BHARATI VIDYAPEETH (DEEMED TO BE UNIVERSITY)

POONA COLLEGE OF PHARMACY, PUNE

Course Outcomes for B. Pharm. (CBCS-2015 Course PCI) (Program Code: 919)

Year Semester: First Year B. Pharm. Semester I
Subject Name: Pharmaceutical Chemistry I (Inorganic) (Theory)
Course: 2015 syllabus
Course Code: 13683
Course Outcomes:
CO1: Describe the relevance and significance of inorganic chemistry with reference to pharmaceutical sciences.
CO2: Understand monographs of inorganic pharmaceuticals.
CO3: Refer official Pharmacopoeias to detect impurities.
CO4: Review the official electrolytes intended for replacement therapy and maintaining acid-base balance.
CO5: Discuss and apply the physicochemical properties, assay, and uses of inorganic gastrointestinal agents.
CO6: Explain physiological role of essential and trace elements along with deficiency symptoms associated with them.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Pharmaceutical Chemistry I (Inorganic) (Practical)
Course: 2015 syllabus
Course Code: 13683
Course Outcomes:
CO1: Comprehend basic practical terms and concepts used inorganic chemistry.
CO2: Apply the monograph of pharmaceuticals from official compendia.
CO3: Analyze qualitatively samples in a binary mixture.
CO4: Prepare and determine purities of inorganic compounds.
CO5: Identify impurities in pharmaceutical compounds as per Indian pharmacopoeia
CO6: Compute, analyze and record data.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Pharmaceutical Chemistry II (Organic) (Theory)
Course: 2015 syllabus

Course Code: 13684
Course Outcomes:
CO1: Understand fundamental concepts of organic chemistry.
CO2: Apply IUPAC nomenclature in naming organic compounds.
CO3: Elucidate nucleophilic and electrophilic reaction mechanisms.
CO4: Conceptualize the basics of stereochemistry.
CO5: Predict the effect of substituted aromatic ring towards different chemical reactions.
CO6: Describe types of reagents, intermediates, types of mechanisms and theories related to reaction mechanism.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Pharmaceutical Chemistry II (Organic) (Practical)
Course: 2015 syllabus
Course Code: 13684
Course Outcomes:
CO1: Practice safety measures and inculcate Good Laboratory Practices.
CO2: Identify organic compounds qualitatively.
CO3: Synthesize suitable derivatives of organic compounds.
CO4: Prepare recrystallized derivatives to purify organic compounds.
CO5: Determine melting and boiling points of organic compound and their derivatives.
CO6: Record, compute and analyse the data.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Modern Dispensing Pharmacy (Theory)
Course: 2015 syllabus
Course Code: 13685
Course Outcomes:
CO1: Evaluate the prescription for rational drug therapy
CO2: Explain principles of modern dispensing practices
CO3: Recommend patients about pharmaceutical dosage forms
CO4: Compound and dispense dosage forms
CO5: Practice ethics in community pharmacy
CO6: Apply basic principles and calculations in formulation development

Year Semester: First Year B. Pharm. Semester I
Subject Name: Modern Dispensing Pharmacy (Practical)
Course: 2015 syllabus
Course Code: 13685
Course Outcomes:
CO1: Interpret prescription
CO2: Apply skills in compounding and dispensing of pharmaceutical dosage forms
CO3: Counsel the patients for appropriate use of medicines
CO4: Understand the fundamentals of dosage forms
CO5: Maintain patient medication records
CO6: Create patient counselling aids
Year Semester: First Year B. Pharm. Semester I
Subject Name: Human Anatomy and Physiology-I (Theory)
Course: 2015 syllabus
Course Code: 13686
Course Outcomes:
CO1: Understand the terminologies related to human anatomy and physiology.
CO2: Describe the structure and functions of various systems of the human body.
CO3: Illustrate the synchronous working of various organs and assess imbalance of homeostasis in diseases.
CO4: Justify modern technologies for evaluating physiological functions.
CO5: Comprehend the common disorders prevalent in the society.
CO6: Correlate environmental conditions with induction of lifestyle disorders.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Human Anatomy and Physiology-I (Practical)
Course: 2015 syllabus
Course Code: 13686
Course Outcomes:
CO1: Examine blood samples for hematological parameters and correlate with clinical conditions
CO2: Measure and interpret the blood pressure and heart rate by different techniques.

CO3: Identify bones and explain their anatomy and physiology.
CO4: Describe the histology of various tissues.
CO5: Determine blood group and explain its significance.
CO6: Communicate effectively the importance of hematological parameters and healthcare to the society.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Pharmaceutical Engineering-I (Theory)
Course: 2015 syllabus
Course Code: 13687
Course Outcomes:
CO1: Explain the pharmaceutical unit operations.
CO2: Select the appropriate process and equipment for pharmaceutical manufacturing.
CO3: Apply engineering technologies in the pharmaceutical manufacturing.
CO4: Understand the importance of industrial hazards.
CO5: Recommend cost effective and eco-friendly methods as per the product requirements.
CO6: Implement various safety precautions in pharmaceutical industries.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Pharmaceutical Statistics (Theory)
Course: 2015 syllabus
Course Code: 13688
Course Outcomes:
CO1: Apply appropriate study design for given data
CO2: Plot graphs of given data and interpret the results.
CO3: Develop problem solving approach by applying probability and bi-variate data analysis
CO4: Examine, organize, and analyse pharmaceutical data using different statistical software.
CO5: To apply sampling theory to experimental data
CO6: To determine level of significance in data by applying statistical test.
Year Semester: First Year B. Pharm. Semester I
Subject Name: Computer Applications in Pharmacy (Practical)
Course: 2015 syllabus

Course Code: 13689
Course Outcomes:
CO1: Understand the basic components of computer
CO2: Explain the function and fundamental operating systems of computer.
CO3: Apply appropriate software for data processing
CO4: Evaluate the available data in graphical or pictorial manner.
CO5: Design effective presentations using software
CO6: Practice ethical use of internet and electronic communication system
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Chemistry III (Inorganic) (Theory)
Course: 2015 syllabus
Course Code: 13690
Course Outcomes:
CO1: Classify topical agents and describe their mechanism of action along with monographs of official compounds.
CO2: Explain theoretical aspects and applications of pharmaceutical aids.
CO3: Discuss the physicochemical properties, assay, and uses of dental products.
CO4: Understand physiological role of expectorant, emetics, and antidotes.
CO5: Describe properties, handling, and uses of inhalants and respiratory stimulants.
CO6: Outline principle, dosimetry, and applications of radiopharmaceuticals.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Chemistry III (Inorganic) (Practical)
Course: 2015 syllabus
Course Code: 13690
Course Outcomes:
CO1: Paraphrase with basic terms and concepts used inorganic chemistry
CO2: Understand the significance of official standards for drug substance and pharmaceutical aids.
CO3: Analyse qualitatively inorganic samples in a binary mixture.
CO4: Prepare official inorganic compounds.
CO5: Determine purity of inorganic pharmaceuticals.
CO6: Analyse, record, and compile data.

Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Chemistry IV (Organic) (Theory)
Course: 2015 syllabus
Course Code: 13691
Course Outcomes:
CO1: Sketch mechanism of alkene addition reactions.
CO2: Apply Markovnikov's rule to predict the regiospecificity of alkene addition reactions.
CO3: Illustrate methodologies for the preparations of aldehydes and ketones.
CO4: Identify aldehydes and ketone sand illustrate their reactions.
CO5: Understand the classification, mechanism, and orientation rules of elimination reactions.
CO6: Describe the chemistry of amines, phenols, and carboxylic acids.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Chemistry IV (Organic) (Practical)
Course: 2015 syllabus
Course Code: 13691
Course Outcomes:
CO1: Practice the safety measures and inculcate Good Laboratory Practices.
CO2: Demonstrate important laboratory techniques.
CO3: Apply suitable techniques to separate organic binary mixture.
CO4: Prepare recrystallized derivatives to purify organic compounds.
CO5: Apply qualitative tests for identification of organic compounds.
CO6: Record, compute and analyse the data.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Biochemistry I (Theory)
Course: 2015 syllabus
Course Code: 13692
Course Outcomes:
CO1: Describe Biochemical Composition of Cell and Structure description of Macro –bio-molecules.
CO2: Understand Structure function relationship of bio-molecules

CO3: Illustrate protein structure and demonstrate the application of Protein Data Bank in Pharmacy.
CO4: Recognize the importance of carbohydrate and Lipid in biological systems.
CO5: Review biophysical properties and functions of bio-membrane.
CO6: Summarize enzymes as biocatalyst.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Biochemistry I (Practical)
Course: 2015 syllabus
Course Code: 13692
Course Outcomes:
CO1: Develop skills for handling laboratory instruments and biological samples.
CO2: Estimate proteins, sugars, and Vitamins.
CO3: Isolate and characterize proteins.
CO4: Describe and evaluate of kinetic parameters and factors affecting enzymatic reaction.
CO5: Describe role of PDB in Pharmacy.
CO6: Compute, analyse and record biochemical data.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Engineering-II (Theory)
Course: 2015 syllabus
Course Code: 13693
Course Outcomes:
CO1: Understand the pharmaceutical unit operations.
CO2: Analyse the selection process and functioning of different equipment.
CO3: Create the manufacturing knowledge of engineering technology involved in pharmaceuticals.
CO4: Get acquainted with concept and importance of industrial safety.
CO5: Recommend cost effective and eco-friendly methods as per the product requirements.
CO6: Implement various safety precautions in pharmaceutical industries.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Pharmaceutical Engineering-II (Practical)
Course: 2015 syllabus

Course Code: 13693
Course Outcomes:
CO1: Demonstrate pharmaceutical unit operations
CO2: Explain the functioning of pharmaceutical equipment.
CO3: Select and recommend appropriate pharmaceutical packaging materials.
CO4: Apply the concept of industrial safety.
CO5: Select cost effective process to quality products.
CO6: Comprehend the various safety precautions in pharmaceutical industries.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Community Pharmacy & Hospital Pharmacy (Theory)
Course: 2015 syllabus
Course Code: 13694
Course Outcomes:
CO1: Establish community pharmacy and hospital pharmacy
CO2: Handle and interpret prescriptions
CO3: Implement inventory control and drug distribution system in hospital
CO4: Apply ethical practices for rational drug therapy
CO5: Counsel the patients and provide health screening services
CO6: Promote the role of community pharmacist in the society
Year Semester: First Year B. Pharm. Semester II
Subject Name: Community Pharmacy & Hospital Pharmacy (Practical)
Course: 2015 syllabus
Course Code: 13694
Course Outcomes:
CO1: Establish community pharmacy and hospital pharmacy
CO2: Analyse prescription errors and counsel the patients
CO3: Design pharmaceutical counselling aids
CO4: Practice health screening services
CO5: Apply ethical pharmacy practices
CO6: Implement inventory control and drug distribution system in hospital

Year Semester: First Year B. Pharm. Semester II
Subject Name: Human Anatomy and Physiology-II (Theory)
Course: 2015 syllabus
Course Code: 13695
Course Outcomes:
CO1: Describe the structure and functions of various systems of the human body.
CO2: Explain the synchronous working of various organs and assess imbalance of homeostasis in diseases.
CO3: Justify modern technologies for evaluating physiological functions.
CO4: Appreciate the impact of social and environmental factors on body systems.
CO5: Understand the role of various body systems in sports and exercise.
CO6: Communicate effectively to society the importance of exercise in maintaining disease free lifestyle.
Year Semester: First Year B. Pharm. Semester II
Subject Name: Human Anatomy and Physiology-II (Practical)
Course: 2015 syllabus
Course Code: 13695
Course Outcomes:
CO1: Examine blood samples for hematological parameters and correlate with clinical conditions.
CO2: Describe the histology of various organs and tissues.
CO3: Determine the respiratory volumes and interpret its significance.
CO4: Understand the use and mechanisms of various family planning devices.
CO5: Explain the anatomy and physiology of various human systems with simulated models.
CO6: Communicate effectively the importance of different family planning devices to the society.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Chemistry V (Organic) (Theory)
Course: 2015 syllabus
Course Code: 13696
Course Outcomes:
CO1: Understand the `fundamentals of various organic reactions.
CO2: Explain the significance of stereochemistry in biological action of drugs

CO3: Describe reactions mediated by free radicals
CO4: Discuss mechanism and stereochemistry involved in certain reactions
CO5: Sketch molecular rearrangements in electron deficient reaction system
CO6: Recognize migration mechanism of rearrangement reactions in electron rich systems
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Chemistry V (Organic) (Practical)
Course: 2015 syllabus
Course Code: 13696
Course Outcomes:
CO1: Utilize chemical properties of organic compounds for synthesis.
CO2: Practice safety measures in handling of chemicals.
CO3: Use analytical tools to detect purity of organic compounds
CO4: Plan synthesis of organic compounds
CO5: Describe the importance of various analytical parameters of oils and fats
CO6: Record, compute and analyse the data.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Biochemistry II (Theory)
Course: 2015 syllabus
Course Code: 13697
Course Outcomes:
CO1: Understand the basic concepts of quantitative and qualitative analysis.
CO2: Describe theory and applications of aqueous and non-aqueous titrimetric methods to evaluate purity of drugs.
CO3: Explain theoretical aspects of redox titrations and apply the concepts to analyse different drugs quantitatively.
CO4: Understand and apply the principle involved in complexometric titrations for the assay of pharmaceutical inorganic compounds.
CO5: Analyze various compounds based on the precipitation titration
CO6: Compare and compute data using various mathematical tools for quantitative analysis and strategies for minimization of errors.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Biochemistry II (Practical)
Course: 2015 syllabus

Course Code: 13697
Course Outcomes:
CO1: Understand significance of calibration in analytical chemistry and safety measures for handling reagents.
CO2: Observe, record, and analyse the practical aspects of each experiment with developing hands-on expertise in titrimetric analysis
CO3: Apply the fundamental principles underlying different titrations for determination of purity of reagents/drugs.
CO4: Describe procedures for preparation and standardization of reagents and analysis of drugs as per Indian Pharmacopoeia
CO5: Correlate physicochemical properties with analytical methods for evaluation of various compounds
CO6: Analyse, record and effectively communicate the experimental data.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Analysis I (Theory)
Course: 2015 syllabus
Course Code: 13698
Course Outcomes:
CO1: Understand the basic concepts of quantitative and qualitative analysis.
CO2: Describe theory and applications of aqueous and non-aqueous titrimetric methods to evaluate purity of drugs.
CO3: Explain theoretical aspects of redox titrations and apply the concepts to analyse different drugs quantitatively.
CO4: Understand and apply the principle involved in complexometric titrations for the assay of pharmaceutical inorganic compounds.
CO5: Analyse various compounds based on the precipitation titration
CO6: Compare and compute data using various mathematical tools for quantitative analysis and strategies for minimization of errors.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Analysis I (Practical)
Course: 2015 syllabus
Course Code: 13698
Course Outcomes:
CO1: Understand significance of calibration in analytical chemistry and safety measures for handling reagents.
CO2: Observe, record, and analyse the practical aspects of each experiment with developing hands-on expertise in titrimetric analysis
CO3: Apply the fundamental principles underlying different titrations for determination of purity of reagents/drugs.
CO4: Describe procedures for preparation and standardization of reagents and analysis of drugs as per Indian Pharmacopoeia
CO5: Correlate physicochemical properties with analytical methods for evaluation of various compounds
CO6: Analyse, record and effectively communicate the experimental data.

Year Semester: Second Year B. Pharm. Semester III
Subject Name: Physical Pharmacy I (Theory)
Course: 2015 syllabus
Course Code: 13699
Course Outcomes:
CO1: Understand physicochemical properties of drugs and excipients.
CO2: Use modern analytical tools to assess physicochemical properties of drugs
CO3: Relate physicochemical properties of pharmaceuticals for formulation design.
CO4: Apply principles of chemical kinetics in stability testing and estimation of shelf life of formulations.
CO5: Justify the role of stable formulations for effective therapeutic outcome.
CO6: Analyse and tackle problems encountered in formulation development.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Physical Pharmacy I (Practical)
Course: 2015 syllabus
Course Code: 13699
Course Outcomes:
CO1: Evaluate physicochemical properties of drug molecules using modern analytical tools.
CO2: Understand significance of physicochemical properties of pharmaceuticals in formulation development.
CO3: Estimate chemical kinetic parameters.
CO4: Calculate shelf life of pharmaceuticals.
CO5: Compute, analyse and record data.
CO6: Identify and tackle problems encountered in formulation development by working in a team.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Microbiology I (Theory)
Course: 2015 syllabus
Course Code: 13700
Course Outcomes:
CO1: Integrate the basic knowledge of microbiology with pharmaceutical sciences.
CO2: Apply techniques for identification of microorganisms.

CO3: Understand process of sterilization and disinfection
CO4: Implement good laboratory practices in pharmaceutical microbiology.
CO5: Explain the microbial cultivation and isolation techniques.
CO6: Justify the use of microorganisms considering the ecological and ethical issues.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pharmaceutical Microbiology I (Practical)
Course: 2015 syllabus
Course Code: 13700
Course Outcomes:
CO1: Apply sterilization and disinfection techniques in pharmacy.
CO2: Prepare culture media for various microorganisms.
CO3: Isolate and identify microorganisms.
CO4: Assess aseptic conditions in pharmaceutical laboratories as per GLP
CO5: Determine the microbial count using modern analytical tools.
CO6: Compute, analyse and record data.
Year Semester: Second Year B. Pharm. Semester III
Subject Name: Pathophysiology (Theory)
Course: 2015 syllabus
Course Code: 13701
Course Outcomes:
CO1: Describe the etiopathogenesis of diseases.
CO2: Elucidate the pathological changes, correlate with the clinical course, and identify therapeutic targets.
CO3: Summarize the signs and symptoms of diseases.
CO4: Understand the conventional and modern techniques for diagnosis of diseases.
CO5: Interpret the complications of diseases and their implications in society.
CO6: Communicate effectively the measures for prevention of diseases to the society.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmaceutical Chemistry VI (Organic) (Theory)
Course: 2015 syllabus

Course Code: 13702
Course Outcomes:
CO1: Understand the fundamentals of various organic reactions.
CO2: Discuss the reaction mechanisms
CO3: Describe the chemistry of carbohydrates.
CO4: Review the chemistry of heterocyclic compounds
CO5: Apply rules of disconnection approach for designing the synthesis of organic compounds
CO6: Summarize the chemistry of amino acids and lipids
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmaceutical Chemistry VI (Organic) (Practical)
Course: 2015 syllabus
Course Code: 13702
Course Outcomes:
CO1: Relate chemical properties with synthetic tools for synthesis of organic compounds
CO2: Practice safety measures in handling of chemicals.
CO3: Plan synthesis of organic compounds
CO4: Determine reactive groups quantitatively
CO5: Use analytical tools to detect purity of organic compounds
CO6: Record, analyse and document the results
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmaceutical Microbiology II (Theory)
Course: 2015 syllabus
Course Code: 13703
Course Outcomes:
CO1: Understand microbial spoilage in pharmaceutical products.
CO2: Explain the principles of industrial microbiology and fermentation technology.
CO3: Assess pharmaceutical products, antimicrobials and disinfectants using modern analytical tools.
CO4: Review various aspects of immunology and their applications in pharmaceutical sciences.
CO5: Describe the significance of probiotics in pharmacy
CO6: Create social awareness regarding biohazards.

Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmaceutical Microbiology II (Practical)
Course: 2015 syllabus
Course Code: 13703
Course Outcomes:
CO1: Determine efficacy of disinfectants using official tests.
CO2: Investigate efficacy of antibiotics using microbial assays.
CO3: Design microbial evaluation protocols for pharmaceuticals as per pharmacopoeia
CO4: Estimate microbial burden in raw materials.
CO5: Apply practical skills and ethical practices for Bioremediation.
CO6: Compute, analyse and record data.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmaceutical Analysis II (Theory)
Course: 2015 syllabus
Course Code: 13704
Course Outcomes:
CO1: Use instrumental techniques to determine titrimetric end point.
CO2: Describe the basics of electroanalytical techniques
CO3: Apply conductometric, polarimetric, refractometric methods for analysis of drug.
CO4: Understand the advantages of potentiometric and gravimetric techniques in drug analysis.
CO5: Compare advantages and challenges of various instrumental methods for drug analysis.
CO6: Construct and analyse different graphical/ mathematical tools for data treatment.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmaceutical Analysis II (Practical)
Course: 2015 syllabus
Course Code: 13704
Course Outcomes:
CO 1: Understand the significance of calibration in analytical chemistry.
CO2: Apply techniques for handling electrochemical equipment and their calibration.

CO3: Discuss reaction mechanism and principle involved in the electrochemical method of analysis.
CO4: Justify selection criteria for electrochemical analytical method in drug analysis.
CO5: Compute results, create graphs and analyse the effectiveness of the technique.
CO6: Analyse, observe, record experimental data.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Physical Pharmacy II (Theory)
Course: 2015 syllabus
Course Code: 13705
Course Outcomes:
CO1: Understand physicochemical properties of drugs and excipients.
CO2: Use modern analytical tools to assess physicochemical properties of drugs
CO3: Relate physicochemical properties of pharmaceuticals for formulation design.
CO4: Describe principles of compression and compaction in tablet manufacturing.
CO5: Understand factors governing stability of finished pharmaceutical products.
CO6: Analyze and tackle problems encountered in formulation development.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Physical Pharmacy II (Practical)
Course: 2015 syllabus
Course Code: 13705
Course Outcomes:
CO1: Evaluate physicochemical properties of pharmaceuticals using modern analytical tools.
CO2: Understand significance of physicochemical properties of pharmaceuticals in formulation development.
CO3: Apply use of micromeritic properties in design of solid dosage form
CO4: Apply use of derived properties in design of pharmaceutical liquids.
CO5: Compute, analyse and record data.
CO6: Identify and tackle problems encountered in formulation development by working in a team.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmacognosy I (Theory)
Course: 2015 syllabus

Course Code: 13706
Course Outcomes:
CO1: Understand the scope of Pharmacognosy.
CO2: Comprehend the relevance of traditional medicines.
CO3: Explain the concepts of cultivation and collection of crude drugs.
CO4: Justify and recommend the methods for processing and storage of crude drugs.
CO5: Describe the biosynthetic pathways of primary and secondary metabolites of the plant.
CO6: Apply the holistic approach of alternative medicines for benefit of society.
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmacognosy I (Practical)
Course: 2015 syllabus
Course Code: 13706
Course Outcomes:
CO1: Evaluate different plant tissues and their characteristics.
CO2: Characterize the crude drugs based on morphological and microscopical characters
CO3: Analyze crude drugs using chemical tests
CO4: Apply the techniques for extraction of phyto-constituents from crude drugs
CO5: Describe the cultivation and manufacturing process of herbal drugs
CO6: Understand and conduct the survey of marketed herbal products
Year Semester: Second Year B. Pharm. Semester IV
Subject Name: Pharmacology I (Theory)
Course: 2015 syllabus
Course Code: 13707
Course Outcomes:
CO1: Describe the fundamental concepts of pharmacology
CO2: Explain the pharmacological basis of therapeutics.
CO3: Justify the molecular basis of drug action with clinical uses.
CO4: Understand the adverse effects of drugs and drug interactions.
CO5: Apply the pharmacological knowledge in the prevention and treatment of various diseases.
CO6: Communicate measures to minimize adverse drug effects and drug interactions to the society.

Year Semester: Third Year B. Pharm. Semester V
Subject Name: Medicinal Chemistry I (Theory)
Course: 2015 syllabus
Course Code: 13708
Course Outcomes:
CO1: Sketch the structure and name the drugs and their intermediates
CO2: Distinguish different classes of drugs in a particular category
CO3: Describe the mechanism actions of categories of drugs
CO4: Relate influence of substituents on the physico-chemical properties and biological activity of drugs.
CO5: Explain the uses and adverse reactions of drugs belonging to different classes for the benefit of society
CO6: Write the routes of synthesis of drugs.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Medicinal Chemistry I (Practical)
Course: 2015 syllabus
Course Code: 13708
Course Outcomes:
CO1: Apply principles of organic chemistry for synthesis of drugs and drug intermediates with emphasis on environment and safety.
CO2: Demonstrate TLC techniques for monitoring reactions and checking purity of synthesized compounds.
CO3: Use principles of qualitative analysis for identification and structural confirmation of synthesized compounds.
CO4: Employ the skills for preliminary physico chemical characterization of the synthesized molecules.
CO5: Compute, analyse and record the observations
CO6: Evaluate the need of advancements in the therapy of diseases
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmaceutical Analysis III (Theory)
Course: 2015 syllabus
Course Code: 13709
Course Outcomes:
CO1: Understand the basic concepts of chromatography and its significance.
CO2: Describe the principle, technique, and applications of Column chromatography.

CO3: Explain the fundamentals and applications of Paper chromatography.
CO4: Discuss the principle, process and instrumentation of Gas, Ion exchange and Gel permeation chromatography.
CO5: Apply various chromatographic techniques for analysis of pharmaceuticals.
CO6: Develop approaches in solving problems related to chromatographic techniques.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmaceutical Analysis III (Practical)
Course: 2015 syllabus
Course Code: 13709
Course Outcomes:
CO1: Analyze and identify various samples using Paper chromatography.
CO2: Use Column chromatographic techniques to separate various samples.
CO3: Apply Ion exchange chromatographic technique to separate ionic samples.
CO4: Interpret, evaluate, and compare different chromatograms.
CO5: Select the suitable chromatographic technique for analysis of various samples.
CO6: Compute, analyse and record the data.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmaceutical Technology I (Theory)
Course: 2015 syllabus
Course Code: 13710
Course Outcomes:
CO1: Understand cGMP for large scale manufacturing of pharmaceuticals.
CO2: Design appropriate plant layout for pharmaceutical manufacturing.
CO3: Explain physicochemical, biopharmaceutical and therapeutic aspects for formulation design.
CO4: Describe the IPQC and quality control tests.
CO5: Review evaluation parameters of pharmaceutical dosage forms and cosmeceuticals
CO6: Implement regulatory guidelines and ethical practices in manufacturing.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmaceutical Technology I (Practical)
Course: 2015 syllabus

Course Code: 13710
Course Outcomes:
CO1: Review of marketed drug products.
CO2: Formulate liquid and semisolid pharmaceuticals and cosmetics.
CO3: Select appropriate manufacturing equipment.
CO4: Evaluate quality of pharmaceuticals and cosmetics.
CO5: Compute, analyse and record data.
CO6: Adapt Good Laboratory Practices.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmacology II (Theory)
Course: 2015 syllabus
Course Code: 13711
Course Outcomes:
CO1: Identify drug targets considering pathophysiology of diseases.
CO2: Correlate the molecular basis of drug action with clinical uses.
CO3: Understand the adverse effects and drug interactions.
CO4: Suggest appropriate drug therapy for diseases.
CO5: Compare efficacy, safety, and cost-effectiveness of drug therapy.
CO6: Recommend measures for prevention and management of lifestyle diseases.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmacology II (Practical)
Course: 2015 syllabus
Course Code: 13711
Course Outcomes:
CO1: Understand the importance of use of animals in drug discovery and development
CO2: Apply ethical principles in animal experimentation.
CO3: Outline the principles and applications of bioassay.
CO4: Justify the need of alternatives to animals and demonstrate computer simulated animal experiments.
CO5: Assess the safety and efficacy profile of drugs using ‘Drug Information Software’s.
CO6: Evaluate prescriptions and recommend treatment protocols for patients.

Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmacognosy II (Theory)
Course: 2015 syllabus
Course Code: 13712
Course Outcomes:
CO1: Understand the basics of crude drugs.
CO2: Explain the categories of plant constituents with their characteristics
CO3: Describe pharmacognostic account of important secondary metabolites.
CO4: Review the drugs from marine source.
CO5: Apply modern tools to check adulteration in herbal drugs for industrial utility.
CO6: Create awareness of medicinal uses, drug interactions and toxicities of herbal medicines.
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmacognosy II (Practical)
Course: 2015 syllabus
Course Code: 13712
Course Outcomes:
CO1: Evaluate different plant tissues and their characteristics.
CO2: Characterize the crude drugs on the basis of morphological and microscopical characters
CO3: Analyze crude drugs using chemical tests
CO4: Apply the techniques for extraction of phyto-constituents from crude drugs
CO5: Describe the cultivation and manufacturing process of herbal drugs
CO6: Understand and conduct the survey of marketed herbal products
Year Semester: Third Year B. Pharm. Semester V
Subject Name: Pharmaceutical Jurisprudence (Theory)
Course: 2015 syllabus
Course Code: 13713
Course Outcomes:
CO1: Understand pharmaceutical legislations related to drugs and cosmetics in India.
CO2: Explain the Consumer Protection Act for the benefit of society

CO3: Apply practice of Professional ethics.
CO4: Comprehend the regulatory system for safe and effective medicine.
CO5: Review the role of international drug regulatory agencies.
CO6: Describe the Intellectual Property Rights.
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Medicinal Chemistry II (Theory)
Course: 2015 syllabus
Course Code: 13714
Course Outcomes:
CO1: Describe the metabolic pathways and understand routes of synthesis of clinically important drugs.
CO2: Categorize different classes of drugs in a particular category
CO3: Describe the mechanism actions of drugs
CO4: Relate influence of structure on biological activity of drugs.
CO5: Explain the uses and adverse reactions of drugs belonging to different classes for the benefit of society
CO6: Write the routes of synthesis of drugs.
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Medicinal Chemistry II (Practical)
Course: 2015 syllabus
Course Code: 13714
Course Outcomes:
CO1: Apply principles of organic chemistry for synthesis of drugs and drug intermediates with emphasis on environment and safety.
CO2: Demonstrate TLC techniques for monitoring reactions and checking purity of synthesized compounds.
CO3: Apply principles of qualitative analysis for identification and structural confirmation of synthesized compounds.
CO4: Employ the skills for preliminary physico chemical characterization of the synthesized molecules.
CO5: Compute, analyse and record the observations
CO6: Evaluate the need of advancements in the therapy of diseases
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmaceutical Analysis IV (Theory)
Course: 2015 syllabus

Course Code: 13715
Course Outcomes:
CO1: Understand basics of chromatographic techniques.
CO2: Apply principles of planar chromatographic techniques for analysis of pharmaceuticals.
CO3: Know different methods to identify adulterants present in food items.
CO4: Explain the fundamentals and applications of Column chromatographic techniques.
CO5: Apply various chromatographic techniques for analysis of pharmaceuticals.
CO6: Evaluate and compare the methodologies involved in separation analysis.
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmaceutical Analysis IV (Practical)
Course: 2015 syllabus
Course Code: 13715
Course Outcomes:
CO1: Correlate principles of separation using chromatographic techniques for qualitative determination of pure drug.
CO2: Analyze various compounds using chromatographic techniques.
CO3: Determine the various adulterants present in food items.
CO4: Interpret, evaluate, and compare different chromatograms.
CO5: Understand working of sophisticated chromatographic instruments.
CO6: Compute, analyse and record the data.
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmaceutical Technology II (Theory)
Course: 2015 syllabus
Course Code: 13716
Course Outcomes:
CO1: Explain concept of formulation of solid dosage forms.
CO2: Describe manufacturing and evaluation of solid dosage forms.
CO3: Understand specialized solid dosage form.
CO4: Select and recommend appropriate packaging for solid dosage form.
CO5: Design layout for manufacturing of solid dosage forms.
CO6: Identify appropriate quality control equipments for pharmaceuticals.

Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmaceutical Technology II (Practical)
Course: 2015 syllabus
Course Code: 13716
Course Outcomes:
CO1: Review of marketed drug products of various dosage forms.
CO2: Justify the composition, containers, labels, expiry period, economy, acceptance drug Products.
CO3: Formulate solid dosage forms and suppositories
CO4: Select appropriate manufacturing equipment's.
CO5: Evaluate quality of solid dosage forms and suppositories
CO6: Adapt Good Laboratory Practices.
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmacognosy III (Theory)
Course: 2015 syllabus
Course Code: 13717
Course Outcomes:
CO1: Describe the botanical sources, chemical constituents, and uses of traditional drugs.
CO2: Understand herbal drug standardization as per WHO guidelines.
CO3: Apply biotechnological techniques to enrich phytoconstituents in medicinal plants.
CO4: Review drugs of mineral origin
CO5: Explain the techniques for extraction of phytoconstituents from medicinal plants.
CO6: Apply use of natural fibers as sutures and surgical dressings
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmacognosy III (Practical)
Course: 2015 syllabus
Course Code: 13717
Course Outcomes:
CO1: Evaluate different plant tissues and their characteristics.
CO2: Characterize the crude drugs on the basis of morphological and microscopical characters

CO3: Analyze crude drugs using chemical tests
CO4: Apply the techniques for extraction of phyto-constituents from crude drugs
CO5: Describe the cultivation and manufacturing process of herbal drugs
CO6: Understand and conduct the survey of marketed herbal products
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmaceutical Biotechnology (Theory)
Course: 2015 syllabus
Course Code: 13718
Course Outcomes:
CO1: Recall types, characteristics, and origin of DNA, RNAs and genetic code.
CO2: Illustrate techniques involved in DNA manupulation
CO3: Demonstrate recombinant DNA technology and its applications in pharmacy
CO4: Review antigen-antibody reactions and immune responses
CO5: Explain enzyme immobilization techniques and fermentation process
CO 6: Develop biotechnological aptitude and values required for self-motivated, lifelong learning and professional development.
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmaceutical Biotechnology (Practical)
Course: 2015 syllabus
Course Code: 13718
Course Outcomes:
CO1: Characterize DNA and RNA
CO2: Illustrate techniques involved in DNA manupulation
CO3 Demonstrate key steps in recombinant DNA technology
CO4: Analyse DNA amplification in PCR and describe its applications in diagnostics
CO5: Explain and illustrate enzyme immobilization techniques
CO6: Design, observe, record, compute, analyse and interprete experimental data
Year Semester: Third Year B. Pharm. Semester VI
Subject Name: Pharmacology III (Theory)
Course: 2015 syllabus

Course Code: 13719
Course Outcomes:
CO1: Comprehend the molecular basis of drug action.
CO2: Illustrate the clinical uses of drugs.
CO3: Analyze the adverse effects and drug interactions with measures to minimize them.
CO4: Interpret the rationale behind pharmacotherapy of diseases.
CO5: Sensitize the society about judicious use of psychoactive substances and OTC products.
CO6: Integrate and apply the general management of poisoning and drug toxicity.
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Medicinal Chemistry III (Theory)
Course: 2015 syllabus
Course Code: 13720
Course Outcomes:
CO1: Understand the principles of chemotherapy
CO2: Sketch the structure and name the drugs and their intermediates
CO3: Distinguish different classes of drugs
CO4: Demonstrate influence of structural modification of drugs on the physic-chemical properties and biological activity.
CO5: Describe the synthesis of important drugs.
CO6: Explain the uses and adverse reactions of drugs belonging to different classes for the benefit of society
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Medicinal Chemistry III (Practical)
Course: 2015 syllabus
Course Code: 13720
Course Outcomes:
CO1: Apply principles of organic chemistry for synthesis of drugs and drug intermediates with emphasis on environment and safety.
CO2: Apply principles of qualitative analysis for identification and structural confirmation of synthesized compounds.
CO3: Analyze the drugs as per official monograph
CO4: Interpret IR and UV spectral data
CO5: Compute, analyze and record the observations.
CO6: Justify the advancements in the therapy of diseases

Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Pharmaceutical Technology III (Theory)
Course: 2015 syllabus
Course Code: 13721
Course Outcomes:
CO1: Understand the concept of formulation design of sterile products.
CO2: Design layout for manufacturing sterile dosage form considering environmental factors
CO3: Recommend appropriate processes and equipment for the manufacturing & packaging of sterile formulations
CO4: Review blood related products
CO5: Assess quality of sterile formulations as per compendial standards using modern analytical tools
CO6: Formulate stable sterile dosage form for mankind.
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Pharmaceutical Technology III (Practical)
Course: 2015 syllabus
Course Code: 13721
Course Outcomes:
CO1: Apply the concept of biopharmaceutical and therapeutic aspects in formulation design.
CO2: Design layout for manufacturing sterile dosage form considering environmental factors
CO3: Select appropriate process and equipment for the manufacturing & packaging of sterile formulations
CO4: Compute, analyse and record data.
CO5: Formulate and evaluate stable sterile dosage form by working in a team.
CO6: Review regulatory guidelines for environment control.
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Biopharmaceutics and Pharmacokinetics (Theory)
Course: 2015 syllabus
Course Code: 13722
Course Outcomes:
CO1: Understand the concept of absorption, distribution, metabolism, and excretion of drug.
CO2: Calculate pharmacokinetic parameters of drugs.

CO3: Explain the significance of bioavailability in rational drug therapy.
CO4: Design bioavailability-bioequivalence study protocol to establish the quality of generic drugs.
CO5: Describe the role of biopharmaceutics in drug development.
CO6: Explore application of pharmacokinetic principles to special populations.
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Biopharmaceutics and Pharmacokinetics (Practical)
Course: 2015 syllabus
Course Code: 13722
Course Outcomes:
CO1: Estimate physicochemical parameters of drugs and relate their influence on bioavailability.
CO2: Carryout absorption, distribution, metabolism, and excretion studies.
CO3: Determine the bioavailability/bioequivalence parameters.
CO4: Estimate pharmacokinetic parameters of drugs.
CO5: Design bioavailability-bioequivalence study protocol to establish the quality of generic drugs.
CO6: Compute, analyse and record data
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Pharmacognosy IV (Theory)
Course: 2015 syllabus
Course Code: 13723
Course Outcomes:
CO1: Relate aspects of drug discovery and development from natural products.
CO2: Justify safe use of herbal cosmetics and their formulations.
CO3: Describe the use of natural products as functional excipients and therapeutic agents
CO4: Explain role, importance, and regulatory aspects of nutraceuticals.
CO5: Comprehend herbal drug regulatory affairs.
CO6: Apply the concept of pharmacovigilance for herbal drugs.
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Pharmacognosy IV (Practical)
Course: 2015 syllabus

Course Code: 13723
Course Outcomes:
CO1: Describe the protocols of Herbal Monograph.
CO2: Develop and evaluate Ayurvedic dosage forms and skin and hair care herbal cosmetics.
CO3: Understand the role and importance of Nutraceuticals.
CO4: Apply modern analytical tools to evaluate adulteration in crude drug.
CO5: Design and conduct the survey of marketed herbal products.
CO6: Design and conduct the survey of marketed herbal products
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Pharmaceutical Analysis V (Theory)
Course: 2015 syllabus
Course Code: 13724
Course Outcomes:
CO1: Comprehend the basic concepts of spectroscopy.
CO2: Understand general components and their functions of spectroscopic instruments.
CO3: Apply fundamentals of UV Visible spectroscopy for pharmaceutical analysis.
CO4: Elaborate the concept and applications of vibrational spectroscopy
CO5: Interpret UV and IR spectra for structural elucidation
CO6: Explain the principles and applications of emission spectroscopy
Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Clinical Pharmacy (Theory)
Course: 2015 syllabus
Course Code: 13725
Course Outcomes:
CO1: Appraise biomedical literature from scientific journals.
CO2: Employ drug use evaluation in a hospital
CO3: Apply patient counselling skills in practice
CO4: Explain drug information to community and all healthcare professionals.
CO5: Assess and report adverse drug reactions.
CO6: Interpret laboratory data with respect to patient’s condition

Year Semester: Final Year B. Pharm. Semester VII
Subject Name: Soft skills (Practical)
Course: 2015 syllabus
Course Code: 13726
Course Outcomes:
CO1: Communicate confidently with a good understanding of people's skills.
CO2: Apply effective writing and listening skills at personal and professional level.
CO3: Acquire knowledge of technical writing skills.
CO4: Illustrate presentation skills.
CO5: Demonstrate self and time management.
CO6: Develop behavioural traits to function effectively in pharmaceutical operations.
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Medicinal Chemistry IV (Theory)
Course: 2015 syllabus
Course Code: 13727
Course Outcomes:
CO1: Understand the principles of drug design and QSAR.
CO2: Sketch out the synthesis of important drugs.
CO3: Correlate structural modification on the drug with biological activity.
CO4: explain the uses and adverse reactions of drugs belonging to different classes for the benefit of society
CO5: Discuss the chemistry and actions of hormones and related drugs
CO6: Explain the principles of combinatorial chemistry and microwave assisted drug synthesis
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Medicinal Chemistry IV (Practical)
Course: 2015 syllabus
Course Code: 13727
Course Outcomes:
CO1: Apply principles of organic chemistry for synthesis of drugs and drug intermediates with emphasis on environment and safety.
CO2: Apply principles of qualitative analysis for identification and structural confirmation of synthesized compounds.

CO3: Determine physicochemical parameters like partition coefficient, molar refractivity, and dissociation constant
CO4: Apply microwave assisted techniques for synthesis of drug and drug intermediates.
CO5: Compute, analyse and record the observations.
CO6: Critique the need of advancements in the therapy of diseases
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmaceutical Analysis VI (Theory)
Course: 2015 syllabus
Course Code: 13728
Course Outcomes:
CO1: Understand the principles and explore applications of NMR spectroscopy
CO2: Describe the basics of Flame photometry, atomic absorption and Mass spectroscopic techniques and their applications
CO3: Interpret proton NMR and mass spectra
CO4: Summarize the analytical method validation parameters as per ICH guidelines
CO5: Explain the basics and applications of X-ray diffraction and thermal analytical techniques.
CO6: Apply suitable instrumental analytical techniques to asses purity and safety of pharmaceuticals for the benefit of society
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmaceutical Analysis VI (Practical)
Course: 2015 syllabus
Course Code: 13728
Course Outcomes:
CO1: Select and apply suitable analytical technique to assess purity and safety of pharmaceuticals for the benefit of society.
CO2: Design protocol for quantitative analysis of drugs and formulations
CO3: Handle analytical instruments
CO4: Interpret UV, IR, proton NMR and Mass spectra
CO5: Apply problem solving approach in pharmaceutical analysis
CO6: Compute, analyse and record data
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmaceutical Technology IV (Theory)
Course: 2015 syllabus

Course Code: 13729
Course Outcomes:
CO1: Understand the concept of Controlled drug delivery systems.
CO2: Design and formulate Novel Drug Delivery Systems.
CO3: Recommend appropriate processes and equipment for manufacturing & packaging of NDDS formulations.
CO4: Review ICH guidelines in dosage form development
CO5: Assess quality of NDDS formulations as per compendial standards using modern analytical tools.
CO6: Review the concept of quality assurance in pharmaceutical products
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmaceutical Technology IV (Practical)
Course: 2015 syllabus
Course Code: 13729
Course Outcomes:
CO1: Understand the concept of Controlled drug delivery.
CO2: Apply the concept of physicochemical, biopharmaceutical and therapeutic aspects in NDDS formulation design
CO3: Assess quality of CR and IR tablets as per compendial standards using modern analytical tools.
CO4: Design validation protocol for equipment and aseptic area by working in a team.
CO5: Compute, analyze and create study protocol and reports for manufacturing of dosage forms.
CO6: Perform accelerated stability testing of dosage forms.
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmacology IV (Theory)
Course: 2015 syllabus
Course Code: 13730
Course Outcomes:
CO1: Understand the mechanism of drug action considering pathophysiology of diseases.
CO2: Comprehend the challenges in development of chemotherapeutic agents.
CO3: Select drugs for the treatment of diseases based on safety, efficacy, and cost-effectiveness.
CO4: Plan treatment modalities for special population.
CO5: Recommend rational use of antimicrobial agents.
CO6: Explain various measures for prevention of diseases in the society.

Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmacology IV (Practical)
Course: 2015 syllabus
Course Code: 13730
Course Outcomes:
CO1: Explain treatment protocols for diseases.
CO 2: Assess risks and benefits for pharmacotherapy of diseases.
CO3: Justify rational and irrational fixed dose combination.
CO4: Design drug promotional literature.
CO5: Audit prescriptions and analyse prescription patterns.
CO6: Demonstrate animal experiments using computer simulation softwares.
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmaceutical Management (Theory)
Course: 2015 syllabus
Course Code: 13731
Course Outcomes:
CO1: Describe influence of GATT, WTO, Dunkel Text on Pharmacy profession
CO2: Understand Drug development process.
CO3: Explain the concept of ISO standardization and Quality Management System.
CO4; Apply management principles in pharmaceutical production, marketing, and sales.
CO5: Explore the basics and applications of IPR in pharmacy
CO6: Practice ethics and inculcate human values in pharma sector
Year Semester: Final Year B. Pharm. Semester VIII
Subject Name: Pharmacovigilance and Medication Safety (Theory)
Course: 2015 syllabus
Course Code: 13732
Course Outcomes:
CO1: Classify different ADRs
CO2: Identify ADRs in a patient’s clinical profile

CO3: Assess the severity/causality of ADRs
CO4: Analyze preventability of ADRs
CO5: Synthesize ADR reports
CO6: Evaluate medication safety literature