



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

B.PHARMACY

| SUBJECT NAME & CODE | CODE | COURSE OUTCOMES |
|---|--------|---|
| Human Anatomy and Physiology –I BP101 T | C101.1 | Identify the gross morphology, structure and functions of cell, skeletal, muscular, cardiovascular system of the human body |
| | C101.2 | understand various homeostatic mechanisms and their imbalances in the human body. |
| | C101.3 | Identify the different types of bones and joints in the human body. |
| | C101.4 | Analyse the various tissues of different systems of human body |
| | C101.5 | Analyze the Cardiovascular system and lymphatic system. |
| | C101.6 | Learn various techniques like blood group determination, blood pressure measurement, blood cells counting |
| Pharmaceutical Analysis – I BP102 T | C102.1 | Explain the theoretical basis of commonly used statistical methods & correctly analyze & interpret the results of statistical data from surveys, experiments & observational studies. |
| | C102.2 | Illustrate sources of errors in analytical techniques, methods to minimize them and calibration of analytical methods. |
| | C102.3 | Describe the various titrimetric and electrochemical methods of analysis and their application in quality control of pharmaceuticals. |
| | C102.4 | Develop and enhance the analytical skills |
| Pharmaceutics – I BP103 T | C103.1 | Describe the history of pharmacy profession and its scope. |
| | C103.2 | Identify the prescription in a professional manner. |
| | C103.3 | Describe the basics of Pharmaceutical calculations & calculate the dose for a drug. |
| | C103.4 | Discuss about various dosage forms. |
| | C103.5 | Identify and suggest the correction methods in pharmaceutical incompatibilities in prescription. |
| Pharmaceutical Inorganic Chemistry BP104 T | C104.1 | Acquire Knowledge of sources of impurities and methods to determine the impurities in inorganic drugs and pharmaceuticals. |
| | C104.2 | Demonstrate the principles of limit tests. |
| | C104.3 | Identification of different anions, cations and different inorganic pharmaceuticals. |
| | C104.4 | Describe the basic concepts of acidity /basicity, buffers and tonicity applicable in pharmaceuticals. |
| | C104.5 | Summarize the medicinal and pharmaceutical importance of inorganic compounds. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|---|
| | C104.6 | Describing concepts, principles and applications of radiopharmaceuticals. |
| Communication Skills BO105 T | C105.1 | Explain the key terminologies of process of communication. |
| | C105.2 | Identify the importance of tone, body language and active listening as elements of effective communication. |
| | C105.3 | Interpret the factors influencing communication perspectives. |
| | C105.4 | Explain the nuances of audience – centric presentation. |
| | C105.5 | Demonstrate effective interview skills. |
| | C105.6 | Apply appropriate communication style in professional context. |
| Remedial Biology BP106RBT | C106.1 | Identify and understand the components of living world, Both Plants and Animals. |
| | C106.2 | Classify and remember the salient features of five kingdoms of life. |
| | C106.3 | Understand the basic components, both anatomy and physiology of plants. |
| | C106.4 | Discuss and assess anatomy physiology of animals, particularly humans. |
| | C106.5 | Identify and understand the various tissue systems and organ systems in plants and animals. |
| Remedial Mathematics BP106RMT | C106.1 | Know the theory and their application in Pharmacy |
| | C106.2 | Solve the different types of problems by applying theory. |
| | C106.3 | Appreciate the important application of mathematics in Pharmacy. |
| | C106.4 | Apply both conventional and creative techniques to the solutions of mathematical problems. |
| | C106.5 | Solve problems of calculus, matrices. |
| Human Anatomy and Physiology –I BP107 P | C107.1 | Perform various experiments related to identification of the tissues indifferent systems of human body. |
| | C107.2 | Examine various techniques like blood group determination, blood pressure determination, blood cell counting. |
| | C107.3 | Evaluate various experiments related to special senses and nervous system. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|--|
| | C107.4 | Practice the determination of heart rate and pulse rate. |
| | C107.5 | Record blood parameters like hemoglobin, clotting and bleeding time. |
| Pharmaceutical Analysis – I BP108 P | C108.1 | Understand the principles of volumetric and electro chemical analysis. |
| | C108.2 | Evaluate various volumetric and electrochemical titrations. |
| | C108.3 | Develop analytical skills. |
| Pharmaceutics – I BP109 P | C109.1 | Explain some solid, liquid and semisolid dosage forms. |
| | C109.2 | Select suitable container and storage conditions for a product. |
| | C109.3 | Asses the pharmaceuticals. |
| Pharmaceutical Inorganic Chemistry BP110 P | C110.1 | Demonstrate with the principles of limit tests. |
| | C110.2 | Acquire the knowledge on identification of inorganic salts through various qualitative tests. |
| | C110.3 | Apply the knowledge to perform tests for purity for different compounds as per IP. |
| | C110.4 | Implement skills to prepare inorganic salts -boric acid, potash alum and ferrous sulphate. |
| | C110.5 | Apply knowledge to assess safety, health and consequent responsibilities relevant to this. |
| Communication Skills BP111 P | C111.1 | Recognize phonemes for proper articulation of words. |
| | C111.2 | Explain the key concepts of writing skills and listening skills. |
| | C111.3 | Apply listening skills and reading skills for comprehension. |
| | C111.4 | Demonstrate conversation skills using appropriate body language and tone. |
| | C111.5 | Demonstrate audience – centric presentation. |
| | C111.6 | Develop professional written document. |
| Remedial Biology BP112RBP | C112.1 | Construct and develop microscopic sections of parts of the plant. |
| | C112.2 | Identify various systems of frog using computer model. |
| | C112.3 | Differentiate the various blood groups. |
| | C112.4 | Calculate the blood pressure and tidal volumes. |
| | C201.1 | Identify the basic knowledge about central nervous system including nervous tissue, brain and spinal |
| | C201.2 | Understand the structure and functions of gastrointestinal tract and to learn about ATP/CTP/BMR.. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|--|
| Human Anatomy and Physiology – II BP201 T | C201.3 | Understand structure and functions of respiratory system and various mechanisms involved in regulation of respiration. |
| | C201.4 | Analyse the anatomy of urinary system and physiology of urine formation/micturition.. |
| | C201.5 | Analyse the essentiality of endocrine glands and their hormones. |
| | C201.6 | Learn the physiology of male and female reproductive organs and concepts of genetics |
| Pharmaceutical Organic Chemistry – I BP202 T | C202.1 | acquire the knowledge and understanding of the basic experimental principles of pharmaceutical organic chemistry. |
| | C202.2 | Generalize the classification, nomenclature, structure and the type of isomerism of the organic compound. |
| | C202.3 | Review of important physical properties, reactions (and underlying mechanisms) and methods of preparation of various functional groups. |
| | C202.4 | List out reactivity/stability of compounds and intermediates forming in reactions. |
| | C202.5 | Demonstrate the identification of organic compound. |
| | C202.6 | Summarize the concepts of named reactions and its applications. |
| Biochemistry BP203 T | C203.1 | The study of bio molecules gives knowledge on bio chemical organization of living organisms along with their role. |
| | C203.2 | It helps in understanding the catalytic role of enzymes, importance of enzyme inhibition in the design of new drugs. |
| | C203.3 | Study of enzymes and isoenzymes emphasizes their role in therapeutic and diagnostic applications. |
| | C203.4 | Metabolic pathways of bio molecules helps the students to acquire knowledge on various energy metabolisms that occur in living organisms. |
| | C203.5 | Understanding the concepts of mammalian genetic organization, concepts of DNA, RNA, Protein and mutations gives wide knowledge to the student community to face the future challenges in health care sector. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|---|
| | C203.6 | The study of metabolic reactions and deficiency diseases gives awareness to the students to develop new alternatives in pharmaceutical industries to face the challenges of nutritional sciences. |
| Pathophysiology BP204 T | C204.1 | Study the various etiological factors for the development of diseases. |
| | C204.2 | Understand the concepts of pathophysiological basis of selected diseases. |
| | C204.3 | Learn the basics of signs and symptoms of diseases. |
| | C204.4 | Study of common complications of the diseases. |
| Computer Application in Pharmacy BP205 T | C205.1 | To know the various computer applications in pharmacy. |
| | C205.2 | To understand various number systems in computers. |
| | C205.3 | To know web technologies. |
| | C205.4 | To understand the various types of databases and applications of databases in pharmacy. |
| | C205.5 | To learn Computers as data analysis in Preclinical development. |
| | C205.6 | To know databases in the concept of bio-informatics. |
| Environmental Sciences BP206 T | C206.1 | To create the awareness about environmental problems among learners. |
| | C206.2 | To impart basic knowledge about the environment and its allied problems. |
| | C206.3 | To develop an attitude of concern for the environment. |
| | C206.4 | To motivate learner to participate in environment protection and environment improvement. |
| | C206.5 | To acquire skills to help the concerned individuals in identifying and solving environmental problems. |
| | C206.6 | To strive to attain harmony with Nature. |
| Human Anatomy and Physiology – II BP207 P | C207.1 | Perform the hematological tests like blood cell counts, hemoglobin estimation, bleeding/clotting time etc. |
| | C207.2 | Identify the various organs of different systems of human body. |
| | C207.3 | Practice the experiments like neurological reflex, body temperature measurement |
| | C207.4 | Study of basic physiological parameters like blood pressure, heart rate, pulse and respiratory volumes. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|--|
| | C207.5 | Conceptualized study of integumentary systems |
| Pharmaceutical Organic Chemistry – I BP208 P | C208.1 | Assessment of safety measures in organic chemistry laboratory and various laboratory techniques. |
| | C208.2 | Evaluation of steps involved in identification of unknown organic compound. |
| | C208.3 | State abilities to prepare suitable solid derivatives from organic compounds. |
| | C208.4 | Build skills to prepare stereo models containing various functional groups. |
| | C208.5 | Represent stereo models and its arrangement. |
| | C208.6 | Apply knowledge to assess safety, health and consequent responsibilities relevant to this. |
| Biochemistry BP209 P | C209.1 | Experiments on qualitative analysis of biomolecules gives practical knowledge to the students for better understanding of compositions of blood and urine samples. |
| | C209.2 | Quantitative analysis of blood sugars, creatinine and cholesterol levels makes the students to be aware of the health conditions like Diabetes and jaundice etc. |
| | C209.3 | Students can gain knowledge on different buffer preparations that helps them in research applications. |
| | C209.4 | Study of enzymes like Amylases give knowledge to the students related to enzyme applications in industries. |
| | C209.5 | Qualitative analysis of urine sample for abnormal constituents helps to know about the diseases related to urine in human beings. |
| Computer Application in Pharmacy BP210 P | C210.1 | To know how to design a questionnaire using a word processing package and a form in MS Access. |
| | C210.2 | To understand how to create a HTML web page, invoice table and database. |
| | C210.3 | To learn how to create mailing labels Using Label Wizard, generating label in MS word. |
| | C210.4 | To understand generating report and printing the report from database. |
| | C210.5 | To know drug information storage and retrieval using online tools and MS Access. |
| | C210.6 | To understand exporting tables, queries, forms and reports to web and XML pages. |
| | C301.1 | Explain the concept of orbital picture, resonance, reactions and effects of substituent's of benzene. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|--|
| Pharmaceutical Organic Chemistry – II BP301 T | C301.2 | Understand on acidity, effect of substituent's, reaction and qualitative test of phenols. |
| | C301.3 | Demonstrate basicity, effect of substituent's, reaction of aromatic amines. |
| | C301.4 | Reproduce the concept of optical isomerism and geometrical isomerism of organic compounds. Including concept of resolution of racemic modifications. |
| | C301.5 | Describe the synthesis, reactions, structure and medicinal uses of some polynuclear hydrocarbons. |
| | C301.6 | Explain the theory of cycloalkanes and chemistry of fats and oils. |
| Physical Pharmaceutics – I BP302 T | C302.1 | State the physicochemical properties of drug molecules, pH, solubility and formation of complexes. |
| | C302.2 | Explain the role of surfactants. |
| | C302.3 | Explain physical principles of states of matter and phase rule. |
| | C302.4 | Complete pKa values and estimate HLB values. |
| | C302.5 | Summarize the importance of pH and buffers in manufacturing pharmaceutical dosage forms and maintaining stability and Solving problems related to buffers and isotonic solutions. |
| | C302.6 | Summarize skills and working knowledge of the principles and concepts of surface tension and its measurement. |
| Pharmaceutical Microbiology BP303 T | C303.1 | Study of ph. Microbiology gives overall knowledge on microorganisms, infections, treatment and their applications in pharmaceutical industries and medicine. |
| | C303.2 | Methods of identification, cultivation and preservation of microbes give knowledge to students for better understanding in handling them and to know their applications in human life. |
| | C303.3 | Understanding of sterilization concepts gives immense knowledge to the students which help them in getting knowledge in industrial processing. |
| | C303.4 | Concepts of sterility testing are more useful to the students to have sound knowledge in pharmaceutical product manufacturing. |
| | C303.5 | The concepts of cell culture technology are useful for various applications in industries. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|---|
| | C303.6 | Study of equipments like aseptic cabinet, hot air oven and incubator updates the knowledge of students to have experience in modern tool usage in academics |
| Pharmaceutical Engineering BP304 T | C304.1 | Explain various unit operations used in Pharmaceutical industries. |
| | C304.2 | To comprehend the material handling techniques. |
| | C304.3 | Identify various processes involved in pharmaceutical manufacturing process. |
| | C304.4 | Instruct the pharmaceutical applications of various unit operations. |
| | C304.5 | Review the significance of plant lay out design for optimum use of resources. |
| | C304.6 | Generalize the preventive methods used for corrosion control in Pharmaceutical industries. |
| Pharmaceutical Organic Chemistry – II BP305 P | C305.1 | Acquire Knowledge on separation and identification of qualitative analysis of solid-solid organic binary mixtures. |
| | C305.2 | Demonstrate the concept of re-crystallisation and Steam distillation. |
| | C305.3 | Determination of Ester value, Acid value and saponification value of oil sample. |
| | C305.4 | Use various techniques for the different organic compounds to understand the reaction mechanisms. |
| | C305.5 | Apply knowledge to assess safety, health and consequent responsibilities relevant to this. |
| Physical Pharmaceutics – I BP306 P | C306.1 | Demonstrate solubility studies for different drugs. |
| | C306.2 | Evaluate pKa values and estimate HLB values. |
| | C306.3 | Examine and determine the percentage composition. |
| | C306.4 | Asses Critical Micellar Concentration of various surfactants. |
| | C306.5 | Evaluate of stability constants and partition coefficients. |
| | C307.1 | Hands on experience on the equipments like BOD incubator, LMF chamber, aseptic cabinet and Hot air oven gives knowledge to the students that is useful in understanding microbiological concepts. |
| | C307.2 | Sterilization techniques illustrates role of sterilization and disinfection in various ph. Industries. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|--|
| Pharmaceutical Microbiology BP307 P | C307.3 | Staining techniques helps the students to identify the morphological and cultural characteristic features of microorganisms. |
| | C307.4 | Pure culture (isolation) techniques helps the students in better understanding of contamination, spoilage like conditions in processing mechanism in industries. |
| | C307.5 | Sterility testings give knowledge to the students about the industrial production of various drugs and medicines and their safety. |
| | C307.6 | Biochemical and analytical tests makes the students to learn the safety issues of products that are useful for community. |
| Pharmaceutical Engineering BP308 P | C308.1 | Design various experiments related to unit operations. |
| | C308.2 | Instruct to operate equipment's used in the manufacture of pharmaceutical products. |
| | C308.3 | Interpret results of the experiments conducted. |
| | C308.4 | Demonstrate the material and energy requirements for optimizing the pharmaceutical unit processes. |
| Pharmaceutical Organic Chemistry – III BP401 T | C401.1 | Summarize the medicinal uses and other applications of organic compounds. |
| | C401.2 | Acquire the knowledge and understanding of the basic experimental principles of heterocyclic chemistry. |
| | C401.3 | Instruct to draw the structures and synthesize simple pharmaceutically active organic compounds having five and six membered heterocyclic compounds. |
| | C401.4 | Describe detailed mechanisms for common naming reactions. |
| | C401.5 | Identify Stereo-chemical features including conformation and stereo electronic effects; Geometrical isomers. |
| Medicinal Chemistry – I | C402.1 | Explain history and basic principles of Medicinal Chemistry. |
| | C402.2 | Study the concept of Physicochemical properties on biological action of drug molecule |
| | C402.3 | Describe classification, mechanism of action, structure activity relationship and uses of drugs acting on Autonomic nervous and Central Nervous system. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|--|
| BP402 T | C402.4 | Explanation on recent development of Prodrugs, Soft drugs and hard drugs. Scheme of synthesis of drugs from various therapeutic categories. |
| | C402.5 | Acquire Knowledge on structural activity relationship (SAR) of different class of drugs. |
| | C402.6 | Classification of centrally and peripherally acting analgesic drugs. |
| Physical Pharmaceutics – II BP403 T | C403.1 | Explain the concept of rheology and flow properties of pharmaceutical preparations. |
| | C403.2 | Describe the factors leading to instability of disperse systems, effect of particle size distribution of powders on the manufacture of dosage forms. |
| | C403.3 | State the principles of chemical kinetics in stability testing. |
| | C403.4 | Apply the principles of micrometrics, rheology, chemical kinetics & stability, coarse dispersions in the formulation development and evaluation of dosage forms. |
| Pharmacology – I BP404 T | C404.1 | Describe the pharmacological actions of different classes of drugs. |
| | C404.2 | Recognize molecular mechanisms of drug action in the human body. |
| | C404.3 | Read the Basic pharmacological knowledge of drugs in the prevention and treatment of various diseases. |
| | C404.4 | Define the concepts of different types of drug receptors and their signaling mechanisms. |
| | C404.5 | Enumerate the basic knowledge of drug addiction, abuse, drug interactions, and Pharmacovigilance. |
| Pharmacognosy and Phytochemistry – I BP405 T | C405.1 | know the techniques in the cultivation, storage and production of crude drugs . |
| | C405.2 | Learn the fundamental aspects and applications of plant tissue culture. |
| | C405.3 | Apply various techniques to evaluate the herbal drugs. |
| | C405.4 | Understand the significance of Pharmacognosy in allopathy and traditional system of medicine. |
| | C405.5 | Explain the Sources, chemical nature and uses of plant fibres, hallucinogens, teratogens and natural allergens and novel medicinal agents from marine sources. |
| | C406.1 | Construct synthetic procedure and understand related reaction mechanism. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|--|
| Medicinal Chemistry – I BP406 P | C406.2 | Learn synthesis of medicinally important compounds / drug intermediates with Recrystallization and TLC techniques. |
| | C406.3 | Implement Purification methods for synthesized compounds using Column chromatography. |
| | C406.4 | Evaluation of Partition coefficient of drugs. |
| | C406.5 | Examination of Ionisation constants of drugs. |
| | C406.6 | Apply knowledge to assess safety, health and consequent responsibilities relevant to this. |
| Physical Pharmaceutics – II BP407 P | C407.1 | Evaluate flow properties of liquids and powders. |
| | C407.2 | Asses the particle size & size distribution using various methods. |
| | C407.3 | Demonstrate the effect of suspending agents on sedimentation volume. |
| | C407.4 | Asses the various orders of reactions. |
| | C407.5 | Examine shelf – life by carrying out accelerated stability studies. |
| Pharmacology – I BP408 P | C408.1 | Choose different routes of drug administration in experimental animals. |
| | C408.2 | Demonstrate the effects of drugs on animals by simulated experiments. |
| | C408.3 | Define the knowledge of the interrelation of pharmacology with other biomedical sciences. |
| | C408.4 | Performance of laboratory investigation techniques. |
| | C408.5 | Basic knowledge of anesthetic and euthanasia techniques used in animal studies. |
| Pharmacognosy and Phytochemistry – I BP409 P | C409.1 | Understand the chemical nature of crude drug by chemical tests. |
| | C409.2 | Perform stomatal number, stomatal index, vein islet number, vein islet termination and palisade ratio of leaf drug. |
| | C409.3 | Understand and determine size of starch grains, calcium oxalate crystals, length and width of fiber of the sample. |
| | C409.4 | Able to perform Ash value, Extractive values, moisture content, swelling and foaming index for the evaluation of crude drug. |
| | C501.1 | Evalate basic principles and development of diuretics. |
| | C501.2 | Generalize History and basic and core aspects of the drug design. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|---|
| Medicinal Chemistry – II BP501 T | C501.3 | Summarize the development of drugs used in cardiac diseases like Arrhythmias, hypertension, diuretics and endocrine system. |
| | C501.4 | Describe recent development in Drugs acting on blood. |
| | C501.5 | To acquire knowledge about the chemotherapy for cancer. |
| Industrial Pharmacy – I BP502 T | C502.1 | Asses the physicochemical properties of drugs as a tool in the optimization of solid and liquid dosage forms. |
| | C502.2 | Develop Solid dosage forms and liquid dosage forms using established procedures and machinery. |
| | C502.3 | To learn Awareness on the facilities and required standards necessary for the industrial production of sterile dosage forms. |
| | C502.4 | To Formulate and prepare different types of parenteral, ophthalmic dosage forms, cosmetics such as lipsticks, shampoos, cold cream and vanishing cream. |
| | C502.5 | Select and evaluate appropriate packaging materials for various pharmaceutical dosage forms. |
| Pharmacology – II BP503 T | C503.1 | Understand the pharmacology and pharmacotherapy of common and essential medications used to treat cardiovascular disorders. |
| | C503.2 | Explain the principles, uses, and types of bioassays. |
| | C503.3 | Recognize drugs interactions and adverse drug responses. |
| | C503.4 | Understand the relationship between pharmacology and other biomedical sciences. |
| | C503.5 | Discuss pharmacological mechanisms and their importance in disease treatment. |
| Pharmacognosy and Phytochemistry – II | C504.1 | Know the basic metabolic pathways and formation of different secondary metabolites through various biosynthetic pathways. |
| | C504.2 | Understand the utilization of radioactive isotopes in the investigation of biogenetic studies. |
| | C504.3 | Understand the basic techniques like spectroscopy, chromatography and electrophoresis in the isolation, purification and identification of crude drugs. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|---|
| BP504 T | C504.4 | Learn the isolation, identification and analysis of phytoconstituents. |
| | C504.5 | Explain the source, chemistry, therapeutic uses and commercial applications of various secondary metabolites containing drugs. |
| | C504.6 | Discuss the method for industrial production, estimation and utilization of some therapeutically important phytoconstituents. |
| Pharmaceutical Jurisprudence BP505 T | C505.1 | Explain the importance of code of pharmaceutical ethics. |
| | C505.2 | Memorize and explain the provisions of acts pertaining to drugs and cosmetics. |
| | C505.3 | State the latest amendments with respect to DPCO and patent and design act. |
| | C505.4 | Describe the concepts of price fixation of pharmaceutical products. |
| | C505.5 | Summarize the Pharmaceutical Acts and Laws and their implications in the development and marketing of pharmaceuticals. |
| | C505.6 | Identify the labelling requirements of scheduled and non-scheduled formulations. |
| Industrial Pharmacy – I BP506 P | C506.1 | Produce formulations of different dosage forms by using various excipients. |
| | C506.2 | Select suitable packaging container and closing and labeling requirements for the prepared dosage forms. |
| | C506.3 | Demonstrate different equipment's used in preparation of solid and other dosage forms. |
| | C506.4 | Apply the physicochemical properties of drugs to dosage form characteristics. |
| | C506.5 | Summarize to evaluate different dosage forms by performing quality control tests with the range of limits to pass the test. |
| Pharmacology – II BP507 P | C507.1 | Study of physiological salt solutions, drug solution and use in various animal experiments. |
| | C507.2 | Analyze the effect of drug on Concentration Response Curves (CRC) using suitable isolated tissue preparations (Synergism and Antagonism). |
| | C507.3 | Using computer models to demonstrate drug effects. |
| | C507.4 | Analyze the impact of spasmogens and spasmolytics on appropriate tissue preparations. |
| | C507.5 | Conduct in vivo research using isolated tissue preparations. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|---|
| Pharmacognosy and Phytochemistry – II BP508 P | C508.1 | Analyze the Macroscopy, Microscopic and powder characteristics of crude drugs for detection. |
| | C508.2 | Apply techniques and tests for the isolation, identification of phytoconstituents. |
| | C508.3 | Understand the separation techniques of sugars and herbal extract by paper and thin layer chromatography. |
| | C508.4 | Know the separation and detection techniques of volatile oils. |
| | C508.5 | Distinguish the unorganized crude drugs by various chemical test. |
| Medicinal Chemistry – III BP601 T | C601.1 | Generalize the concept and development of anti-biotic. |
| | C601.2 | Describe how current drugs were developed by using pharmacophore modelling and docking technique. |
| | C601.3 | Acquire knowledge in the chemotherapy for cancer. |
| | C601.4 | Impart knowledge on microbial diseases. |
| | C601.5 | Demonstrate the concept of viral diseases and its development. |
| | C601.6 | To acquire knowledge about the mechanism pathways of different class of medicinal compounds. |
| Pharmacology – III BP602 T | C602.1 | Outline classification, category and pharmacology of drugs acting on respiratory and gastrointestinal systems. |
| | C602.2 | Understand the significance of chemotherapeutic agents. |
| | C602.3 | Explain the importance of drugs used in treatment of Cancer, tuberculosis, leprosy, fungal Diseases, viral diseases, UTI, STD & immunosuppressive agents. |
| | C602.4 | Understand the mechanism of action and treatment of drugs act on infectious diseases. |
| | C602.5 | Evaluate the symptoms and treatment of various drug poisoning. |
| | C603.1 | Understand raw material as source of herbal drugs from cultivation to herbal drug product. |
| | C603.2 | Utilize the plants as nutraceuticals in ailments and also understand herb-food and herb-drug interaction of various plant drugs. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|---|
| Herbal Drug Technology BP603 T | C603.3 | Identify the natural origin drugs as raw materials for preparation of cosmetics, excipients, conventional herbal formulations and novel dosage forms like phytosomes. |
| | C603.4 | Explain and understand the stability testing of herbal drugs as per WHO and ICH guidelines for evaluation of herbal drugs and patenting of natural products. |
| Biopharmaceutics and Pharmacokinetics BP604 T | C604.1 | Describe the concept of ADME of drug in human body. |
| | C604.2 | Describe the various pharmacokinetic parameters from either plasma concentration or urinary excretion data of the drug. |
| | C604.3 | Apply the various regulations related to developing BA-BE study protocol for the new drug molecule. |
| | C604.4 | Summarize the concept of multi compartment models, multiple dose administration and their significance. |
| | C604.5 | Identify the various causes of nonlinear pharmacokinetics. |
| Pharmaceutical Biotechnology BP605 T | C605.1 | Ph. Biotechnology helps in understanding the applications of Immobilized enzymes in pharmaceutical industries. |
| | C605.2 | The study of genetic engineering concepts emphasizes the applications of various r DNA products for the future therapeutics. |
| | C605.3 | Monoclonal antibodies by Hybridoma technology gives knowledge on future problems and their solutions in healthcare sector of our society. |
| | C605.4 | Fermentation technology mainly illustrates the production of various fermented products in industries and their benefits to the community as well as learning skills of various techniques on fermentation process. |
| | C605.5 | The concepts of immunology gives knowledge to the students to aware of various infections or diseases caused by different pathogens. |
| | C605.6 | The techniques like PCR, Blottings and ELISA are the modern tools for the usage in pharmacy and medicine. |
| | C606.1 | Understand the cGMP and GLP, ICH aspects in a pharmaceutical industry. |
| | C606.2 | Realize the importance of documentation. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--------------------------------------|--------|---|
| Quality Assurance BP606 T | C606.3 | Explain the responsibilities of TQM, QA & QC departments. |
| | C606.4 | Know the handling of return goods and Good Warehousing Practices in pharma industry. |
| | C606.5 | Describe the importance of calibration and validation of instruments. |
| Medicinal Chemistry – III BP607 P | C607.1 | Apply various Synthetic, recrystallization techniques and understand reaction mechanisms involved in synthesis of medicinally important organic compound. |
| | C607.2 | Learn the Synthesis of medicinally important organic compounds using microwave assisted organic synthesis. |
| | C607.3 | Acquire Knowledge on assay principles and procedure of medicinally important drugs including antibiotic. |
| | C607.4 | Examine and implementation of principle and operating procedure of microwave assisted synthesis in comparison with conventional procedure. |
| | C607.5 | Apply knowledge to assess safety, health and consequent responsibilities relevant to this. |
| Pharmacology – III BP608 P | C608.1 | Calculate animal doses for experiments in pharmacology. |
| | C608.2 | Examine the biochemical investigations. |
| | C608.3 | Record the effect of drugs on isolated preparations by using computerized simulated software. |
| | C608.4 | Define OECD guidelines and ethical principles in acute and chronic oral toxicity study. |
| | C608.5 | Understand various Biostatistics methods in experimental pharmacology. |
| Herbal Drug Technology BP609 P | C609.1 | Evaluate the preliminary qualitative screening of crude drugs and excipients of natural sources. |
| | C609.2 | Determine the alcohol content of ayurvedic preparation and aldehyde content, phenol content of volatile oils. |
| | C609.3 | Know the formulation and evaluation techniques of herbal creams, lotions and shampoos. |
| | C609.4 | Apply the Preparation and standardization process for herbal syrup, mixtures and tablets. |
| | C609.5 | Analyze the monograph herbal drugs as per Pharmacopoeia. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|---|--------|---|
| Instrumental Method of Analysis BP701 T | C701.1 | Impart a fundamental knowledge on the principles and instrumentation of spectroscopic and chromatographic technique. |
| | C701.2 | Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis. |
| | C701.3 | Describe the general methods for separation and purification of components from a mixture and their application to pharmaceutical industry. |
| | C701.4 | Perform quantitative & qualitative analysis of drugs using various analytical instruments. |
| | C701.5 | Underlines on theoretical and practical knowledge on modern analytical instruments that are used for drug testing. |
| Industrial Pharmacy – II BP702 T | C702.1 | Summarize the scale up process in pharmaceutical industry. |
| | C702.2 | Review the technology transfer. |
| | C702.3 | Explain about various laws and acts that regulate pharmaceutical industry. |
| | C702.4 | Implement the regulatory environment by upholding good regulatory practices. |
| | C702.5 | Describe the regulations and approval process in pharmaceutical industry. |
| Pharmacy Practice BP703 T | C703.1 | Describe the functioning of hospital and community pharmacy. Identify and assess adverse drug reactions. |
| | C703.2 | Establishment of pharmacy and therapeutic committee. To develop the contents of hospital formulary and adapt to drug distribution system in the hospital. |
| | C703.3 | Implementation and practice patient medication history interview and patient counseling in management of diseases. |
| | C703.4 | To establish drug store, manage and implement inventory control techniques. |
| | C703.5 | To identify and interpret clinical laboratory tests of specific disease states. |
| | C703.6 | To describe the functions and responsibilities of hospital and clinical pharmacist. |
| | C704.1 | List the Various Approaches for Development of Novel Drug Delivery Systems. |
| | C704.2 | Review Different Types of Oral Controlled Drug Delivery System. |



Dr. K.V. Subba Reddy Institute of Pharmacy

(Approved by AICTE, P.C.I. New Delhi & Permanently Affiliated to JNTUA Anantapuramu,
MOU with Government General Hospital & KMC, Kurnool)
Recognized Under Section 2(f) and 12(B) of UGC Act 1956
Opp : Dupadu R.S., N.H - 44, KURNOOL - 518 218, A.P. INDIA.
E-mail : principalkvsrip@gmail.com www.drkvsrip.ac.in

| | | |
|--|--------|---|
| Novel Drug Delivery System BP704 T | C704.3 | Recite Knowledge on Transdermal Drug Delivery Systems. |
| | C704.4 | Evaluate various approaches for the development of targeted drug delivery systems. |
| | C704.5 | Describe about Mucoadhesive Delivery Systems and Their Significance. |
| | C704.6 | Fundamental Study of Resealed Erythrocytes: A Novel and Promising drug carrier. |
| Instrumental Method of Analysis BP705 P | C705.1 | Understand the interaction of matter with electromagnetic radiations and its applications in drug analysis. |
| | C705.2 | Describe the chromatographic separation and analysis of drugs. |
| | C705.3 | Perform quantitative & qualitative analysis of drugs using various analytical instrument. |
| Biostatistics and Research Methodology BP801T | C801.1 | To Formulate a research question, hypotheses and related objectives (general and specific). |
| | C801.2 | To Understand and apply statistical methods for the design of biomedical research. |
| | C801.3 | To gain the knowledge and understanding the concept of statistical theories in evaluation of research. |
| | C801.4 | To gain the knowledge how to and interpret results from specialized computer software. |
| | C801.5 | To Know the various statistical techniques to solve statistical problems. |
| | C801.6 | To Know the operation of M.S. Excel, SPSS, R and MINITAB®, DoE (Design of Experiment). |
| Social and Preventive Pharmacy BP802T | C802.1 | Understand the concept of health and health education. |
| | C802.2 | To create awareness about various preventive measures of stated communicable and non communicable diseases. |
| | C802.3 | Applying the mentioned knowledge of national health program serving the community in the real world. |
| | C802.4 | To describe the several vaccines included in the national immunization program and their schedule. |
| | C802.5 | To illustrate the influence of urbanization and socio-cultural influences on health. |
| | C802.6 | To assess the issue with pharmacy and health from a societal perspective. |