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

COURSE OUTCOMES
ACADEMIC YEAR-2024-2025

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.

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.	Communicatio n 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

			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 On the structure and organization cells.
			CO3-Identify the positions of human Bone the skeleton with their importance
			CO4-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	**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 Electro- analytical 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 - Formulate mouthwashes and gargles powders and granules
			CO4 - Understand the method of manufacturing for suppositories and semisolid dosage forms.

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

SR.NO	**COURSE**	**COURSE CODE**	**COURSE OUTCOMES**
1.	Human Anatomy and Physiology II – Theory	BP201T	**CO1.**Summarize the gross structure and functions of variuos organs in the human body
			CO2. Illustrate the different homeostatic mechanism 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
2.	Pharmaceutical Organic Chemistry I – Theory	BP202T	**CO1-**Assign IUPAC and stereochemical nomenclature of compounds containing multiple functional groups.
			CO2-Understand stability, reactions, hybridization of Alkanes, Alkenes and Conjugated dienes.
			CO3-Explain method of preparation, reactions, reactivity, structure and uses of alkyl halide and alcohol compounds.
			CO4-Interpret method of preparation, reactions, structures and uses of carbonyl compounds
3.	Biochemistry – Theory	BP203T	**CO1-**Recall Classification, structure & biological role of carbohydrates, amino acids, proteins, nucleic acid, lipids & concept of bioenergetics. .
			CO2-Explain carbohydrate metabolism, biological oxidation & hormonal regulation of blood glucose level & diabetes mellitus.
			CO3-Describe amino acid, lipid & nucleic acid metabolism & genetic information transfer.

			CO4- Discuss Classification of enzyme, enzyme inhibition, enzyme regulation, coenzymes & therapeutic applications of enzymes & isoenzymes.
4.	Pathophysiology – Theory	BP204T	**CO1-** To understand the basic principles of cell injury and adaptations.
			CO2-To learn the detailed mechanism involved in the process of inflammation and repair.
			CO3-To explain the diseases related to cardiovascular, respiratory, renal, endocrine, nervous & gastrointestinal system.
			CO4-To explain the haematological diseases, inflammatory bowel diseases, alcoholic liver diseases, diseases of bones and joints, infectious diseases & sexually transmitted diseases.
5.	Environmental sciences – Theory	BP206T	**CO1-** Summarize the multidisciplinary nature of environment..
			CO2- Relate the environmental harmony with the natural resources and its utilization by mankind.
			CO3- Identify existence and formation of different types of ecosystems & its components and functions.
			CO4- Apply the ideologies for prevention of pollution of the natural environment due to human activities..
6.	Human Anatomy and Physiology II – Practical	BP207P	**CO1-** Handle the instruments used in laboratory
			CO2.-Describes the body tissues based on the structure and organization of cells
			CO3-Identify the positions of human bones in skeleton with their importance
			CO4-Calculate erythrocytes sedimentation rate, RBC count, WBC count, hemoglobin count, bleeding and clotting time by using different methods

7.	Pharmaceutical Organic Chemistry I– Practical	BP208P	**CO1**-Explain the structure, name and the type of isomerism of the organic compound.
			CO2- Understand the reaction, name the reaction and orientation of reactions
			CO3-Account for reactivity/stability of compounds.
			CO4-Identify &confirm the identification of organic compound.
8.	Biochemistry – Practical	BP209P	**CO1**-Perform identification test for proteins, carbohydrates and reducing sugars **CO2**-Determine the unknown samples for the presence of blood creatinine, blood sugar,serum total cholesterol **CO3-S**tudy the effect of temperature and effect of receptors on salivary amylase activity and determine its activity **CO4**-Perform qualitative analysis on urine for its abnormal constituents, proteins and reducing sugars

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.
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 steriliztion efficeincy by performing sterility and biochemical test, microbiological assay and Bacteriological analysis.

YEAR- SECOND YEAR B. PHARMACY
(TERM-II) SEMESTER-IV
PCI SYLLABUS

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Pharmaceutical Organic Chemistry III– Theory	BP401T	**CO1-**Understand the methods of preparation and properties of organic compounds.
			CO2-Explain the stereo chemical aspects of organic compounds and stereo chemical reactions.
			CO3-Know the medicinal uses and other applications of organic compounds.
2.	Medicinal Chemistry I – Theory	BP402T	**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 (SAR) of different class of drugs. **CO4-** Write the chemical synthesis of some drug.
3.	Physical Pharmaceutics II – Theory	BP403T	**CO1-** Understand types & properties of colloidal dispersion.
			CO2- Illustrate Flow properties of liquids with respect to newton's law.

			CO3- Summarize principle behind preparation of stable coarse dispersion with respect to Emulsion & Suspension.
			CO4- Discuss Micromeritics concept with respect to fundamental & derived properties of powders.
4.	Pharmacology I – Theory	BP404T	**CO1-** Understand drug, pharmacology, pharmacokinetics, pharmacokinetics and routes of drug administration.
			CO2- Explain Pharmacodynamics- Principles and mechanisms of drug action through G- protein couples, ion channel, enzyme linked, JAK STAT and nuclear receptors.
			CO3- Illustrate classification, pharmacology & therapeutic uses of Pharmacology of drugs acting on peripheral nervous system e.g. Sympathomimetics, Para sympathomimetics, Sympatholytic, Para-sympatholytic, Neuromuscular blocking agents and skeletal muscle relaxants (peripheral), local anaesthetics.
			CO4-Extend pharmacology of drugs acting on central nervous system & their uses in CNS disorders e.g., general anaesthetics, sedative hypnotics, antiepileptic, Alcohol etc.
5	Pharmacognosy and Phytochemistry I– Theory	BP405T	**CO1-**Give an insight to the introduction to pharmacognosy and classification of crude drugs.
			CO2-Evaluate the quality control parameters of drugs obtained from natural origin.
			CO3-Explain the aspects of cultivation and factors affecting cultivation of medical plants.
			CO4-Illustrate the methods and applications of Plant Tissue Culture
6	Medicinal Chemistry Lab-I	BP406P	**CO1-S**ynthesize drugs
			CO2-Carry out assay of drugs
			CO3-Determine partition coefficient of drug
7	Physical Pharmaceutics Lab-II	BP407P	CO1- Estimate particle size, Particle size distribution & Flow rate of powder by using micromeritics principles.
			CO2– Analyse flow properties of liquid by rheological measurements.
			CO3–Evaluate properties of coarse dispersion using various parameters.

			CO4– Analyse the drug stability by applying principles of chemical kinetics.

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.

3.	Pharmacology II	BP503T	**CO1**-Cite examples from given class of drugs acting on CVS system ,renal system, endocrine system along with autocoids 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 autocoids
			CO3-Correlate pharmacokinetic and pharmacodynamic of drugs belonging to CVS system ,renal system, endocrine system along with autocoids
			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.
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 prrinciples from certain crude drugs by analytical technics
			CO4-Evaluate unorganised crude drugs by qualitative analysis.

YEAR- THIRD YEAR B. PHARMACY
(TERM-II) SEMESTER-VI
PCI SYLLABUS

SR.NO	COURSE	COURSE CODE	COURSE OUTCOMES
1.	Medicinal Chemistry III – Theory	BP601T	**CO1**-Categorise the chemical class and uses of Anti-microbials, anti-viral and anti-parasitic agents including nomenclature and stereo chemical aspects prescribed in the syllabus
			CO2-Revise the MOA and SAR of Anti-microbials, anti-viral and anti-parasites agents included in the syllabus
			CO3-Illustrate the synthesis of selective agents and various metabolites from the class Anti-microbials, anti-viral and anti-parasites agents included in the syllabus
			CO4-Generallize the drug design including prodrug concept, QSAR study with physio-chemical parameters and combinatorial chemistry.
2.	Pharmacology III – Theory	BP602T	**CO1**-To understand the principles, antibacterial spectrum, mechanism of action and adverse effects of different chemotherapeutic drugs used in treatment of various infectious diseases.
			CO2-To comprehend the principles, types and treatment of various poisonings
			CO3-To interpret mechanism of action of drugs and its relevance in treatment of diseases related to respiratory and gastrointestinal system

			CO4-To remember the examples of various class of drugs acting on immune system
3.	Herbal Drug Technology – Theory	BP603T	**CO1-**Understand raw material as source of herbal drugs from cultivation to processing of product in herbal drug**.**
			CO2-Defend herbal drugs in Ayurvedic formulations, nutraceuticals and its interactions with food and drugs.
			CO3-Relate the herbal industry considerations of excipients, formulations, cosmetics and NDDS.
			CO4-Outline the WHO & ICH guidelines for evaluation of herbal drugs and formulations, process of patenting & regulatory requirements of natural products and GMP considerations of ISM with herbal drug industry.
4.	Biopharmaceutics and Pharmacokinetics – Theory	BP604T	**CO1-**Understand basic concepts used in biopharmaceutics, pharmacokinetics and drug transport mechanism and factors affecting absorption, metabolism, distribution and excretion.
			CO2-Illustrate Biopharmaceutical Classification System, theories of dissolution, methods of dissolution testing and concept of bioavailability and bioequivalence.
			CO3-Review the concept of pharmacokinetic models and significance of pharmacokinetic parameters and practice problems based on principles of pharmacokinetics
			CO4-Apply the knowledge of plasma drug concentration time data to describe and calculate pharmacokinetic parameters
5.	Pharmaceutical Biotechnology – Theory	BP605T	**CO1-** Explain the concepts of Enzyme Biotechnology, Biosensors, Protein engineering, Genetic engineering, Fermentation technology and basics of immunology.
			CO2- Employ the applications of Recombinant DNA technology in production of different products.
			CO3-Compare genetic organization of Eukaryotes and Prokaryotes, types of Mutants, hypersensitivity & techniques of molecular biotechnology.
			CO4-Appraise the knowledge of fermentation technology and concepts of immunology in production of safer vaccines, antibiotics and

			monoclonal antibodies for treating the human disease BP605T.4 - Appraise the knowledge of fermentation technology and concepts of immunology in production of safer vaccines, antibiotics and monoclonal antibodies for treating the human disease
6.	Quality Assurance – Theory	BP606P	**CO1-**Understand the concepts of QA,TQM,ICH guidelines, QbD, ISO 9000 & ISO 14000 & NABL accreditation
			CO2-Discuss different aspects related to organization & personnel, premises & equipments & raw materials
			CO3-Explain the different aspects related to quality control & good laboratory practices
			CO4-Understand the complaints related factors and document maintenance in pharmaceutical industry. and Generalize the concept of calibration & warehousing
7.	Medicinal chemistry III – Practical	BP607P	**CO1-**Synthesize the drug & drug intermediate given in syllabus.
			CO2-Evaluate the drug /API in pharmaceutical dosage form
			CO3- Prepare the medicinal important compound or intermediate by Microwave irradiation technique
			CO4-Determination of physicochemical using drug design software Drug likeliness screening
8.	Pharmacology III – Practical	BP608P	**CO1**-To understand basic practical knowledge of pharmacology, toxicology and biostatistics useful in pharmacological experiments.
			CO2-To remember various formulas and calculations of drugs used in pharmacological experiments with its therapeutic correlations
			CO3-To demonstrate different actions of drugs in animals by simulated experiments
			CO4-To analyse mechanism of action and toxic effects of drugs with its relevance in treatment of inflammation, allergy and hypoglycaemia

9.	Herbal Drug Technology – Practical	BP609P	**CO1:** Carry out phytochemical evaluation of crude drugs used as raw material for herbs.
			CO2-Practice the monograph procedures for evaluation of herbal drug and excipients.
			CO3-Formulate herbal drug & cosmetic preparations using standardized extracts.
			CO4-Demonstrate the quantitative methods of evaluation applicable in herbal drug industry

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 technics for analysis of drug molecules.
			CO2-Employ the analytical method for estimation of concentration and detection of functional group.
			CO3- Understand the chromatographic and electrophoresis separation and analysis of drugs.
			CO4-Analyze chromatographic 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.

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 methos in hospital and community pharmacy with modes of operandi

			CO3-Detect role of pharmacist in pharmaceutical care services , adverse drug reaction alongwith 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 merit 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 deliv ery 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
			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-II) 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.

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