

Course Objective Of B.Pharm EVEN Semesters (Prepared by faculty members and approved by IQAC)

Semester 2nd

S.No.	Course Name	Course code	Course Objective
1	Human Anatomy & Physiology-II	BP201T	CO1- Explain the gross morphology, structure and functions of various organs of the human body.
			CO2- Describe the various homeostatic mechanisms and their imbalances.
			CO3- Identify the various tissues and organs of different systems of human body.
			CO4- Perform the hematological tests like blood cell counts, haemoglobin estimation, bleeding/clotting time etc and also record blood pressure, heart rate, pulse and respiratory volume.
			CO5- Appreciate coordinated working pattern of different organs of each system
2	PHARMACEUTICAL ORGANIC CHEMISTRY –I	BP202T	CO1- Remember the structure, name and the type of isomerism of the organic compound.
			CO2- Understand the reaction, name the reaction and orientation of reactions.
			CO3- Apply the account for reactivity/stability of compounds.
			CO4- Analyze the identify/confirm the identification of organic compound.
			CO5- To elaborate the concepts of hybridization, the applications of pharmaceutical organic compounds..
3	BIOCHEMISTRY	BP203T	CO1- Discuss biomolecules and bioenergetics with their biological role and concept of free energy
			CO2- Discuss carbohydrate metabolism with respect to different pathways, structure of intermediates, enzymes and cofactors involved and energy requirements. ETC,
			CO3- Explain amino acid and lipid metabolism with respect to different pathways, structure of intermediates, enzymes and cofactors involved and energy requirements
			CO4- Discuss genetic information transfer and nucleic acid metabolism with respect to different pathways, structure of intermediates, enzymes and cofactors involved and energy requirements.
			CO5- Understand the catalytic role of enzymes and coenzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes
4	PATHOPHYSIOLOGY	BP204T	CO1- Describe the etiology and pathogenesis of the selected disease states.
			CO2- Know the Name the signs and symptoms of the diseases.
			CO3- Mention the complications of the diseases.
			CO4- To know about etiology, pathogenesis of inflammatory diseases of bowel and joints and their treatment.
			CO5- To understand principles of cancer, infectious diseases, STDs and their etiology and treatment.
5	Computer Applications in Pharmacy	BP205T	CO1- know the various types of application of computers in pharmacy
			CO2- know the various types of databases
			CO3- know the various applications of databases in pharmacy
			CO4- Know integrate and apply efficiently the contemporary IT tools to all Pharmaceutical related activities in practical
			CO5- Know to solve and work with a professional context pertaining to ethics, social, cultural and regulations with regard to Pharmacy from practical.
6	ENVIRONMENTAL SCIENCES	BP206T	CO1-Create the awareness about environmental problems
			CO2- Impart basic knowledge about the environment and its
			CO3- Develop an attitude of concern for the environment.
			CO4- Motivate learner to participate in environment
			CO5- Acquire skills to help the concerned individuals in
SEMESTER 4th			

1	Pharmaceutical organic chemistry III	BP401T	CO1- To understand the knowledge on stereochemical aspects of optical isomerism.
			CO2- To understand the knowledge on stereochemical aspects of geometrical isomerism.
			CO3- To develop sufficient knowledge in synthesis and chemistry of important heterocyclic compounds.
			CO4- To understand the medicinal uses and other applications of organic compounds.
			CO5- To emphasize and learn the important named reactions along with mechanism.
2	Medicinal Chemistry - I	BP402T	CO1- Understand the importance of drug design and different techniques of drug design.
			CO2- Understand the chemistry of drugs with respect to their biological activity.
			CO3- Know the metabolism, adverse effects and therapeutic value of drugs.
			CO4- Know the importance of SAR of drugs.
			CO5- To understand the classification of drugs.
3	Physical Pharmaceutics-II	BP 403 T	CO1- State the physicochemical properties of drug molecules pH, and Solubility.
			CO2- Explain the role of surfactant interfacial phenomenon and thermodynamics.
			CO3- Describe the flow behavior of fluids and concept of complexation.
			CO4- Analyze the chemical stability tests of various drug products.
			CO5- Understand the physical properties of solution, buffer isotonicity, disperse system and rheology.
4	Pharmacology-I	BP 404 T	CO1- Understand the pharmacological actions of different categories of drugs
			CO2- Explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.
			CO3- Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
			CO4- Observe the effect of drugs on animals by simulated experiments
			CO5- Appreciate correlation of pharmacology with other bio medical sciences
5	PHARMACOGNOS Y-I	BP405T	CO1- To know the techniques in the cultivation and production of crude drugs.
			CO2- To know the crude drugs, their uses and chemical nature.
			CO3- Know the evaluation technique for the herbal drugs.
			CO4- To carry out the microscopic and morphological evaluation of crude drugs.
			CO5- To know the study of biological source, chemical nature of drug.
SEMESTER 6th			
1	MEDICINAL CHEMISTRY -III	BP601T	CO1- Understand the importance of drug design and different techniques of drug design.
			CO2- Understand the chemistry of drugs with respect to their biological activity.
			CO3- Know the metabolism, adverse effects and therapeutic value of drugs.
			CO4- Know the importance of SAR of drugs.
			CO5- To understand the importance of drug design and different techniques of drug design.

2	Pharmacology-III	BP602 T	CO1- Understand about various respiratory tract diseases and GI tract diseases and pharmacological drugs used to treat them.
			CO2- Understand the basics and principles of chemotherapy and the pharmacology of antibiotics such as beta-lactams, macrolides, quinolones, aminoglycosides, etc.
			CO3 Understand the chemotherapy of tuberculosis, leprosy, fungal, viral, amoebic infections and malaria, etc.
			CO4- Understand the chemotherapy of UTI and STD, Malignancy and basics of drugs acting in immune system such as Immunostimulants and Immunosuppressants.
			CO5- Understand the basic principle of toxicology, poisoning treatment (symptoms and management) and biological clock, its significance and rhythms and cycles.
3	HERBAL DRUG TECHNOLOGY	BP603.T	CO1- Understand raw material as source of herbal drugs from cultivation to herbal drug product.
			CO2- Know the WHO and ICH guidelines for evaluation of herbal drugs.
			CO3- Know the herbal cosmetics, natural sweeteners, and nutraceuticals
			CO4- Appreciate patenting of herbal drugs, GMP.
			CO5- know about General Introduction to Herbal Industry
4	Biopharmaceutics and Pharmacokinetics	BP604 T	CO1- Understand the basic concepts in Biopharmaceutics and pharmacokinetics and their significance.
			CO2- Use of plasma drug concentration-time data to calculate the pharmacokinetic parameters to describe the kinetics of drug absorption, distribution, metabolism, excretion, elimination.
			CO3- To understand the concepts of bioavailability and bioequivalence of drug products and their significance.
			CO4- Understand various pharmacokinetic parameters, their significance & applications.
			CO5- Estimate pharmacokinetic Parameters for drug that undergo non-linear pharmacokinetics.
5	Pharmaceutical Biotechnology	BP 605 T	CO1- To discuss about the basic principle of genetics engineering and importance of immobilized enzyme in pharmaceutical industries
			CO2- To Explain the Genetics engineering applications in relation to production of pharmaceuticals
			CO3- Describe the concept of immunity and production of vaccine ,hybridoma technology and Importance of monoclonal antibodies in industries
			CO4- To Discuss about immuno- blotting technique and Microbial bio-transformation to prepare vaccine, diagnosis agent, Enzymes
			CO5- To Discuss the principles of fermentation , design and production of pharmaceutical products by fermentation technology
6	Quality Assurance	BP 606 T	CO1- Understand the cGMP aspects in a pharmaceutical industry
			CO2- Appreciate the importance of documentation
			CO3- Understand the scope of quality certifications applicable to pharmaceutical industries
			CO4- Understand the responsibilities of QA & QC departments
			CO5- Understand the importance of calibration and validation
SEMESTER 8th			
			CO1- To memorise the basics about statistics & biostatistics with measure of central tendency and correlation.
			CO2- To understand the concepts of regression, probability with various type of parametric test.

1	Biostatistics & Research Methodology	BP801T.	<p>CO3- To study about the concepts of non-parametric test with its types and introduction to research.</p> <p>CO4- To memorise the basic concept to practical component of industrial & clinical trial problems.</p> <p>CO5- To study about the different types of designs & analysis of experiments.</p>
2	SOCIAL AND PREVENTIVE PHARMACY	BP 802T	<p>CO1- To understand the concepts and evaluation of public health and methods control of disease, sociocultural factors related to health and diseases and also known about poverty and impact of urbanization on health and disease.</p> <p>CO2- To understand the importance of food in related to nutrition health, balanced diet, vitamins deficiencies, its prevention and their related diseases. To know about personal hygiene and avoidable habits.</p> <p>CO3- To understand the principles on the prevention and control of communicable and non-communicable diseases.</p> <p>CO4- To understand the National health programs its objectives functioning and outcomes</p> <p>CO5- To understand the community services in rural, urban and school health and also know about function of PHC, strategies to be followed in Health Promotion and education in school</p>
3	Pharma Marketing Management	BP 803ET	<p>CO1- Acquired basic knowledge on Definition, general concepts, and scope of marketing.</p> <p>CO2- Appreciate the role of product life cycle, product portfolio analysis, product positioning, Product branding, packaging and labeling decisions.</p> <p>CO3- Acquired theoretical knowledge on strategies in sales promotion.</p> <p>CO4- Possess knowledge on pharmaceutical marketing channels and role of Medical Representatives .</p> <p>CO5- To understand drug pricing policies in India.</p>
4	Cosmetic Science	BP 809ET	<p>CO1- Classify and define cosmetics and cosmaceutical as per Indian and EU regulation</p> <p>CO2- Describe the role of cosmetic excipients and building block in the formulation of cosmetics</p> <p>CO3- Explain the structure and function of the skin hair, teeth, gums</p> <p>CO4- Describe the fundamental of sun protection and the formulation of sunscreen antiperspirants and deodorants</p> <p>CO5- Formulate cosmetic for skin care and hair care as well as dental and oral care</p>