NIRMALA COLLEGE OF PHARMACY

Atmakuru, Managalagiri, Guntur (Dt), Andhra Pradesh.

B.PHARMACY COURSE OUTCOMES

| COURSE CODE | COURSE NAME | CO. NO. | COURSE OUTCOME |
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| 0022 | | CO - 1 | Learning and understanding the application of Mathematical principles of algebra, co-ordinate geometry, differential calculus. |
| 101A | Mathematics (Bridge Course) Theory | CO -2 | The techniques of integration, trigonometry, differential equations and its applications are used in solving the Pharmacokinetic equations. |
| | | CO - 3 | Understand the Laplace transforms and their properties are used. |
| | | CO - 4 | Appreciating the applications of matrices in solving pharmaconitic equation. |
| | | CO - 5 | According to speciality skills, Mathematical tools in a broad range of situations will arise in the view of pharmacy profession. |
| | | CO - 1 | Know the classification and silent features of Five kingdoms of life |
| | Biology (Theory) | CO - 2 | Familiarize with the Plant Physiology – Absorption, Transpiration, Respiration, Photosynthesis, DNA replication. |
| 101B | | CO - 3 | Learn and understand Vegetative morphology and Reproductive morphology |
| | | CO - 4 | Learn and understand animal tissue, study of different systems of frog. |
| | | CO - 5 | Know the principles of morphology and life-history of human parasites. |
| | | CO - 1 | To be able to understand the plant parts and their modification |
| 101 C | Biology | CO - 2 | Understand the representative of families – Apocynaceae, Solancaceae, Umbelliferae and Rubiaceae. |
| 101 C | (Practical) | CO - 3 | Understand the representative of families Rutaceae, Acanthaceae. |
| | | CO - 4 | Identify histological study of different organs/tissues through permanent slides |
| 102 | Pharmaceutical Chemistry–I (Organic-I) (Theory) | CO - 1 | To know the IUPAC rules and know the structure of the compound and they are, used for the determination of the structure it is useful to name the organic compound |
| | (Organic-1) (Theory) | CO - 2 | To study the various chemical reactions and their characteristic properties |

| | | CO - 3 | To study the various named reactions and their mechanisms. This knowledge is applying for the synthesis of Novel derivatives. |
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| | | CO - 4 | To know the importance of isomerism in the Pharmacy to determining the biological activity. |
| | | CO - 5 | To study the synthesis and properties of functional group compounds and their Important reactions. It is helpful to understand the various reaction and to prepare the products (Nucleophilic, Electrophilic substitution/addition reactions, etc.,) |
| | | CO - 1 | Design and adopt the reaction schemes for the synthesis of various medicinal compounds of diverse chemical categories. |
| 103 | Pharmaceutical Chemistry–I | CO - 2 | Analyze functional groups present in the organic compounds which are helpful to Characterize the compound. |
| | (Organic-I) | CO - 3 | Determination of physical constants which are helpful to identify the compounds |
| | Practical | CO - 4 | To purify the compounds with aid of different techniques. This knowledge is helpful to provide drugs with good quality. |
| | | CO - 1 | To Understand the nature of inter and intra molecular forces that are involved in stabilizing molecular and physical structures and the differences in energetics of these forces and their relevance to different molecules. |
| 104 | Physical Pharmacy-I (Theory) | CO - 2 | To identify and describe four Colligative properties of non-electrolytes, various types of Pharmaceutical solutions and to calculate molarity, normality, molality, mole fraction and percentage expressions. |
| | | CO - 3 | To demonstrate application of physicochemical properties in the formulation development and evaluation of dosage forms and to define ideal and real solutions using Raoult's law and henrys law. |
| | | CO - 4 | To learn, select and apply appropriate methods and procedures about pharmaceutical buffers preparation and their applications in pharmacy and to discuss the factors influencing the pH of buffer solutions. |
| | | CO - 5 | To describe pharmaceutical relevance of the different states of matter to drug delivery systems with reference to specific examples, to study the solid state, crystalline, solvates and polymorphism, and to discuss techniques used to characterize solids. |
| | | CO - 1 | To understand various physicochemical properties of drug molecules and their determination methods in designing the dosage forms. |
| 105 | Physical Pharmacy-I | CO - 2 | To know the types of solutions, dissociation of electrolytes and Colligative properties in view of formulation development. |
| | (Practical) | CO - 3 | To demonstrate application of physicochemical properties in the formulation development and evaluation of dosage forms. |
| | | CO - 4 | To learn, select and apply appropriate methods and procedures about pharmaceutical buffers preparation and their applications in Pharmacy. |
| | | CO - 1 | To know the various types of applications of computers in Pharmacy |
| 106 | Computer Applications and Statistical Methods | CO - 2 | Know the various types of computers, Characteristics, input and output devices, flow chart, algorithm and language. |
| | (Theory) | CO - 3 | To write programming code in BASIC and C languages. |
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| | | CO - 4 | Know branching, looping, arrays, graphs and sound, control structures. |
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| | | CO - 4 | <i>3,</i> 1 <i>3,</i> , 7, 8 1 |
| | | CO - 5 | Know about measures of central tendency, dispersion and various types of distributions and various statistical tests - Correlation coefficient regression analysis |
| | | CO - 1 | Understand the history of Pharmacy Profession, various Pharmacopoeias and meteorological calculations. |
| | Dhamaaantiaa I | CO - 2 | Understand the basics of different dosage form. |
| 201 | Pharmaceutics - I (Theory) | CO - 3 | Understand the professional way of handling the prescription |
| | | CO - 4 | Preparation and dispensing of various Dosage forms. |
| | | CO - 5 | Identify and rectify pharmaceutical incompatibilities in prescriptions. |
| | | CO - 1 | Aromatic waters, solutions, syrups, Ear drops, Nasal Drops, lotions and liniments |
| 202 | Pharmaceutics-I (Practical) | CO - 2 | Elixirs, Gargles, Mouthwashes, Throat paints and Douches |
| | | CO - 3 | Biphasic liquid dosage forms |
| | | CO - 4 | Semi solid dosage forms |
| | Pharmaceutical | CO - 1 | Define the concept of Pharmaceutical analysis its scope and methods of expressing concentration. |
| 203 | Analysis-I (Theory) | CO - 2 | Understand the basics of different types of Titrimetric methods |
| | 1 | CO – 3 | Explain the types and principles of Acid Base, Redox and Non-aqueous titrations, solvents used and steps involved in Gravimetry. |
| | | CO - 4 | Understand about the precipitation titrations such as Mohr method Volhard's method, Fajan's methods. |
| | | CO - 5 | Explore the knowledge on basic principles and techniques of Complexometric titrations and Non aqueous titrations |
| | | CO - 1 | Understand the Qualitative & Quantitative estimation of chemical compounds. |
| | | CO - 2 | It helps to Develop the fundamentals of Volumetric analytical Skills. |
| 204 | Pharmaceutical Analysis-I | CO – 3 | Prepare the Solutions of different strengths used in Pharmaceutical field. |
| | (Practical) | CO - 4 | Identify & camp; locate the impurities through different fundamental techniques. |
| | | CO - 1 | To Understand about environmental Pollution and its concerned issues. |
| 205 | Environmental | CO - 2 | Impart basic knowledge about the environment its allied problems. |
| 203 | Studies (Theory) | CO - 3 | Develop an attitude of concern for the environment through protection of biodiversity and its conservation. |
| | | CO - 4 | Motivate learner to participate in environment protection and its improvement. |
| | | CO - 5 | Acquire skills to help the concern individuals in identifying and solving environmental problems. |
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| | Pharmaceutical | CO - 1 | To understand the application of various organic reactions like oxidation, reduction, acetylation, bromination. |
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| | | CO - 2 | To know the knowledge about fundamental named reactions & reagents. |
| 301 | (Organic-II) (Theory) | CO - 3 | To account for reactivity/stability of compounds and to prepare organic compounds. |
| | | CO - 4 | To understand the basic knowledge about structure, preparation and uses of medicinal compounds. |
| | | CO - 5 | To learn the source of organic compounds and to understand the basic rules and principles of organic compounds. |
| | Pharmaceutical | CO - 1 | To know the knowledge about preparation of reagents and selection of solvent. |
| 302 | Chemistry –II (Organic-II) | CO - 2 | To acquire the knowledge about the study of preparation of organic compounds |
| | (Practical) | CO - 3 | To understand the different functional groups and their separation based on the physico- chemical properties |
| | | CO - 4 | To learn the knowledge about preparation of derivatives and the occurring of chemical reactions |
| | | CO - 1 | To know the various unit operations and process carried out in industry |
| | | CO - 2 | To study the different types of equipments in unit operations with its principle construction, working, advantages and disadvantages. |
| 303 | Pharmaceutical Engineering-I (Theory) | CO - 3 | To apply the knowledge in handling of pharmaceutical industry operations. |
| | | CO - 4 | To assess the factors that affect the environment pollution. |
| | | CO - 5 | To understand the principle of corrosion and its overcome methods. |
| | | CO - 1 | To know about the historical development, Morphology, Classification and characteristics of important microbes. |
| | | CO - 2 | To understand the aseptic procedures for Bacteriological media preparations & isolation, preservation techniques of microbes. |
| 304 | Pharmaceutical Microbiology | CO - 3 | To Know about various aspects of immunology & basic concepts of antigen-antibody reaction & Focus on various infectious disorders. |
| 301 | (Theory) | CO - 4 | To acquire the knowledge about classification, mechanism of action & effectiveness of disinfectants & sterilization processes & their evaluation. |
| | | CO - 5 | To study the Morphology of Bacteria by staining techniques; Bacterial growth cycle & factors influencing the bacterial growth. |
| | Pharmaceutical | CO - 1 | Study of Equipment, Aseptic culture transfer techniques and preparation of sterile culture medias. |
| 305 | Microbiology (Practical) | CO - 2 | Isolation of pure culture by streaking and spread plate methods and Bacterial cell counting techniques. |
| (Practical) | CO - 3 | Determination of potency of chemical disinfectant and radiations. | |
| | | CO - 4 | Microscopic observation of cultures by different staining techniques and motility by Hanging drop method. |
| | Human Anatomy | CO - 1 | To provide the fundamental knowledge about the structure and functions of human body |
| 306 | and Physiology (Theory) | CO - 2 | By understanding the anatomy and physiology, students are able to apply |
| | | | the knowledge in understanding the pathophysiology of diseases. |

| | | CO - 3 | The students would get an idea about the correlation of Human Anato and Physiology with other biomedical sciences. |
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| | | CO - 4 | To understand different biological processes of human body. |
| | | CO - 5 | Students would be able to apply the knowledge in understanding the mechanism of action of drugs. |
| | | CO - 1 | To provide training to the students for the diagnosis of various biolog parameters and applying the knowledge in the society. |
| 307 | Human Anatomy and Physiology (Practical) | CO - 2 | Helps the students to practice modern tool usages for the diagnosis biological parameters. |
| | (| CO - 3 | By observing the parameters like blood cell count, students are able identify the diseases like cancer that are caused due to the alterations blood cell count. |
| | | CO - 4 | To understand the time management and practice planning abilities preparing the chart models and exhibits. |
| | | CO - 1 | To understand various classes of medicinal compounds, their proper & clinical uses. |
| | Pharmaceutical Chemistry–III | CO - 2 | To compare the physicochemical parameters of drugs with biolog action. |
| 401 | (Medicinal-I) (Theory) | CO - 3 | To interpret the relationship between the structure and biological acti of selected categories of drugs. |
| | | CO - 4 | To apply the knowledge of medicinal compounds and their mechanis of action in the treatment of various diseases. |
| | | CO - 5 | To design the synthetic routes for medicinal compounds. |
| | Physical Pharmacy- | CO - 1 | To understand various physicochemical properties of drug molecule and their characterization in designing the dosage forms. |
| 402 | | CO - 2 | To know the types of solutions, dissociation of electrolytes and colligative properties in view of formulation development. |
| 402 | II (Theory) | CO - 3 | To demonstrate application of physicochemical properties in formulation development and evaluation of dosage forms. |
| | | CO - 4 | To learn, select and apply appropriate methods and procedures about pharmaceutical buffers preparation and their applications in Pharmacy. |
| | | CO - 5 | To describe pharmaceutical relevance of the different states of matter to drug delivery systems with reference to specific examples. |
| | | CO - 1 | To understand various physicochemical properties of drug molecules the designing the biphasic dosage forms. |
| 403 | Dhysical Dharms | CO - 2 | To know the principles of chemical kinetics & Damp; to use them stability testing and determination of expiry date of formulations. |
| 403 | Physical Pharmacy- II (Practical) | CO - 3 | To determine the stoichiometric ratio and stability constant for comp formation and to understand the adsorption phenomenon. |
| | | CO - 4 | To learn the methods for determining particle size and the importance particle shape and surface area in preformulation studies in designing dosage forms. |

| | | CO - 1 | To understand the basic knowledge of biomolecules. |
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| | Applied Bio | | |
| 404 | Chemistry & Clinical | CO - 2 | To understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, diagnostic applications of enzymes. |
| | Pathology (Theory) | CO - 3 | To understand the calculation of energy levels |
| | (11 3/ | CO - 4 | To understand the physiological chemistry includes digestion, absorption, plasma proteins and hemoglobin. |
| | | CO - 5 | To know the metabolic pathway of various bio molecules and deficiency enzyme disorders. |
| | | CO - 1 | To know the knowledge and to identify biomolecules and their structures. |
| 405 | Applied Bio Che- mistry & Clinical Pathology | CO - 2 | To understand the knowledge about how to diagnose and the diagnostic tests in the blood constituents. |
| | (Practical) | CO - 3 | To study the enzyme activity and the effect of enzyme on different compounds. |
| | | CO - 4 | To understand the function of different instrumentation and their principles. |
| | | CO - 1 | To Know the Pharmacy Acts |
| 406 | Forensic Pharmacy (Theory | CO - 2 | Explanation of Different Schedules |
| | | CO - 3 | To Know the Pharmacy Educational Standards |
| | | CO - 4 | To know the rules and Ethics of Pharmacy Profession. |
| | | CO - 5 | To Regulate and import the different drugs |
| 407 | English & Communication | CO - 1 | To improve the communication skills of students for effective functioning in pharmaceutical operation etc. |
| | Skills (Practical) | CO - 2 | Betterment of leadership qualities through their verbal and Nonverbal skills. |
| | | CO - 3 | To improve the professional skills. |
| | Pharmaceutical | CO - 1 | To know the biological activity in quantitative manner and to understand the methods for preparing the library of compounds at a time. |
| 501 | chemistry-IV (Medicinal–II) (Theory) | CO - 2 | To know the structural activity relationship (SAR) of different class of drugs |
| (Theoly) | (Theory) | CO - 3 | To apply the knowledge of medicinal compounds and their mechanism of action in treatment of various diseases |
| | | CO - 4 | To understand the drug metabolic pathways, adverse effects and therapeutic value of drugs. |
| | | CO - 5 | To write the chemical synthesis of some drugs. |

| | 502 | Pharmaceutical Chemistry-IV | CO - 1 CO - 2 | To know the basic idea about the reactions and preparations of medicinal compounds. To understand the quantitative analysis and different types of titration methods. |
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| | | (Medicinal–II) (Practical) | CO - 3 | methods. To perform and know about the purity of drugs. |
| | | (Fractical) | CO - 4 | To study the importance usage and adverse effects of the solvent & medicinal compounds |
| | | | CO - 1 | Factors involved in formulation, preformulation and additives in dosage form. |
| | 503 | Pharmaceutics-II (Dosage Form | CO - 2 | Manufacturing process, equipment and quality control of liquids, semisolid and solid dosage form. |
| | | Technology Including | CO - 3 | Significance and purpose of coating process. |
| | | Cosmetics) | CO - 4 | Parenterals including Pharmaceutical Aerosol product formulation, production facilities, layout, manufacturing and cosmetic products. |
| | | (Theory) | CO - 5 | Radiopharmaceuticals uses, care in handling and their production |
| ŀ | | | CO - 1 | Formulation of liquid oral preparations including pediatric liquid oral. |
| | 504 | Dharma agutias H | CO - 2 | Manufacturing, dissolution and quality control of Tablet dosage forms. |
| | 304 | Pharmaceutics-II (Practical) | CO - 3 | Manufacturing of Pharmaceutical jelly. |
| | | | CO - 4 | Manufacturing and Sterilization of Ampoules. |
| | | | CO - 1 | To understand the history, scope and development of herbal drugs and their classification. |
| | 505 | Pharmacognosy-I (Theory) | CO - 2 | Learn about traditional and novel cultivations methodologies for herbal drug cultivation. |
| | | | CO - 3 | Quality controlling measures are employed in herbal drugs |
| | | | CO - 4 | Learn about the pharmacognostical information of Carbohydrates, Proteins, Tannins, Fibers and Resins. |
| | | | CO - 5 | Identifies and learns the metabolic pathways in plants |
| | | | CO - 1 | Organoleptic and Morphologistical study of Carbohydrates, Tannins, Fibers. |
| | 506 | Pharmacognosy-I (Practical) | CO - 2 | Understand about Quantitative microscopic evaluation techniques in herbal drugs authentication. |
| | | | CO - 3 | Identifies the adulteration and evaluation Methods employed in herbal drugs. |
| | | | CO - 4 | Learns about Physical evaluation techniques like extractive value. |
| | | Pharmacology-I | CO - 1 | To Understand the pharmacological actions of different categories of drugs using novel tools |
| | 507 | (Theory) | CO - 2 | To Explain the mechanism of drug action at organ, system / subcellular / macromolecular levels with simulated experiments |
| | | | CO - 3 | To understand what drugs do to the living organisms and how their effects can be applied to therapeutics and implement in screening of new chemical entities for their practical applicability in pre clinical and clinical research. |
| | | | CO - 4 | The correlation of Pharmacology with other bio medical sciences in emerging fields of research. |

| | | CO - 5 | Apply the basic Pharmacological knowledge in the prevention and treatment of various diseases and development of novel molecules for |
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| | | | healing and treatment. |
| | | CO - 1 | To understand the pharmaceutical engineering and its significance, unit operations and its unit process applications in Pharmaceutical industries. |
| 601 | Pharmaceutical Engineering-II (Theory) | CO - 2 | To know various processes involved in pharmaceutical manufacturing process like Filtration, Crystallization, Centrifugation, Distillation, Extraction, Drying as well as Evaporation |
| | | CO - 3 | Comprehend selection of type of equipment used in unit operations during pharmaceutical manufacturing and logic behind selection; develop knowledge and skill of designing a proper pharmaceutical process comprising of set of equipments for various unit operations for quality result. |
| | | CO - 4 | To understand the material handling techniques. |
| | | CO - 5 | To understand the general principle, material balance, energy balance, chemical reaction rate process etc. |
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| | Pharmaceutical | CO - 1 | Exemplify concepts and methods of separation of solids, filtration and centrifugation during pharmaceutical manufacturing. Understand principle, construction and working of equipment used in transportations of solids, filtration and centrifugation. |
| 602 | Engineering-II (Practical) | CO - 2 | To impart a fundamental knowledge on the art and science of various unit operations used in Pharmaceutical industry |
| | | CO - 3 | To know various processes involved in Pharmaceutical manufacturing process like Filtration, Crystallization, Drying, Size reduction, Size separation as well as Evaporation. |
| | | CO - 4 | To know the methods to determine process rate & analyze the data |
| | | CO - 1 | To understand about screening techniques of microbes. Designing of Fermenter and fermentable products |
| 603 | Pharmaceutical | CO - 2 | To know about Immunological, Blood & Animal products |
| | Biotechnology (Theory) | CO - 3 | The acquire the knowledge on methods of sterility testing of different Pharmaceuticals & the preparation of Surgical dressings. |
| | | CO - 4 | To know about steps and tools of R-DNA technology and other recombinant product preparation. |
| | | CO - 5 | Study the Antibiotic assays, microbial conversions of steroids & Enzyme Immobilization techniques. |
| | | CO - 1 | To know the Test for sterility in Pharmaceutical preparations. |
| 604 | Dharma couties 1 | CO - 2 | Estimation of effect of physical factors on growth of microbes. |
| 004 | Pharmaceutical Biotechnology | CO - 3 | Estimation of Bio-chemical reactions (Enzymes) of microbes |
| | CO - 4 | Microbiological Assay of Antibiotics by Disc diffusion and turbidimetric method. | |
| <i>(</i> 0 <i>E</i> | Hospital and | CO - 1 | To know various drug distribution methods; and the professional practice management skills in hospital pharmacies with reference to national and international systems of medicine. |
| 605 | Clinical Pharmacy (Theory) | CO - 2 | To know the manufacturing practices of various formulations in hospital set up for ready supply of drugs with low cost and less contamination |

| | | CO - 3 | To learn about Drug-Drug interactions and Drug-Food Interactions which helps to avoid complications in poly pharmacy, use of software. And journals and reporting to national and international authorities and monitoring centers. |
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| | | CO - 4 | To attain basic knowledge of pathology and treatment options for various communicable and non-communicable diseases in Eradication, prevention and treatment approaches, vaccinations etc. |
| | | CO - 5 | To appreciate the stores management and inventory control for smooth running and meeting the international standards etc., |
| | | CO - 1 | To learn and Practice the general dispensing Procedures. |
| 606 | Hospital and Clinical | CO - 2 | To learn about weights and measures of solids, liquids and semisolids |
| | Pharmacy (Practical) | CO - 3 | To expertise in making formulations and dispensing of powders, mixtures |
| | | CO - 4 | To learn in making formulations and dispensing of ointments and parenterals. |
| | | CO - 1 | To understand the criteria for selection of drugs and polymers for the development of Novel drug delivery systems, their formulation and evaluation. |
| 701 | (Biopharmaceutics, | CO - 2 | Equate different processes occurring in the body after the drug administration. |
| | Pharmacokinetics & New Drug Delivery) (Theory) | CO - 3 | Describe the basic terminology used in Biopharmaceutics and Pharmacokinetics. |
| | | CO - 4 | Design the Bioavailability and Bio- equivalence study of new drugs dosage forms and its use in Clinical research. |
| | | CO - 5 | Describe biopharmaceutical study for development of different dosage form. |
| | | CO - 1 | Understanding the criteria for selection of drugs and polymers for the development of Novel drug delivery systems, their formulation and evaluation. |
| 702 | Pharmaceutics-III (Practical) | CO - 2 | Determine the various pharmacokinetic parameters from either plasma concentration or urinary excretion data for drug |
| | | CO - 3 | Visualizing the effect of pharmacokinetic (ADMET) parameters on the biological effect of the drug. |
| | | CO - 4 | Imparting knowledge and skills necessary for dose calculations, dose adjustments and to apply Biopharmaceutics theories in practical problem solving. |
| | | CO - 1 | Describing about the different drugs used for treatment of diseases. |
| 702 | Pharmacology- II | CO - 2 | Students will be able to apply the pathophysiological knowledge of different disorders in treatment of diseases |
| /03 | | CO - 3 | The students would learnt about drugs used in treatment of Cancer, CVS disorders, Bioassays, Endocrine system disorders. |
| | | CO - 4 | Know about correlation of pharmacology with other biomedical sciences |
| | | CO - 5 | They comprehended the principles of toxicology and treatment of various poisonings. |

| | | CO - 1 | Students would understand the mechanism of drug action and its relevance in the treatment of different diseases. |
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| 704 | Pharmacology-II (Practical) | CO - 2 | Helps in correlating between pharmacology of a disease and its mitigation or cure |
| | (Fractical) | CO - 3 | They would be observed the various receptor actions using isolated tissue preparation |
| | | CO - 4 | They would be trained with isolation of different organs/tissues from the laboratory animals by simulated experiments. |
| | | CO - 1 | To know the determination of Photometric analytical techniques. |
| | Pharmaceutical | CO - 2 | To understand the Titrimetric analytical techniques. |
| 705 | Analysis –II | CO - 3 | To determine Chromatographic techniques. |
| | (Theory) | CO - 4 | To determine Thermal analytical techniques |
| | | CO - 5 | To determine emission photometric analytical techniques |
| | Pharmaceutical | CO - 1 | To analyze the Pharmaceutical formulations by spectrophotometric analytical techniques |
| 706 | Analysis –II | CO - 2 | To analyze the drugs by electrochemical techniques |
| | (Practical) | CO - 3 | To perform qualitative analysis by Chromatographic Techniques. |
| | | CO - 4 | To analyze the drugs by volumetric techniques |
| | Industrial management and Pharmaceutical Marketing (Theory) | CO - 1 | Functions of management, location and layout of pharmaceutical Industry. |
| 707 | | CO - 2 | Production planning, organization of store, Inspection, store accounting and personal management. |
| | | CO - 3 | Marketing, market planning, methods and sales-distribution policy. |
| | | CO - 4 | Principle of costing, cash book, balance and account recording. |
| | | CO - 5 | Understand about ICH guidelines, schedules, NDA-ANDA filing. |
| | | CO - 1 | Study of plant constituents and their structural elucidations it helps to the know the structure of the compound |
| 801 | Pharmaceutical Chemistry–V | CO - 2 | Study the procedures for qualitative tests for phytochemical constituents and their importance in chemistry |
| | (Natural Products) (Theory) | CO - 3 | To study the Isolation techniques of various Phytochemical constituents help to know the active ingredients and their importance in Natural chemistry. |
| | | CO – 4 | Students are through with the identification tests ensures the presence of particular chemical constituent in the plant product here by it is helpful to identify the phytochemicals. |
| | | CO - 5 | Understand the therapeutic uses of various natural drugs and their Pharmacological importance. |
| | | CO - 1 | Qualitative analysis of fats and oils help to determine the quality of fat or oil there by it is helpful to check the purity of the product quality. |
| 802 | Pharmaceutical Chemistry–V (Natural Products) (Practical) | CO - 2 | Know the estimation of phytochemical constituents by performing assay ensures the quality of the product. |
| 002 | | CO - 3 | Understanding the isolation of various phytochemical constituents helps to know the active ingredients and their importance in Natural chemistry |

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| | | | CO - 4 | Qualitative analysis of phytochemicals by performing identification tests ensures the presence of particular chemical constituent present in the plant product. |
| | | DI W | CO - 1 | To be able to understand the pharmacognostical information and therapeutics of Glycosides in herbal drugs. |
| | 803 | Pharmacognosy-II (Theory) | CO - 2 | To learn about the chemical identification tests and pharmacological activities of Alkaloids |
| | | | CO - 3 | To Know the significance of Volatile oils and Fixed oils and their extraction process. |
| | | | CO - 4 | To understand the strategy of the Plant tissue culture and its importance in production of secondary metabolites. For easy learning showed some plant tissue culture processing videos to students. |
| | | | CO - 5 | Aware about the different Medicinal plants |
| | | | CO - 1 | Ability to understand the Morphological characters of Alkaloids, Glycosides. |
| | 804 | II (Practical) | CO - 2 | Learns the identification of powder crude drugs based on microscopic characters. |
| | | | CO - 3 | Identification of powder mixture samples based on microscopical characters. |
| | | | CO - 4 | Develops the cognitive skills for transverse sections of crude drugs. |
| | | | CO - 1 | To understand the GMP and validation procedures for different equipments in Pharmaceutical industry. |
| | 805 | GMP (Theory) | CO - 2 | To Calibrate analytical instruments like HPLC and Spectrophotometer as per ICH guidelines |
| | | | CO - 3 | To Evaluate and analyze the data in Pharmaceutical industry as per ICH guidelines. |
| | | | CO - 4 | To analyze statistical quality control procedures. |
| | | | CO - 1 | To understand how to choose and assign topic for the project. |
| | 806 | PROJECT | CO - 2 | To know the collection of literature from the relevant sources and carry out research work in the lab. |
| | | | CO - 3 | Interpretation and tabulation of results. |
| | | | CO - 4 | To Prepare the thesis and explanation of outcomes of the work to the evaluators. |
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