



Shri. Yashwantrao Bhonsale Education Society's

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

www.sybespharmacy.com

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Email: ybpharmacy@gmail.com

Mr. Achyut K. Sawantbhonsale
Executive Chairman

Dr. Vijay A. Jagtap
Principal

COURSE OUTCOMES
ACADEMIC YEAR-2022-2023(TERM-I)

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

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Pharmaceutical Inorganic chemistry	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 used as buffer, electrolytes, dental products and miscellaneous compounds.
			CO3. Illustrate the source, properties and medical significance of gastrointestinal agents and radioactive substances as inorganic origin.
			CO4. Generalize the pharmaceutically and medicinally important inorganic compounds.
2.	Pharmaceutical Analysis -I	BP102T	CO1-Summarize the basic concepts of pharmaceutical analysis, different analytical techniques, preparation and standardization of different molar & normal solutions and errors
			CO2-Illustrate the theories of acid-base indicators, neutralization curves and non-aqueous titration along with problem solving based on theory.
			CO3-Generalize/Illustrate the basic principles of precipitation titration, complexometric titration, gravimetric analysis and electrochemical methods of analysis.
			CO4-Understand the concept of oxidation reduction titration also principles and application of different types of redox titration.



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3.	Human Anatomy and Physiology -I	BP101T	CO1 -Summarize the gross structure and functions of various organs in the human body.
			CO2 -Illustrate the different homeostatic mechanisms and their imbalances.
			CO3 -Identify the various tissues and organs of different systems of human body.
			CO4 -Compare various concepts related to special senses and nervous system.
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 manufacturing process different types of 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 and Understand Ethical practice in pharmaceutical profession
			CO4 - Recognize the importance of ethics, human values, honesty and integrity.
6.	Pharmaceutical Inorganic Chemistry lab-I	BP110P	CO1 - Identify impurities present in inorganic medicinal compounds by standard pharmacopoeia test



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			C02 - Identify inorganic compound by qualitative analysis. C03 - Analyze purity of inorganic pharmaceuticals C04 -Understand preparation of inorganic pharmaceuticals.
7.	Human Anatomy and Physiology -I	BP107P	C01 - Handle the instruments used in laboratory C02 -Describes the body tissues based On the structure and organization cells. C03 -Identify the positions of human Bone the skeleton with their importance C04 -Calculate RBCs sedimentation rate, RBC count, WBC hemoglobin count, bleeding and clotting time by using different methods, Record pulse rate, heart rate & blood pressure.
8.	Pharmaceutical Analysis lab-I	BP108P	C01 -Prepare solutions of specific Normality and Molarity. C02 - Standardize solutions with respect to Normality and Molarity. C03 - Analyze the purity of pharmaceutical compounds using assay procedures. C04 - Determine Normality by Electro- analytical method.
8.	Pharmaceutics Lab-I	BP 109 P	C01 -Formulate monophasic liquids like syrup, elixir, linctus and solution C02 - Understand the method of preparation for biphasic liquids like suspensions and emulsions C03 - Formulate mouthwashes and gargles powders and granules C04 - Understand the method of manufacturing for suppositories and semisolid dosage forms.



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YEAR- SECOND YEAR B. PHARMACY

(TERM-I) SEMESTER-III

PCI SYLLABUS

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Physical Pharmaceutics-I	BP302T	CO1 -State physicochemical properties of drug.
			CO2 -Relate physicochemical properties of drug molecule in the designing of dosage form.
			CO3 -Apply the principles of chemical kinetics and & to use them for stability testing and determination of expiry date of formulations
			CO4 -Summarize the use of physicochemical properties of drug molecule in the formulation and development.
2.	Pharmaceutical organic chemistry-II	BP301T	CO1 -Report the structure, name method of preparation and application of organic compounds.
			CO2 -Discuss the mechanism and orientation of chemical reaction
			CO3 -Corelate the chemistry, chemical reactions and analytical constants of organic compounds
			CO4 - Interpret the stability and reactivity of organic compounds.
3.	Pharmaceutical engineering	BP304T	CO1 -Review the different unit operations used in pharmaceutical industries
			CO2 -Explain the objectives, applications, uses, merits & demerits of instruments involved in unit operations performed during pharmaceutical formulation development.
			CO3 -Illustrate the basic principles, construction & working of equipment's & accessories involved in pharmaceutical unit operations.
			CO4 -Select the materials for pharmaceutical plant construction, methodology to adopt for material handling and prevention of corrosion.



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4.	Pharmaceutical microbiology	BP303T	CO1- Classify different microorganisms, disinfectants, clean room
			CO2- Explain the methods of identification, cultivation and preservation of various Microorganisms
			CO3- Illustrate the sterilization methods, types of microscopy and types of spoilages
			CO4- Revise the concept of Sterility testing, Microbiological assay, Preservation, Standardization of pharmaceuticals, Cell culture technology
5	Physical Pharmaceutics lab-I	BP306P	CO1- To state physicochemical properties of drug.
			CO2- To demonstrate use of physicochemical properties of drugs in the formulation development and evaluation of dosage forms.
			CO3- To analyze the physicochemical properties of drug molecule in the formulation and development.
			CO4- To estimate physicochemical properties of drug molecule in the formulation and development.
6	Pharmaceutical organic chemistry lab-II	BP305P	CO1- To explain principle, mechanism and procedure of synthesis of given organic compound
			CO2- To practice synthesis of organic compound based on predefined method and purify by recrystallization or steam distillation
			CO3- To determine analytical constants of fats and oils
			CO4- To assess theoretical yield, practical yield and percentage yield.
7	Pharmaceutical microbiology lab	BP307P	CO1- Demonstrate the use of various equipments and their processing used in experimental microbiology alongwith sterilization technique.
			CO2- Prepare nutrient media, nutritional stabs & slants and pure culture of micro-organisms.
			CO3- Identify microorganism by different staining techniques and motility determination by hang drop method
			CO4- Measure the sterilization efficiency by performing sterility and biochemical test, microbiological assay and Bacteriological analysis.



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

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Medicinal Chemistry- II	BP501T	CO1 -Categorize drug molecule alongwith structure identification from CVS system ,antihistaminics and endocrine system
			CO2 -Compare Structural Activity Relationship and Mechanism of Action of classes from CVS system ,antihistaminics and endocrine system
			CO3 -Draw Metabolites of drug molecules from CVS system ,antihistaminics and endocrine system
			CO4 -Revise synthesis of selected drugs and development of chemical classes of drug molecules from CVS system ,antihistaminics and endocrine system
2.	Industrial Pharmacy-I	BP502T	CO1 -Classify different dosage forms along with merits and demerits
			CO2 -Conclude manufacturing techniques in pharmaceutical dosage forms
			CO3 -Relate pre-formulation parameters in the development of pharmaceutical dosage form
			CO4 -Evaluate pharmaceutical dosage forms as per the quality control parameters along with correlation of stability aspects of packaging materials.



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3.	Pharmacology II	BP503T	CO1 -Cite examples from given class of drugs acting on CVS system ,renal system, endocrine system along with autocooids and related drugs
			CO2 -Interpret Mechanism of Action of drugs and its relevance in treatment of diseases related CVS system ,renal system, endocrine system along with autocooids
			CO3 -Correlate pharmacokinetic and pharmacodynamic of drugs belonging to CVS system ,renal system, endocrine system along with autocooids
			CO4 -Revise principles and bioassay of drugs
4.	Pharmacognosy II	BP504T	CO1 -Rewrite basic metabolic pathways of secondary metabolites.
			CO2 -Illustrate pharmacognostic scheme of secondary metabolites along with isolation, identification and analysis of phytoconstituents
			CO3 -Estimate industrial production and utilization of certain phytoconstituents.
			CO4 -Select modern techniques for extraction and identification of phytochemical investigation
5.	Pharmaceutical Jurisprudence	BP505T	CO1 - Discuss objectives , legal aspects, procedures of Pharmaceutical Acts in India.
			CO2 - Generalize different schedules or section concerned with Pharmaceutical legislation and related case studies if any.
			CO3 -Summarize offences & penalties concerned with laws of drugs & pharmaceuticals.
			CO4 -Develop an Insight into DRA and Pharmaceutical legislation.
6.	Industrial Pharmacy-I Practical	BP506P	CO1 -Illustrate preformulation studies in the development of pharmaceutical dosage forms along with its utilization
			CO2 -Employ the method of preparation for the formulation of different dosage forms
			CO3 -Evaluate pharmaceutical dosage and packaging material (as per IP)
			CO4 -Estimate the results of the experiments conducted.



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7.	Pharmacology- II Practical	BP507P	CO1 -Understand minimum requirement to set up the experiments for in vitro and in vivo experiments and correlate it for therapeutic effect
			CO2 -Demonstrate isolation of different organs in animals by simulated experiments
			CO3 -Practice various actions of drugs on laboratory animals / softwares
			CO4 -Conclude the actions of receptors in isolated tissue preparation from their drug response curve.
8.	Pharmacognosy- II Practical	BP508P	CO1 -Identify morphological & microscopical characteristics of crude drugs.
			CO2 -Practice extraction and isolation of active principles from crude drug
			CO3 -Detect isolated active principles from certain crude drugs by analytical techniques
			CO4 -Evaluate unorganised crude drugs by qualitative analysis.



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

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Instrumental Methods of Analysis	BP701T	CO1- Describe the Basic concepts, principle, instrumentation, working, and applications of analytical techniques for analysis of drug molecules.
			CO2- Employ the analytical method for estimation of concentration and detection of functional group.
			CO3- Calculate analytical parameters using provided data
			CO4- Validate analytical parameters.
2.	Industrial Pharmacy-II	BP702T	CO1- Demonstrate the process of pilot plant and scale up of pharmaceutical dosage forms.
			CO2- Correlate the process of technology transfer from lab scale to commercial batch.
			CO3- Revise different Laws and Acts that regulate pharmaceutical industry.
			CO4- Organize role-play of the approval process and regulatory requirements for drug products.



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3.	Pharmacy Practice	BP703T	CO1 -Express the structure, layout, responsibilities and functions of the hospital and community pharmacy with policies if any
			CO2 -Illustrate drug distribution methods in hospital and community pharmacy with modes of operation
			CO3 -Detect role of pharmacist in pharmaceutical care services, adverse drug reaction along with interpretation of laboratory results
			CO4 -Estimate the financial aspects for drug store management and inventory control in hospital and community pharmacy.
4.	Novel Drug Delivery System	BP704T	CO1 -Report basic concept with merits and demerits of novel drug delivery system
			CO2 - Select criteria for choice of drugs and polymers in the development of Novel drug delivery systems, their formulations
			CO3 -Utilize various approaches for development of novel drug delivery systems
			CO4 -Conclude evaluation parameters for novel drug delivery system
5.	Instrumental Methods of Analysis	BP705P	CO1 -Discuss the instrumentation and working of different analytical techniques
			CO2 -Demonstrate different analytical techniques for identification and estimation of drug molecule



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			CO3 -calculate different analytical parameters as per standard method
			CO4 -Assess API with respect to qualitative and quantitative parameters

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

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Biostatistics and Research Methodology	BP701T	CO1 -calculate and report basic concept with biostatistics like central tendency, dispersion, Correlation. CO2 - Report a basic concept with probability and parametric and non parametric test. CO3 -Utilize and implement various approaches for research CO4 -Q.4. Conclude knowledge of various software's relevant to biostatistics.
2.	Social and Preventive Pharmacy	BP702T	CO1 - Recognize the concept of health along with causes, prevention, and control of disease. CO2 - Estimate the knowledge of communicable and non-communicable diseases for the prevention and control. CO3 - Correlate the National Health Programs, its objectives, functioning, and outcomes. CO4 - Appraise the value of community services in rural, urban and social health.
3	Cosmetic Science	BP809ET	CO1 - Report the definition and different types of cosmetics. CO2 -Relate the knowledge of physiology/biology of relevant skin, hair, targeted organ systems for the development of cosmetic and personal care products. CO3 - Conclude key components used in different cosmeceutical products. CO4 - Revise how to develop new product formulation approaches and evaluate them as per the regulatory norms.



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4.	Pharmaceutical Product Development	BP813ET	CO1 -Estimate regulations related to different stages of product development.
			CO2 -Generalize pharmaceutical excipients related to pharmaceutical product development?
			CO3 -Design optimization technique in pharmaceutical product development
			CO4 -Determine Selection and quality control testing of packaging materials for pharmaceutical product development