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Executive Chairman

E	xecutive Chairman	Principal
		CO5-To perform sterility and biochemicaltest, microbiological assay and Bacteriological analysis.
8.	PharmaceuticalengineeringBP308P lab	CO1-Determine radiation constant, heat transfer coefficient, moisture content, loss of drying & humidity of air. CO2-Calculate efficiency of steam
		distillation & uniformity of index. CO3-Construct drying curves & study the effect of time on the rate of crystallization.
		CO4-Evaluate size distribution & verify the laws of size reduction by determining various parameters related to Ball mill. CO5-Demonstrate major equipment's
		usedin pharmaceutical industry. CO6-Discuss construction working & applications of pharmaceutical machinery & factors affecting rate of filtration & evaporation.

YEAR- THIRD YEAR B. PHARMACY	
(TERM-I) SEMESTER-∨	
PCI SYLLABUS	

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Medicinal Chemistry- II	BP501T	CO1- Understand the chemistry of drugs with respect to their pharmacological activity.
			CO2 -Understand the drug metabolic pathways, adverse effect and therapeutic value of drugs.
			CO3 -Know the Structural Activity Relationship of different class of drugs.
			CO4- Study the chemical synthesis of selected drugs
2.	Industrial Pharmacy-I	BP502T	CO1-Discuss preformulation considerations in the development of solid ,liquid oral and parenteral dosage forms and its impact on stability of dosage forms. CO2-Understand the concept of solid oral dosage form design and formulation strategies, processing problems and remedies, evaluation, packaging and storage of tablets and capsules. CO3- Apply the knowledge of sterile technology in designing safe and effective
			injectables and ophthalmic products.



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Dr. Vijay A. Jagtap
Principal

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			CO4- Understand the formulation and
			evaluation of liquid orals, pharmaceutical
			aerosol and cosmetics.
			CO5-Discuss the packaging materials used for
			packaging of pharmaceutical products along
			with evaluation and stability aspects
3.	Pharmacology	BP503T	CO1-Understand the mechanism of drug action
	lii si		and its relevance in the treatment of different
			diseases.
			CO2-Demonstrate isolation of different
			organs/tissues from the laboratory animals by
			simulated experiments
			CO3-Demonstrate the various receptor actions
			using isolated tissue preparation
			CO4 -Appreciate correlation of pharmacology
			with related medical science
4.	Pharmacognosy II	BP504T	CO1-To understand the basic metabolic
			pathways and production of secondary
			metabolites along with utilization of radioactive
			isotopes.
			CO2- To study and understand the composition
			chemistry, biosources, therapeutic uses and
			commercial applications of secondary
			metabolites.
			CO3- Explain the isolation, identification and
			analysis of certain phytoconstituents.
			CO4- Explain the industrial production,
			estimation and utilization of phytoconstituents.
	Pharmaceutical	BP505T	CO1-Understood the history behind the
5.	Jurisprudence		development of pharmaceutical legislation in
			India.
			CO2-Present the concepts and formulae for
			the pricing of drugs & pharmaceuticals.
			CO3-Summarize offences & penalties
			concerned with laws for drugs and
			pharmaceuticals.
			CO4-Write the insights of Drug Regulatory
			Affairs.
6	Industrial Pharmacy-I	BP506P	CO1-Perform preformulation study of active
6.	Practical	D1 3001	pharmaceutical ingredient.
	i ractical		CO2-Formulate tablets, Capsules, Parenteral,
			· · · · · · · · · · · · · · · · · · ·
			ophthalmic products and cosmetics.
			CO3-Evaluate tablets, capsules and packaging
			material for their quality.
			CO4-Identify categories or uses of ingredients
			Used in manufacturing of tablets, capsules,
			parenteral, ophthalmic products and cosmetics.
	•	i	1/4/1/5 CT 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

CO5-Construct experiments as per good



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			laboratory practices and record in the journals
7.	Pharmacology- II	BP507P	CO1- Understand basic concept of bioassay
	Practical		methods.
			CO2 -Determine concentration of acetylcholine
			& amp; atropine by bioassay methods.
			CO3- Demonstrate effects of drugs acting on
			central nervous system through different
			models.
			CO4- Compare methods of toxicity studies with
			respect to OECD guidelines
8.	Pharmacognosy- II	BP508P	CO1-To identify Crude drugs based on
	Practical		morphological, histological and microscopic
			powder evaluation.
			CO2- To ascertain genuinity of the powdered
			crude drug formulation based on microscopical
			characteristics of crude drug powder.
			CO3-To carry out extraction and distillation
			methods of extraction.
			CO4- To perform TLC analysis for active
			constituents and understand
			isolation/separation of constituents.
			CO5-To carry out analysis of drug by chemical
			tests.



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YEAR- FINAL YEAR B. PHARMACY	
(TERM-I) SEMESTER-VII	
CBCS SYLLABUS	

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Pharmaceutical Chemistry-II	BPH_C_701_T	CO1- Recognize Chemical Class of drugs depending upon chemical, target based and therapeutic classification of drugs belonging to from cancer therapy, antiviral agents, CVS diseases and disorder and Diabetic therapy.
			co2-Draw structure and allocate Chemical nomenclature along with stereochemistry of structures of the drug from cancer therapy, antiviral agents, CVS diseases and disorder and Diabetic therapy.
			co3-Correlate Structural activity relationship of the drug from cancer therapy, antiviral agents, CVS diseases and disorder and Diabetic therapy.
			CO4- Illustrate mechanism of action of the drug from cancer therapy, antiviral agents, CVS diseases and disorder and Diabetic therapy.
			CO5- Describe synthesis with help of reactions involved for selected drugs in from cancer therapy, antiviral agents, CVS diseases and disorder and Diabetic therapy.
		CO6- Predict different metabolite of selected drug and its correlation to MAO from cancer therapy, antiviral agents, CVS diseases and disorder and Diabetic therapy.	
2.	Pharmaceutical analysis- III	utical analysis- BPH_C_703_T	CO1-Describe the concepts of terminology related to chromatographic techniques like HPLC/HPTLC/TLC/Ion Exchange/size Exclusion/Paper chromatography.
			co2-Discuss in detail instrumentation and application of chromatography and spectroscopy methods in pharmaceutical industry. co3- Adopt the analytical validation methods.



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			CO4- Understand the structural elucidation in the spectroscopy techniques.
			CO5-Illustrate the sampling procedure and results for the chromatography and spectroscopy techniques.
3.	Preformulation studies	BPH_E_711_T	CO1-Explain physicochemical principles relevant to pharmaceutical dosage
			CO2- Comprehend the importance of solubility, stability and compatibility of drug substances with different excipients
			CO3- Understand the role of pre formulation studies in drug discovery, drug and product development.
4.	Pharmacognosy-III	BPH_C_702_T	CO1- Understand the source, composition, general methods of extraction, evaluation, chemical tests, therapeutic uses of crude drugs containing steroidal, triterpenoidal, anthraquinone, flavonoidal glycosides, alkaloids and glycoproteins.
			CO2 -Describe the biosynthetic pathways of alkaloids obtained from different amino acids and of anthraquinone glycosides.
			CO3-Understand the concept of Ayurveda and Herbal drug technology and regulatory requirements for Ayurvedic, Siddha, Unani (ASU) Medicines and Phytopharmaceuticals.
			CO4-Apply the concept of formulation, herbal drug standardization and relate the knowledge of drug and food interactions with the drugs obtained from natural origin.
			CO5- Apply the knowledge of extraction, quantitative, chromatographic & spectroscopic analysis for the characterization to herbal phytochemicals.
5.	Pharmacology-III	BPH_C_704_T	CO1- Categorize local anaesthetic, General anaesthetic, sedatives & hypnotics.
			CO2-Elaborate pharmacology of anti-epileptic & antiparkinsonian drugs.



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