

**2.6.1.**

**Teachers and students are aware of the stated  
programme and course outcomes of the programmes  
offered by the institution**

**2022-2023**



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

### COURSE OUTCOMES (COs)

The learning objectives for the programmes and courses are spelled out in detail by the college. The institution uses the following approach to inform teachers and students about the learning outcomes. For the convenience of the teachers and students, hard copies of the syllabus and learning outcomes are available in the departments. The Program and Course Learning Outcomes are displayed on the walls outside of each Department. For reference, a soft copy of each program's curriculum and learning outcomes is also uploaded on the institution's website. Every IQAC meeting and College Committee meeting has discussed the importance of the learning outcomes with the teachers. Through tutorial meetings, the pupils are also made aware of the same.

### PROGRAMME OUTCOMES (POs)

- 1. Pharmacy Knowledge:** Possess knowledge and comprehension of the core and basic knowledge associated with the Profession of Pharmacy, including biomedical sciences; Pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.
- 2. Planning Abilities:** Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.
- 3. Problem analysis:** Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.
- 4. Modern tool usage:** Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

5. **Leadership skills:** Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being.
6. **Professional Identity:** Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).
7. **Pharmaceutical Ethics:** Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.
8. **Communication:** Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.
9. **The Pharmacist and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.
10. **Environment and sustainability:** Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
11. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in dependent and life-long learning in the broadest context of technological changes.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

### PROGRAM OUTCOMES

	Outcome	Description
1	<b>Pharmacy Knowledge</b>	Possess knowledge and comprehension of the core and basic knowledge associated with the Profession of Pharmacy, including biomedical sciences; Pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.
2	<b>Planning Abilities</b>	Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.
3	<b>Problem analysis</b>	Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.
4	<b>Modern tool usage</b>	Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.
5	<b>Leadership skills</b>	Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being
6	<b>Professional Identity</b>	Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).
7	<b>Pharmaceutical Ethics</b>	Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behavior that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



**Principal**  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

**Principal**  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

		associated with the decisions.
8	<b>Communication</b>	Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.
9	<b>The Pharmacist and society</b>	Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.
10	<b>Environment and sustainability</b>	Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
11	<b>Life-long learning</b>	Recognize the need for, and have the preparation and ability to engage in dependent and life-long learning in the broadest context of technological change

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



**Principal**  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

**Principal**  
Vaagdevi College of Pharmacy  
506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

### COURSE OUTCOMES (2019-2023)

#### B.Pharmacy Ist year I SEM (SEMESTER I)

BP101T	Human Anatomy and Physiology I-Theory
CO 1	Knowledge about cellular and different types of tissues
CO 2	Understanding of skin, skeletal and joint system
CO 3	Importance of blood, body fluids and lymphatic system
CO 4	Impart knowledge on SNS, PNS and senses
CO 5	Gaining knowledge on anatomy of heart, blood vessels and cardiovascular system
BP102T	Pharmaceutical Analysis I - Theory
CO 1	TO acquire basic knowledge on pharmaceutical analysis, errors and impurities
CO 2	To understand the acid base titrations
CO 3	To understanding the precipitation, complexometric, diazotization titration and gravimetry
CO 4	To understand the redox titration
CO 5	Aware on electrochemical titrations
BP103T	Pharmaceutics I - Theory
CO1	To study the history of profession of pharmacy, understand the professional way of handling the prescription and key concepts of posology.
CO 2	To understand the fundamentals of pharmaceutical calculations and basic formulations of powders and liquid dosage forms.
CO 3	To develop and evaluate different monophasic and biphasic liquid dosage forms.
CO 4	To understand basics of Pharmaceutical incompatibilities, formulation and evaluation of suppositories
CO5	To formulate and evaluate various semi solid dosage forms
BP104T	Pharmaceutical Inorganic Chemistry -Theory
CO 1	Knowledge about History of Pharmacopoeia, Sources of impurities and Limit tests
CO 2	Understanding of Acids, Bases, Buffers, Electrolytes and Dental Products

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**  
(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Study about Inorganic Gastro intestinal Agents
CO 4	Knowledge about Inorganic Expectorants, Emetics, Hematinic, poisons and Antidotes
CO 5	Importance of Radio Pharmaceuticals
<b>BP105T</b>	<b>Communication Skills-Theory</b>
CO 1	Understand the behavioral needs for a Pharmacist to function effectively
CO 2	<i>Communicate effectively (Verbal and Non Verbal)</i>
CO 3	Effectively manage the team as a team player
CO 4	Develop interview skills
CO 5	Develop Leadership qualities and essentials
<b>BP106RBT</b>	<b>Remedial Biology- Theory</b>
CO 1	Know the classification and salient features of five kingdoms of life
CO 2	Understand the basic components of anatomy & physiology of plant
CO 3	Know understand the basic components of anatomy & physiology animal with special references
<b>BP106RMT</b>	<b>Remedial Mathematics - Theory</b>
CO 1	Knowledge on the mathematical Problems their application in Pharmacy
CO 2	Gain the capability to solve the different types of problems by applying theory
CO 3	Identify the important application of mathematics in Pharmacy
CO 4	<i>Communicate mathematical knowledge and understanding to help in the field of Clinical Pharmacy</i>
<b>BP107P</b>	<b>Human Anatomy and Physiology I-Practical</b>
CO 1	To understand the microscopic study of epithelial,connective,muscular and nervous tissue
CO 2	Identification study of different joints and bones



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.  
Phone : 0870-2455111  
Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy

College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	To understand the hemocytometry, enumeration of RBC and WBC count in blood
CO 4	To perform the blood grouping, clotting and bleeding
CO 5	To determine the importance of ESR, Heart rate and blood pressure
<b>BP 108P</b>	<b>Pharmaceutical Analysis I – Practical</b>
CO 1	Indicators used in various titrimetric analysis like acid-base, redox, precipitation titrations.
CO 2	Principles involved in various titrimetric analysis.
CO 3	Preparation and standardization of various analytes use in estimation of drug.
<b>BP109P</b>	<b>Pharmaceutics I – Practical</b>
CO 1	Understand the preparation/compounding, labelling, dispensing & storage of dosage form
CO 2	Understand the handling of prescriptions and pharmaceutical calculations
CO 3	Understand the selection of excipients / additives
CO 4	Prepare and dispense various conventional dosage forms
<b>BP110P</b>	<b>Pharmaceutical Inorganic Chemistry –Practical</b>
CO 1	To gain knowledge about Limit test
CO 2	To perform Identification Tests of some inorganic compounds
CO 3	To Perform purity tests of some inorganic compounds
CO 4	To prepare inorganic compounds
<b>BP111P</b>	<b>Communication Skills Practical</b>
CO 1	Understand the behavioral needs for a Pharmacist to function effectively
CO 2	Develop interview skills, Leadership qualities and essentials

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001





Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**  
(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

BP112RBP	Remedial Biology/Practical
CO 1	Cell biology ( Basic Nature of Plant cell and Animal cell)
CO 2	Student should able to identify different types of tissues.
B.Pharmacy Ist year II SEM (SEMESTER II)	
BP201T	Human Anatomy and Physiology II - Theory
CO 1	The importance of neurons, neuron transmission,spinal cord and its function
CO 2	Regulation of acid secretion, role of digestive enzymes in digestion, process of digestion
CO 3	Importance of kidneys as excretory system, anatomy and physiology of respiratory system
CO 4	Understanding of hormones, different types of endocrine glands, homeostasis of hormonal balance in human body
CO 5	Importance of reproductive system and genetics in human body
BP 202T	Pharmaceutical Organic Chemistry I - Theory
CO 1	To understand the nomenclature and isomerism
CO 2	Acquired knowledge on alkanes and alkenes
CO 3	To understand the alkyl halides and alcohols
CO 4	Awareness on carbonyl compounds
CO 5	Understanding levels on aliphatic amines, carboxylic acids and its derivatives
BP203T	Biochemistry - Theory
CO 1	To learn the Biomolecules and Bioenergetics.
CO 2	To Know the Carbohydrate metabolism and Biological oxidation.
CO 3	To study the Lipid metabolism and Amino acid metabolism.
CO 4	Knowledge about the Nucleic acid metabolism and genetic information transfer.
CO 5	Understand about the Enzymes.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>BP204T</b>	<b>Pathophysiology</b>
CO 1	Acquire good knowledge about various disease state etiology and pathogenesis
CO 2	Should be able to identify the clinical manifestation of disease.
CO 3	Should understand the complications that arise with disorder
CO 4	Should be able to understand diagnostic techniques used to evaluate disease
<b>BP205T</b>	<b>Computer Applications in Pharmacy -I Theory</b>
CO 1	They should understand the applications, MS- Access Program Screen.
CO 2	Design and develop solutions to analyze pharmaceutical problems using computers
CO 3	Should be able to identify Create an HTMLweb page.
CO 4	Integrate and apply efficiently the contemporary IT tools to all Pharmaceutical related activities
<b>BP206T</b>	<b>Environmental Sciences</b>
CO 1	This program shall create an awareness about environmental problems, develop an attitude towards of concern for the environment.
CO 2	Understand the concept of Ecosystem
CO 3	Understand the problems and preventive measurements of Pollution
<b>BP207P</b>	<b>Human Anatomy and Physiology II -Practical</b>
CO 1	To study about the special senses, nervous and endocrine system by using specimen
CO 2	To understand the neurological, olfactory, visual and reflex activities by demonstration
CO 3	to understand the importance of body temperature and body mass index
CO 4	importance of positive and negative feedback mechanism homeostasis in human body
CO5	To study the significance of tidal volume and vital capacity for respiratory function
<b>BP 208P</b>	<b>Pharmaceutical Organic Chemistry I- Practical</b>
CO 1	Understand various reaction mechanisms



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

**Vaagdevi College of Pharmacy**  
Hanamkonda, Warangal-506 001

Vaagdevi College of Pharmacy



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 2	Reaction types in organic chemistry and stereochemistry of organic compounds
CO 3	Functional groups – halides, alcohols, ethers – its effect on type of reactions
CO 4	Qualitative analysis & preparation of simple organic compounds
<b>BP209P</b>	<b>Biochemistry – Practical</b>
CO 1	Identification study of different Carbohydrates.
CO 2	Identification study of different Proteins.
CO 3	Qualitative analysis of Urine for Abnormal constituents.
CO 4	Quantitative estimation of serum glucose, creatinine, total cholesterol, HDL cholesterol and proteins.
CO 5	Study of enzymatic hydrolysis of starch, effect of temperature and substrate concentration on amylase activity.
<b>BP210P</b>	<b>Computer Applications in Pharmacy – I Practical</b>
CO 1	They should understand the applications, MS- Access Program Screen.
CO 2	Acquire good knowledge of Networking Layers.
CO 3	Should be able to identify Create an HTML web page.
<b>B.Pharmacy 2nd year I SEM (SEMESTER III)</b>	
<b>BP 301T</b>	<b>Pharmaceutical Organic Chemistry II – Theory</b>
CO 1	To acquire the knowledge on benzene and its derivatives
CO 2	To learn the reactivity and orientation of phenols , aromatic amines and aromatic acids
CO 3	To get the knowledge on evaluation of fats and oils
CO 4	To remembering the structure, synthesis and medicinal uses of poly nuclear hydrocarbons
CO 5	To understand the reactivity and stability of cycloalkanes
<b>BP302T</b>	<b>Physical Pharmaceutics I – Theory</b>
CO 1	To understand the key concepts involved in determining solubility of drugs to formulate appropriate dosage forms.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

**Principal**  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal, 506-001

**Principal**  
Vaagdevi College of Pharmacy



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana

CO 2	To understand various physicochemical properties of drug molecules in designing the dosage forms.
CO 3	To know the principles of surface and interfacial phenomenon and their applications.
CO 4	To attain knowledge on key insights of complexation and protein binding in formulating and evaluating dosage forms.
CO5	To understand the concepts and applications of buffers and isotonic solutions in developing formulations.
<b>BP303T</b>	<b>Pharmaceutical Microbiology - Theory</b>
CO 1	Understand methods of identification, cultivation and preservation of various microorganisms
CO 2	Importance of different identification techniques and sterilization in microbiology and pharmaceutical industry
CO 3	Learn about fungi, viruses, disinfectants, antiseptics and sterility testing of pharmaceutical products
CO 4	Microbiological standardization of Pharmaceuticals
CO5	Understand the cell culture technology and its applications in pharmaceutical industry
<b>BP304T</b>	<b>Pharmaceutical Engineering - Theory</b>
CO 1	To understand the principles of fluid flow and mechanisms of size reduction and size separation.
CO 2	To understand the principles of heat transfer and mechanisms of evaporation and distillation.
CO 3	To perform various processes involved in pharmaceutical manufacturing process.
CO 4	To understand various unit operations used in pharmaceutical industry.
CO5	To appreciate the various preventive methods used for corrosion control in pharmaceutical industries.
<b>BP305P</b>	<b>Pharmaceutical Organic Chemistry II - Practical</b>
CO 1	Can write the structure, name & type of isomerism of the organic compound
CO 2	Can write reaction, name the reaction. & orientation of reaction & account for reactivity /stability
CO 3	Can prepare organic compounds

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>BP306P</b>	<b>Physical Pharmaceutics I – Practical</b>
CO 1	Enumerate the principles of solubility, diffusion and dissolution of drugs from a dosage form
CO 2	Gaining knowledge on various physicochemical properties of drug molecules in the designing the dosage form
CO 3	Understand the importance of surface and interfacial properties in designing of dosage forms
CO4	Appreciate the importance of maintaining pH and isotonicity of pharmaceutical formulations
<b>BP307P</b>	<b>Pharmaceutical Microbiology – Practical</b>
CO 1	Identify, culture, isolate microorganisms and dispose them safely.
CO 2	Handle various instruments used for sterilization, counting and cultivation of microorganisms.
CO 3	Carry out the staining & other microbiological assay of various antibiotics.
CO4	Prepare various products by fermentation.
CO 5	Perform biochemical reactions and sterility test for various pharmaceutical preparations
<b>BP 308P</b>	<b>Pharmaceutical Engineering –Practical</b>
CO 1	Ability to determine size distribution of poly dispersed powders.
CO 2	To understand the significance various factors on filtration, evaporation and crystallization.
CO 3	To understand the construction, working and applications of various equipment's by practical demonstration.
CO 4	Perform various experiments related to heat transfer and drying of solids.
<b>B.Pharmacy 2nd year II SEM (SEMESTER IV)</b>	
<b>BP401T</b>	<b>Pharmaceutical Organic Chemistry III- Theory</b>
CO 1	To acquire the knowledge and understanding of the basic experimental principles of heterocyclic chemistry.
CO 2	Stereo-chemical features including conformation and stereo electronic effects; Geometrical isomers

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



**Principal**  
**Vaagdevi College of Pharmacy**  
Hanamkonda, Warangal-506 001

Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**  
(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Know the medicinal uses and other applications of heterocyclic compounds
CO 4	To describe detailed mechanisms for common naming reactions
<b>BP402T</b>	<b>Medicinal Chemistry I - Theory</b>
CO 1	Understand the chemistry of drugs with respect to their pharmacological activity.
CO 2	Understand the drug metabolic pathways, adverse effect and therapeutic value of drug
CO 3	Know the structural activity relationship (SAR) of different class of drugs.
CO 4	Write the chemical synthesis of some drugs.
CO 5	Knowledge about the mechanism pathways of different class of medicinal compounds.
<b>BP403T</b>	<b>Physical Pharmaceutics II - Theory</b>
CO 1	Understand various physicochemical properties of drug molecules in the designing the dosage
CO 2	Know the principles of chemical kinetics and to use them for stability testing and determination
CO 3	Demonstrate use of physicochemical properties in the formulation development and evaluation
CO 4	Have basic knowledge of pharmaceutical disperse systems & flow behavior of fluids
CO 5	Get a better insight into various areas of formulation research and development, and stability studies
<b>BP404T</b>	<b>Pharmacology I - Theory</b>
CO 1	Understanding the General Pharmacology like Routes of administration of drugs, Pharmacokinetics.
CO 2	Understanding pharmacodynamics and the regulation of receptors. drug receptors interactions, signal transduction mechanisms.
CO 3	To learn about pharmacology of drugs acting on ANS.
CO 4	To know the pharmacology of drugs acting on Central nervous system like Anaesthetics, anti-epileptics and sedatives, hypnotics.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001  
Principal  
Vaagdevi College of Pharmacy



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 5	To know the pharmacology of drugs acting on Central nervous system like antipsychotics, antidepressants and neuroprotective agents.
<b>BP405T Pharmacognosy and Phytochemistry I- Theory</b>	
CO 1	To know the techniques of cultivation and production of crude drugs
CO 2	Knowledge on the crude drugs, their uses and chemical nature
CO 3	Know the evaluation techniques for the herbal drugs
CO 4	To carry out the microscopically and morphological evaluation of crude drugs
<b>BP406P Medicinal Chemistry I-Practical</b>	
CO 1	Training in different practical aspects involved in drug synthesis.
CO 2	Attain practical knowledge to analyze the percentage of purity of the drug
CO 3	Obtain sufficient knowledge to identify the drug molecules in the sample
CO 4	Utilization of various basic molecules in the synthesis of newer drug candidate
<b>BP407P Physical Pharmaceutics II - Practical</b>	
CO 1	To know the principles of chemical kinetics and to use them for stability testing and determination
CO 2	To estimate the rheological characteristics of fluids
CO 3	To understand the interfacial properties of pharmaceutical dispersions and understand the con
CO 4	To understand the formulation and evaluation of pharmaceutical disperse systems
<b>BP408P Pharmacology I - Practical</b>	
CO 1	Apply the basic pharmacological knowledge in the prevention and treatment of various diseases
CO 2	Observe the effect of drugs on animals by simulated experiments
CO 3	Appreciate correlation of pharmacology with other bio medical sciences

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



  
Principal  
Vaagdevi College of Pharmacy

  
Principal



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

BP409P	Pharmacognosy and Phytochemistry I- Practical
CO 1	Learn about classification of drugs into groups according to their morphology and microscopy
CO 2	Understand the basic microscopy of different morphological groups of crude drugs
CO 3	Identify and detect the substitutes and adulterants
B.Pharmacy 3rd year I SEM (SEMESTER V)	
BP501T	Medicinal Chemistry II – Theory
CO 1	Understand the chemistry of drugs with respect to their pharmacological activity
CO 2	Understand the drug metabolic pathways, adverse effect and therapeutic value of drugs
CO 3	Know the Structural Activity Relationship of different class of drugs
CO 4	Study the chemical synthesis of selected drugs
CO5	To understand the chemistry of drugs with respect to their pharmacological activity.
BP502T	Industrial Pharmacy I- Theory
CO 1	Understand Preformulation studies required for preparation of formulations
CO 2	Able to understand the various factors involved in formulation development.
CO 3	Able to understand the quality control studies of parenterals
CO 4	Able to formulate cosmetic formulations
BP503T	Pharmacology II – Theory
CO 1	To know the drug effect on Cardio Vascular System
CO 2	To find how the different drug effects on Haematology and Urinary system.
CO 3	To understand pharmacological actions of Autacoids
CO 4	To differentiate various categories of drugs on Endocrine system
CO 5	Understanding the principles and applications of various Bioassays.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy





Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

BP504T	Pharmacognosy and Phytochemistry II- Theory
CO 1	To outline the metabolic pathway in higher plants and their biogenetic studies.
CO 2	To understand the study of secondary metabolites like alkaloids, glycosides, tannins, volatile oils etc.
CO 3	To understand how to isolate secondary metabolites, phyto constituents & to identify them industrially
CO 4	Defining phytochemistry with extraction procedure
CO 5	To assess the crude drugs by modern methods of extraction, spectroscopy, chromatography, isolation and purification
BP505T	Pharmaceutical Jurisprudence – Theory
CO 1	Understanding the Pharmaceutical legislations and application in the development and market
CO 2	Understand the Various Indian pharmaceutical Acts and Laws
CO 3	To acquire knowledge in ethics during the pharmaceutical practice
CO 4	The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
BP506P	Industrial Pharmacy I – Practical
CO 1	Will be equipped with a knowledge regarding pre-formulation experiments such as angle of repose, cars index, Hausner's ratio
CO 2	Be able to understand the various factors involved in formulation development.
CO 3	Formulate various dosage forms and handle various equipment used in the manufacture of dos
CO 4	Perform the evaluation, and quality control tests for various formulations
CO 5	Prepare various cosmetic formulations.
BP507P	Pharmacology II Practical
CO 1	Observe the effect of drugs on animals
CO 2	Understand the effect of drugs on physiological systems
CO 3	Perform various invitro experiments to demonstrate receptor actions using isolated tissue prep
CO 4	Evaluate the potency of unknown compound with reference to standard compound using animals

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal

Vaagdevi College of Pharmacy

Principal

Vaagdevi College of Pharmacy



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana

<b>Pharmacognosy and Phytochemistry II - Practical</b>	
BP508P	
CO 1	To carry morphological, histological and powder characteristics of crude drugs.
CO 2	To carry out isolation and identification of phytoconstituents by chromatography (TLC)
CO 3	To carry out extraction of volatile oils (hydrodistillation).
CO 4	To carry out preliminary identification for unorganised drugs.
<b>B.Pharmacy 3rd year II SEM (SEMESTER VI)</b>	
<b>BP601T Medicinal Chemistry III - Theory</b>	
CO 1	Understand the importance of drug design and different techniques of drug design.
CO 2	Understand the chemistry of drugs with respect to their biological activity.
CO 3	Know the metabolism, adverse effects and therapeutic value of drugs.
CO 4	Know the importance of SAR of drugs.
<b>BP602T Pharmacology III - Theory</b>	
CO 1	To learn Mechanism of drug action on Respiratory system and Gastrointestinal system.
CO 2	To know about the General principles of chemotherapy, Sulfonamides and cotrimoxazole and Antibiotics.
CO 3	To understand the drug action of Antitubercular, Antileprotic, Antifungal, Antiviral, Anthelmintic, Antimalarial and Antiamoebic drugs
CO 4	To understand the drug action of UTI, STD drugs and Immunopharmacology
CO 5	To learn the Principles of Toxicology and Chronopharmacology.
<b>BP603T Herbal Drug Technology - Theory</b>	
CO 1	To know raw materials as source of herbal drugs
CO 2	To study Nutraceuticals and herbal drug interactions
CO 3	To learn & understand the importance of herbal excipients, cosmetics and formulations

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy

Principal  
Vaagdevi College of Pharmacy



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	To analyse evaluation of herbal drugs
CO 5	To understand about various herbal industries.
<b>BP604T</b>	<b>Biopharmaceutics and Pharmacokinetics - Theory</b>
CO 1	Understand the basic concepts in biopharmaceutics and pharmacokinetics emphasizing absorption and distribution of drugs
CO 2	Use of plasma drug concentration time data to calculate pharmacokinetic parameters to describe distribution and elimination.
CO 3	Understand the concepts of bioavailability and bioequivalence of drug products.
CO4	Understand various pharmacokinetic parameters, their significance and applications
CO5	Understand the concepts and derivations of non-compartment models and Non-linear pharmacokinetics
<b>BP605T</b>	<b>Pharmaceutical Biotechnology</b>
CO 1	The importance of Immobilized enzymes in Pharmaceutical Industries
CO 2	Genetic engineering applications in relation to production of pharmaceuticals
CO 3	Importance of Monoclonal antibodies in Industries
CO 4	The use of microorganisms in fermentation technology
<b>BP606T</b>	<b>Quality Assurance -Theory</b>
CO 1	To recall the concepts of quality assurance, quality management and ICH guidelines
CO 2	Application of knowledge to real-world scenarios in the pharmaceutical industry- Calibration and Validation, warehousing
CO 3	Critically analyze pharmaceutical processes and practices
CO 4	To analyze quality control parameters and good laboratory practices in pharmaceutical industry
CO 5	Evaluate the quality documentation and audit processes in the pharmaceutical industry. Assessment of the importance of quality review, document maintenance, and distribution records in ensuring product quality and regulatory compliance.
<b>BP607T</b>	<b>Medicinal Chemistry III Practical</b>
CO 1	Different practical aspects involved in drug synthesis.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

**Principal**  
Vaagdevi College of Pharmacy

**Principal**  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 2	Attain practical knowledge to analyze the percentage of purity of the drug
CO 3	Hit and lead identification described via computer methods
<b>BP608P</b>	<b>Pharmacology III - Practical</b>
CO 1	Demonstrate the various receptor actions using isolated tissue preparation
CO 2	Observe the effect of drugs on animals
CO 3	Evaluate pharmacological screening of drugs in animals
CO 4	Analyze the problems associated with the drugs used for the treatment various microbial infections
CO 5	Discover the new updates on chemotherapeutic agents and preclinical & clinical research regulations
<b>BP609P</b>	<b>Herbal Drug Technology - Practical</b>
CO 1	Acquire a good knowledge about the preliminary phytochemicals
CO 2	Able to perform quantitative determinations like alkaloid content, Aldehyde content, Phenol c
CO 3	Able to formulate and evaluate various Herbal dosage forms
<b>B.Pharmacy 4th year I SEM (SEMESTER VII)</b>	
<b>BP701T</b>	<b>Instrumental Methods of Analysis - Theory</b>
CO 1	To learn the principles and applications UV Spectroscopy and Flourimetry.
CO 2	To understand the instrumentation of IR, Flame, Atomic absorption spectroscopy and Nephloturbidometry.
CO 3	To acquire the knowledge on Column, TLC, Paper chromatography and Electrophoresis.
CO 4	To summarize the knowledge on Gas chromatography and HPLC.
CO 5	To knowledge on Ion exchange, Gel and Affinity chromatography.
<b>BP702T</b>	<b>Industrial Pharmacy II - Theory</b>



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 1	Understand process of pilot plant and scale up of pharmaceutical dosage forms
CO 2	Know the process of technology transfer from lab scale to commercial batch
CO 3	Understand different Laws and Acts that regulate pharmaceutical industry
CO 4	Analyze the approval process and regulatory requirements for drug products
CO 5	Acquire knowledge on Quality management system
<b>BP703T</b>	<b>Pharmacy Practice - Theory</b>
CO 1	Monitor the drug therapy and counsel the patient through the review of medication
CO 2	Identify and assess adverse drug reactions.
CO 3	Interpret selected laboratory results and monitor the parameters of specific diseases
CO 4	Understand the pharmaceutical care & appreciate the concept of rational drug therapy.
CO 5	To get a knowledge on drug distribution methods in a hospital
CO 6	To appreciate the pharmacy stores management and inventory control.
<b>BP704T</b>	<b>Novel Drug Delivery System - Theory</b>
CO 1	To acquire knowledge about the basic control and sustain release.
CO 2	To learn about polymer and its application.
CO 3	To acquire knowledge on microencapsulation, mucosal and implantable drug delivery systems
CO 4	To understand the concept of GRDDS.
CO 5	To understand the various multiparticulate systems for targeted drug delivery.
<b>BP705P</b>	<b>Instrumental Methods of Analysis - Practical</b>
CO 1	Identification of Aminoacids by Paper chromatography and TLC.
CO 2	Estimation of Paracetamol by UV-Spectroscopy.
CO 3	Determination of Quinine sulphate by Fluorimetry.
CO 4	Estimation of Sulphate ions by Nepheloturbidimetry.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 5	Determination of $\lambda_{max}$ of KMNO <sub>4</sub> solution.
<b>B.Pharmacy 4th year II SEM (SEMESTER VIII)</b>	
<b>BP801T</b>	<b>Biostatistics and Research Methodology</b>
CO 1	To Learn Design of Experiments.
CO 2	To study about Regression analysis, methods used for probability, parametric tests
CO 3	To Study Phases of Clinical trials and Observational and Experimental studies.
CO 4	To determine analyzing the statistical data using excel.
CO 5	To determine analyzing the statistical data using factorial design, Response surface methodology
<b>BP802T</b>	<b>Social and Preventive Pharmacy</b>
CO 1	To know about the concept of health and disease, sociology, hygiene and health & education
CO 2	To learn about general principles of prevention and control of diseases such as cholera, SARS, Ebola virus.
CO 3	To understand National health programs, its objectives, functioning and outcome of the HIV AND AIDS control programme, TB and National programme for control of blindness, Pulse polio programme.
CO 4	To understand National health intervention programme for mother and child, National family welfare programme, National tobacco control programme.
CO 5	To learn the Community services in rural, urban and school health.
<b>BP806ET</b>	<b>Quality Control and Standardization of Herbals</b>
CO 1	Know various guidelines for quality control of herbal drugs (WHO, EU, ICH).
CO 2	Know Quality assurance in herbal drug industry.
CO 3	Know the regulatory requirements for herbal medicines.
CO 4	Acquire knowledge of Pharmacovigilance system and Guidelines for Evaluating the Safety
<b>BP810ET</b>	<b>Experimental Pharmacology</b>
CO 1	To know about the Laboratory Animals: Study of CPCSEA and OECD guidelines for maintenance, breeding and conduct of experiments on laboratory animals.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 2	To learn about study of preclinical screening animal models for Diuretics, nootropics, anti-arkinson's, antiasthmatics and CNS disorders.
CO 3	To understand preclinical screening animal models for ANS activity and local anaesthetic agents.
CO 4	To understand preclinical screening animal models for CVS and GIT disorders.
CO5	To learn the Principles of research methodology and Bio-statistics.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

COURSE OUTCOMES (2017-2023)	
Pharm. D I year	
<b>1.1</b>	<b>Human Anatomy and Physiology</b>
CO 1	To understand the basic terminologies cell and the anatomy and physiology of tissues and organs of the body, Osseous system, Hemopoietic system and Lymphatic system
CO 2	To understand the structure and functions of CVS, Respiratory system, Digestive system and interpret the ECG, Cardiac cycle, Spirometry and disorders of these systems
CO 3	To acquire knowledge of anatomy and physiology of Nervous system, Urinary system, Endocrine system, and Reproductive system
CO 4	To understand the structure and functions of sense organs and Skeletal muscles
CO 5	To understand sports physiology
<b>1.1</b>	<b>Human Anatomy and Physiology (Practical)</b>
CO 1	Capable of carrying out haematological experiments
CO 2	Can determine blood pressure using sphygmomanometer.
CO 3	Demonstrate practical knowledge of human gross and microscopic anatomy using prepared histological slides, organ models.
<b>1.2</b>	<b>Pharmaceutics</b>
CO 1	Have fundamental knowledge in preparing & dispensing various dosage forms.
CO 2	Know the history of profession of pharmacy
CO 3	Know the professional way of handling the prescription.
CO 4	Aware of their professional role in the healthcare system.
CO 5	Have the basics of pharmaceutical incompatibilities and calculations involved in prescribing dose.
<b>1.2</b>	<b>Pharmaceutics (Practical)</b>
CO 1	Able to prepare & dispense solid, liquid, semisolid dosage form.
CO 2	Able to differentiate labelling and container requirements for pharmaceutical products.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal

Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001





Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**  
(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Can analysis the incompatibility problems present in the prescription.
<b>1.3</b>	<b>Medicinal Biochemistry</b>
CO1	Understanding concept of cell.
CO 2	Knowledge on Metabolism
CO 3	Analyze importance and metabolic disorders.
CO 4	Knowledge on proteins nucleotides
CO5	To understand Clinical Biochemistry.
<b>1.3</b>	<b>Medicinal Biochemistry (Practical)</b>
CO1	Able to perform qualitatively analyze normal and abnormal constituents of urine.
CO 2	Able to estimate various biomolecules, SGOT and SGPT in serum
CO 3	Able to prepare different buffers and its pH measurement.
<b>1.4</b>	<b>Pharmaceutical Organic Chemistry</b>
CO 1	Can give IUPAC names of simple hydrocarbons.
CO 2	Acquire understanding of the physical properties of organic compounds.
CO 3	Can explain important name reactions with mechanisms and applications.
CO 4	Acquire the knowledge of preparation and reactions of various classes of organic compound.
CO 5	Know the methods of preparation, qualitative and quantitative analysis of medicinal organic compounds.
<b>1.4</b>	<b>Pharmaceutical Organic Chemistry (Practical)</b>
CO 1	Able to synthesize organic compounds by benzylation, condensation, diazotization, nitration etc.
CO 2	Able to identify organic compounds through systematic analysis
CO 3	Able to make stereo models of simple organic compounds and evaluate stereochemical aspects.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda-506 001  
Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>1.5</b>	<b>Pharmaceutical Inorganic Chemistry</b>
CO 1	Acquire knowledge on Errors
CO 2	Acquire knowledge on volumetric analysis and gravimetry.
CO 3	Acquire knowledge of limit test
CO 4	Study on Medicinal gases and Inorganic pharmaceuticals.
CO 5	Acquire knowledge on Radiopharmaceuticals
<b>1.5</b>	<b>Pharmaceutical Inorganic Chemistry (Practical)</b>
CO 1	Able to perform the identification tests and preparation of inorganic compounds.
CO 2	Able to perform the limit tests and purity test for inorganic pharmaceuticals in a QC lab.
CO 3	Able to perform estimations of inorganic compounds
<b>1.6</b>	<b>Remedial Mathematics/Biology</b>
CO 1-B	Know the classification and salient features of five kingdoms of life
CO 2-B	Understand the basic components of anatomy & physiology of plant
CO 3-B	Know understand the basic components of anatomy & physiology animal with special references
CO 1-M	Knowledge on the mathematical Problems their application in Pharmacy
CO 2-M	Gain the capability to solve the different types of problems by applying theory
CO 3-M	Identify the important application of mathematics in Pharmacy
CO 4-M	Communicate mathematical knowledge and understanding to help in the field of Clinical Pharmacy



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda - 506 001  
Principal  
Vaagdevi College of Pharmacy  
Hanamkonda - 506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>Pharm. D II year</b>	
<b>2.1</b>	<b>Pathophysiology</b>
CO 1	To know about the basic principles of cell injury, Adaptation and Inflammation.
CO 2	To understand the Diseases of Immunity, Hypersensitivity, Autoimmunity and AIDS.
CO 3	To learn the pathogenesis of cancer, Shock management.
CO 4	Understanding the Biological effects of radiation, Environmental and nutritional diseases.
CO 5	Learning about Pathophysiology of common diseases and Infectious diseases.
<b>2.2</b>	<b>Pharmaceutical Microbiology</b>
CO 1	Able to explain the anatomy, identification, growth factors of microorganisms
CO 2	Aware of different methods of sterilization process in pharmaceutical microbiology Lab
CO 3	Obtained knowledge on diagnostic tests for Identification of infectious diseases
CO 4	Possess the understanding of determining drug potency by microbiological assay method
CO 5	Have knowledge on concepts of and types of immunity and antigen -antibody reactions
<b>2.2</b>	<b>Pharmaceutical Microbiology (Practical)</b>
CO 1	Able to identify different types of microorganisms by using staining techniques and biochemical test
CO 2	Able to prepare various culture medium for cultivation of microorganisms and to determine the drug potency by microbiological assay technique
CO 3	Able to perform sterilization, maintain the aseptic condition and able to do the sterility test for different pharmaceutical dosage forms
<b>2.3</b>	<b>Pharmacognosy &amp; Phytopharmaceuticals</b>
CO 1	Able to classify crude drugs obtained from natural origin by various approaches
CO 2	Obtain theoretical knowledge on cultivation, collection and processing techniques, factors affecting growth of plant drugs
CO 3	Possess awareness about adulterants used in herbal products and methods to determine adulterants

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	Possess knowledge about different herbal remedies belonging to carbohydrates, lipids, proteins, volatile oils, alkaloids and glycosides.
CO5	Obtained knowledge about herbal source for pesticides and surgical dressings
<b>2.3</b>	<b>Pharmacognosy &amp; Phytopharmaceuticals (Practical)</b>
CO 1	Able to perform crude drug evaluation through morphological and microscopical methods.
CO 2	Able to analyze of oils and fats available in the market and assess their quality.
CO 3	Able to identify plant products through chemical test.
<b>2.4</b>	<b>Pharmacology-I</b>
CO 1	Understanding the General Pharmacology like Routes of administration of drugs, Pharmacokinetics.
CO 2	Understanding pharmacodynamics and the regulation of receptors. drug receptors interactions, signal transduction mechanisms.
CO 3	To learn about pharmacology of drugs acting on ANS.
CO 4	To know the pharmacology of drugs acting on Central nervous system like Anesthetics, anti-epileptics and sedatives, hypnotics.
CO 5	To know the pharmacology of drugs acting on Central nervous system like antipsychotics, antidepressants and neuroprotective agents.
<b>2.5</b>	<b>Community Pharmacy</b>
CO 1	To know about Community Pharmacy Management and learning prescription, identification of medication related problems like drug interactions.
CO 2	To understand the Inventory control in community pharmacy, principles of pharmaceutical care and knowing about Patient counselling in Hospital setting.
CO 3	To learn the Patient medication adherence, Health screening services and OTC Medication.
CO 4	Understanding Health Education of commonly occurring communicable diseases.
CO 5	Knowing about Relevant pathophysiology, common drug therapy to Pain, GI disturbances, Essential Drugs concept and Code of ethics for community pharmacists.
<b>2.6</b>	<b>Pharmacotherapeutics-I</b>
CO 1	To know the etiopathogenesis and pharmacotherapy of Cardiovascular system diseases.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal

Vaagdevi College of Pharmacy  
Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 2	To learn the etiopathogenesis and pharmacotherapy of Respiratory and Endocrine disorders.
CO 3	To understand the General prescribing guidelines for Pediatric patients, Geriatric patients, Pregnancy and breast feeding.
CO 4	Learning about Ophthalmology disorders etiopathogenesis and pharmacotherapy.
CO 5	Understanding the Role of pharmacist Essential drug concept Rational drug formulations.
<b>2.6</b>	<b>Pharmacotherapeutics-I (Practical)</b>
CO 1	Can use therapeutic approach for the management of diseases
CO 2	Know the adverse drug reactions
CO 3	Able to identify the needed interventions from the prescription.
	<b>Pharm. D III year</b>
<b>3.1</b>	<b>Pharmacology-II</b>
CO 1	To understand the Pharmacology of Drugs acting on Blood and blood forming agents
CO 2	To know the Pharmacology of drugs acting on Renal System .
CO 3	To learn about the Pharmacology of Chemotherapeutic drugs in different infectious diseases..
CO 4	Understanding the Immuno pharmacology and Principles of Animal toxicology.
CO 5	Learning about the structures and functions of the components of the cell, Genome structure and function.
<b>3.1</b>	<b>Pharmacology-II (Practical)</b>
CO 1	Able to perform Pharmacological effect of drugs on tissue preparations.
CO 2	Able to perform the dosage calculations of drug.
CO 3	Able to perform animal experiments by using isolated organs.
<b>3.2</b>	<b>Pharmaceutical Analysis</b>
CO 1	Awareness on basic concepts of quality assurance.
CO 2	Obtain basic knowledge on spectroscopic, chromatographic and electrometric methods of analysis.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society  
**VAAGDEVI COLLEGE OF PHARMACY**

(Affiliated to Kakatiya University)  
Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Acquire knowledge on the basic concept, instrumentation and application of sensitive instrumental analysis.
CO 4	Able to perform quantitative & qualitative analysis of drugs using various analytical instruments.
CO5	Able to perform mathematical treatment of analytical data in quantitative analysis.
<b>3.2</b>	<b>Pharmaceutical Analysis (Practical)</b>
CO 1	Able to perform quantitative & qualitative analysis of drugs using various analytical instruments.
CO 2	Able to operate different analytical equipment's.
CO 3	Apply the concepts of quality assurance and evaluation of analytical standards.
<b>3.3</b>	<b>Pharmacotherapeutics-II</b>
CO 1	To know the etiopathogenesis and pharmacotherapy of Infectious diseases.
CO 2	To learn the etiopathogenesis and pharmacotherapy of Musculoskeletal disorders.
CO 3	To understand the etiopathogenesis and pharmacotherapy of Renal system diseases.
CO 4	Learning about Oncology disorders etiopathogenesis and pharmacotherapy.
CO5	Understanding the etiopathogenesis and pharmacotherapy of Dermatology diseases.
<b>3.3</b>	<b>Pharmacotherapeutics-II (Practical)</b>
CO 1	Able to perform patient counseling regarding specific disease states and drugs.
CO 2	Can identify relevant patient specific parameters in initiating drug therapy and monitoring therapy
CO 3	Can monitor controversies in drug therapy and suggest rationale for drug therapy of selected diseases.
CO 4	Qualitative analysis & preparation of simple organic compounds
<b>3.4</b>	<b>Pharmaceutical Jurisprudence</b>
CO 1	To understand the various concepts of the pharmaceutical legislations in India
CO 2	To understand the various parameters in the Drug and Cosmetic Act and Rules.
CO 3	To know about the salient features of different laws which have been prescribed by the Pharmacy Council of India from time to time including International Laws

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	To understand the various concepts of Drug policy, DPCO, Patent and Designing act.
CO 5	To understand the concepts of Narcotic & Psychotropic Drugs Act, Pharmacy Act and Excise Duties Act.
<b>3.5</b>	<b>Medicinal Chemistry</b>
CO 1	To obtain knowledge of the chemistry of drugs with respect to their biological activity.
CO 2	Can explain metabolism, therapeutic uses and adverse effects of drugs.
CO 3	To obtain basic knowledge on modern techniques of drug design.
CO 4	Appreciate the role SAR and QSAR in drug discovery.
CO 5	To gain knowledge of synthesis, and analysis of selected representative drugs.
<b>3.5</b>	<b>Medicinal Chemistry (Practical)</b>
CO 1	Able to prepare different medicinally important compounds.
CO 2	Able to determine partition coefficient and Hansch analysis of different drugs.
CO 3	Able to perform standardization and assay of drugs.
<b>3.6</b>	<b>Pharmaceutical Formulations</b>
CO 1	To acquire knowledge about the various non parenteral pharmaceutical dosage forms and their manufacturing techniques.
CO 2	To learn Pharmacopeia specifications, and quality control techniques used in different dosage forms.
CO 3	To acquire knowledge on manufacturing, labeling, sterilization & sterility testing of SVPs, LVPs, and ophthalmic preparations.
CO 4	Realize the concepts of controlled drug delivery system
CO 5	Obtain basic knowledge on cosmetics technology
<b>3.6</b>	<b>Pharmaceutical Formulations (Practical)</b>
CO 1	Able to formulate different dosage forms and carry out their in process control tests
CO 2	Able to formulate the cosmetic preparations and perform its evaluation tests.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Can perform the quality control tests and to operate the equipments required for the tests
<b>Pharm. D IV year</b>	
<b>4.1</b>	<b>Pharmacotherapeutics-III</b>
CO 1	To know the etiopathogenesis and pharmacotherapy of Gastrointestinal system diseases.
CO 2	To learn the etiopathogenesis and pharmacotherapy of Haematological system diseases.
CO 3	To understand the etiopathogenesis and pharmacotherapy of Nervous system diseases.
CO 4	Learning about Psychiatry disorders etiopathogenesis and pharmacotherapy.
CO5	Understanding the Pain management including Pain pathways, neuralgias, headaches.
<b>4.1</b>	<b>Pharmacotherapeutics-III (Practical)</b>
CO 1	Able to systematically analyze a case
CO 2	Able to diagnose as well as suggest the medicine
CO 3	Can perform the patient counseling effectively
<b>4.2</b>	<b>Hospital Pharmacy</b>
CO 1	Knowing Hospital pharmacy organization and management
CO 2	Understanding the Budget - Preparation and implementation, Hospital formulary in hospital settings
CO 3	Learning different Hospital pharmacy services and Drug distribution systems in the hospital.
CO4	Aware about Manufacturing practice of various pharmaceutical preparations.
CO 5	To understand the Radio pharmaceuticals handling and packaging and knowing the Professional Relations and practices of hospital pharmacist
<b>4.3</b>	<b>Clinical Pharmacy</b>
CO 1	To understand daily activities of a clinical pharmacist
CO 2	To Know about Patient data analysis, Clinical laboratory tests used in the evaluation of disease states and interpretation of test results

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001





Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Knowing the Drug & Poison information, Critical evaluation of drug information.
CO4	Learning the aims of Pharmacovigilance, reporting, evaluation, monitoring, preventing & management of ADRs.
CO 5	Understanding the Pharmaceutical care concepts, Critical evaluation of biomedical, literature and Medication errors
4.3	<b>Clinical Pharmacy (Practical)</b>
CO 1	Can analyse, interpret and formulate drug information
CO 2	Able to detect monitoring parameters in therapeutics for determination of liver and kidney abnormalities.
CO 3	Can identify, detect, assess and monitor adverse drug reaction
4.4	<b>Biostatistics and Research Methodology</b>
CO 1	Have fundamental knowledge on selection of research topic.
CO 2	Acquired basic understanding of different types of research data and documentation of data.
CO 3	Have the preliminary knowledge on data collection in clinical research
CO 4	Can design sampling protocol for research
CO 5	Can use different statistical tool for the research data analysis using software
4.5	<b>Biopharmaceutics and Pharmacokinetics</b>
CO 1	Learn about the basic concepts in biopharmaceutics and pharmacokinetics.
CO 2	Possess knowledge on the effect of Pharmacokinetic parameters on biological effects of the drug.
CO 3	Capable of designing and evaluating dosage regimens of the drugs using pharmacokinetic and bio-pharmaceutic parameters.
CO 4	Can calculate various pharmacokinetic parameters from plasma and urinary excretion data applying compartment modeling and model independent methods.
CO 5	Can design Bioavailability and Bioequivalence studies of new drugs or dosage forms.
4.5	<b>Biopharmaceutics and Pharmacokinetics (Practical)</b>



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 1	Able to perform the Dissolution studies for different marketed products of the same drug .
CO 2	Able to compute various pharmacokinetic parameters from plasma and urinary excretion data applying compartment modeling and model independent methods.
CO 3	Can perform Bioavailability and Bioequivalency studies of drugs on animal/human model
<b>4.6</b>	<b>Clinical Toxicology</b>
CO 1	Student can support the medical professional in identifying the antidote for specified poisons.
CO 2	Able to give poison information especially regarding clinical features and management of poisoning.
CO 3	Can identify the venomous snakebite poison substance.
CO 4	Able to differentiate different types of substance abuse and can suggest the clinical features and its management.
CO 5	Able to give suggestions on the management of poisoning.
<b>4.7</b>	<b>Pharmacotherapeutics I &amp; II (Theory)</b>
CO 1	Able to understand different causes of diseases.
CO 2	Able to identify the abnormal physiology of individual with specific disease states.
CO 3	Able to diagnose the disease by correlating clinical manifestations and laboratory indices.
CO 4	Able to prepare individualized therapeutic plans based on diagnosis.
CO 5	Able to suggest lifestyle modifications based on the disease states.
<b>4.7</b>	<b>Pharmacotherapeutics I &amp; II (Practical)</b>
CO 1	Able to systematically analyse a case
CO 2	Able to diagnose as well as to prescribe the medicine
CO 3	Can perform the patient counseling effectively

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana

Pharm. D V year	
<b>5.1</b>	<b>Clinical Research</b>
CO 1	Able to take part in drug discovery and new drug development process at clinical trial stage
CO 2	Acquire knowledge to conduct clinical trial.
CO 3	Capable of preparing various study documents used in clinical trials and able to carry out clinical trial start up activities.
CO 4	Possess knowledge about the procurement, storage, filing of investigation product, and to conduct monitoring visit, close out visit and to conduct monitoring visit, close out visit and safety reporting.
CO 5	Possess knowledge of data management and quality assurance in CDM
<b>5.2</b>	<b>Pharmacoepidemiology and Pharmacoeconomics</b>
CO 1	Possess knowledge of pharmacoepidemiology and concept of risk in pharmacoepidemiology
CO 2	Capable of measuring outcomes Pharmacoepidemiology using various pharmacoepidemiological methods
CO 3	Possess knowledge of Sources of data for pharmacoepidemiological studies and applications of Pharmacoepidemiology
CO 4	Aware of concepts of Pharmacoeconomics and its significance
CO 5	Can perform Pharmacoeconomics evaluation
<b>5.3</b>	<b>Clinical Pharmacokinetics and Pharmacotherapeutic Drug Monitoring</b>
CO 1	To design of dosage regimen and knowing drug dosing information about elderly, pediatrics and obese patients
CO 2	To Understand about Pharmacokinetics of drug interactions.
CO 3	To learn the TDM information especially regards cardiac, seizure and psychiatric conditions.
CO 4	To support the medical professional in dosage adjustment in Renal and Hepatic disease
CO5	To Understand the Population Pharmacokinetics and Pharmacogenetics.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001  
Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana

### COURSE OUTCOMES (2021-2023)

#### M.Pharmacy 1st year I SEM (Pharmaceutics)

1.1 T	Bio Pharmaceutics & Pharmacokinetics (Theory)
CO 1	Understand the basic concepts of bio-pharmaceutics, pharmacokinetics & pharmacokinetic models
CO 2	Identify the physiological, physicochemical and dosage form-related factors that affects drug absorption from different dosage forms
CO 3	Outline and recognize various drug disposition process that can cause pharmacokinetic and pharmacodynamic variability
CO 4	Identify and understand different study designs and various statistical tests applied in bioequivalence studies.
CO 5	Evaluate the PK parameters and examine absolute, relative bioavailability of drugs from different dosage forms using either plasma or urine data along with In vitro-in vivo correlation
1.2 T	Pharmaceutical Formulation Technology (Theory)
CO 1	Understand how solubility, particle size, particle shape, crystallinity, amorphous structure of pure drug as pre-formulation parameters plays a major role in the
CO 2	Determine the formulation and manufacturing procedures of different types of tablet dosage forms and capsule dosage forms.
CO 3	Develop different coating procedures to tablets and evaluate prepared coated tablets.
CO 4	Evaluate materials used for packaging such as glass, plastic and rubber containers.
1.3 T	Physical Pharmaceutics (Theory)
CO1	To determine interfacial properties of liquids. Explain types and properties of colloidal systems.
CO 2	Estimate the size, shape and surface area of powder
CO 3	Determine the nature of flow of liquids and their measurement
CO 4	Formulate and evaluate suspensions and emulsions.
CO5	Apply mathematical models to determine the rate and order of reaction, shelf life and explain various factors influencing reaction rates



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy17@yahoo.com](mailto:vaagdevipharmacy17@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana

<b>1.4 T</b>	<b>Quality Assurance (Theory)</b>
CO 1	Understand the c GMP aspects in a pharmaceutical industry.
CO 2	Appreciate the importance and Construct the documentation.
CO 3	Develop Knowledge and understand the scope of quality certifications applicable to Pharmaceutical industry
CO 4	Develop basic knowledge and understand the responsibilities of QA & QC departments.
CO 5	Develop basic knowledge Manufacturing operations and controls.
<b>1.1 P</b>	<b>Bio Pharmaceutics &amp; Pharmacokinetics (Practical)</b>
CO 1	Compare the influence of dosage forms on dissolution behaviour of same API
CO 2	Connect various physicochemical properties of drug effect on dissolution rate of drug substance
CO 3	Design various techniques that enhance the dissolution rate of drugs
CO 4	Correlate <i>In-vitro</i> – <i>In-vivo</i> absorption studies of various dosage forms
CO 5	Solve and interpret various pharmacokinetic parameters by applying statistical treatment to pharmacokinetic data
<b>1.2 P</b>	<b>Pharmaceutical Formulation Technology &amp; Physical Pharmaceutics(Practical)</b>
CO 1	Determine the formulation and manufacturing procedures of different types of tablet dosage forms and capsule dosage forms.
CO 2	Develop different coating procedures to tablets and evaluate prepared coated tablets.
CO 3	Estimate the size, shape and surface area of powder
CO 4	Determine the nature of flow of liquids and their measurement
CO 5	Formulate and evaluate suspensions and emulsions.
	<b>M.Pharmacy Ist year II SEM (Pharmaceutics)</b>
<b>2.1 T</b>	<b>Novel Drug Delivery Systems-I (Theory)</b>
CO 1	Develop various vesicles and devices related to drug delivery systems
CO 2	Define various types of drug delivery systems



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : www.vaagdevipharma.com E-mail: vaagdevipharma17@yahoo.com

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Compare the different types of delivery systems based on their formulation and Usage
CO 4	Evaluate drug delivery systems for their quality
CO 5	Apply the mechanisms in developing various drug delivery systems
<b>2.2 T</b>	<b>Novel Drug Delivery Systems-II (Theory)</b>
CO 1	To Acquire knowledge about the basics concept of sustained and control release
CO 2	To Acquire knowledge about the basics concept of targeting to various organs
CO 3	To know the methodology in preparation, evaluation and Importance of Carrier based drug delivery systems
CO 4	To know the methodology in preparation, evaluation and Importance of Other Novel drug drug delivery systems
<b>2.3 T</b>	<b>Pharmaceutical Equipment validation (Theory)</b>
CO 1	Determine Construction, operation , Working Application and validation Of Pharmaceutical Machinery
CO 2	Understand validation Of Steam Distillation And Uniformity Index For Given Sample
CO 3	Validation of Mixing, Drying, Filtration, Centrifugation
CO 4	Demonstration Of Colloid Mill, Planetary Mixer, Fluidized Bed Dryer, Freeze Dryer And Such Other Major Equipment and their validation.
CO 5	To study about various sterilization equipment's validation
<b>2.4 T</b>	<b>Regulatory affairs (Theory)</b>
CO 1	To understand about New Drug Application
CO 2	To study about Documentation
CO 3	To know the Importance of documentation,
CO 4	To learn Current good manufacturing practices (CGMP) as per WHO.
<b>2.1 P</b>	<b>Novel Drug Delivery Systems-I (Practical)</b>
CO 1	To prepare Micro particles, liposomes and nanoparticles
CO 2	To prepare and evaluate bio adhesive, transdermal and buccal drug delivery systems



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 3	Compare the different types of delivery systems based on their formulation and Usage
CO 4	Evaluate drug delivery systems for their quality
CO 5	Apply the mechanisms in developing various drug delivery systems
<b>2.2 P</b>	<b>Novel Drug Delivery Systems-II and Pharmaceutical Equipment validation (Practical)</b>
CO 1	Define basic concepts of enzymes, transporters and protein engineering.
CO 2	Examine immunization techniques and genetic organization
CO 3	Validation of Mixing, Drying, Filtration, Centrifugation
CO 4	Demonstration Of Colloid Mill, Planetary Mixer, Fluidized Bed Dryer, Freeze Dryer And Such Other Major Equipment and their validation.
CO 5	To study about various sterilization equipment validation
<b>COURSE OUTCOMES (2022-2024)</b>	
<b>M.Pharmacy Ist year I SEM (Pharmaceutical Analysis)</b>	
<b>1.1 T</b>	<b>Advanced Pharmaceutical analytical techniques (Theory)</b>
CO 1	Understanding theoretical aspects of the HPLC and GC techniques
CO 2	To get knowledge and skills in advanced instrumentation techniques for drug analysis
CO 3	To learn hyphenated analytical techniques Critical analysis of analytical problem
CO 4	Selection of appropriate analytical tool for the quantification of chemicals and excipients.
<b>1.2 T</b>	<b>Pharmaceutical Analysis- I (Theory)</b>
CO 1	To study of the principles and procedures involved in Non - aqueous, Complex metric, Oxidation - reduction and Diazotization methods,
CO 2	To study the principles and procedures involved in the electrometric methods: Conductometry, Potentiometry, Polarography and Amperometry
CO 3	To learn Principles and procedures involved in using the following reagents in pharmaceutical analysis with suitable examples MBTH(3-methyl - 2- benzothiazolone hydrazone), F.C. Reagent (Folin - Ciocalteu), PDAB (Para Dimethyl Amnio Benzaldehyde) etc.
CO 4	To practice Principles and Procedures involved in quantitative determination of various pharmaceutical preparations and dosage forms of the Alkaloids (Pilocarpine and quinine sulphate)

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>1.3 T</b>	<b>Quality control of Pharmaceutical dosage forms (Theory)</b>
CO1	To study Quality control of Solid dosage Forms
CO 2	To evaluate Ointments, Creams
CO 3	To learn quality control tests Liquid oral preparations,,
CO 4	To evaluate and study about Parenterals
<b>1.4 T</b>	<b>Biological standardization (Theory)</b>
CO 1	To study principles & procedures involved in bio assay of Heparin, Posterior Pituitary.
CO 2	Diphtheria, Typhoid Principles and Procedures involved in different Biological tests
CO 3	To study principles & procedures involved in bio assay of Living contaminants in vaccines. Endotoxins Microbiological assay of Vitamins
CO 4	To study principles & procedures involved in bio assay of Antibiotics such as Neomycin sulphate.
<b>1.1 P</b>	<b>Advanced Pharmaceutical analytical techniques (Practical)</b>
CO 1	To learn assay of paracetamol tablet By UV –spectroscopy, and Assay of paracetamol Tablets By colorimetry Method,
CO 2	To perform Assay of Ibuprofen Tablets by UV -visible spectroscopy,
CO 3	To learn assay techniques of Diclofenac Potassium Tablets by UV-spectroscopy.
CO 4	To perform Assay of Furosemide Tablets by UV - spectroscopy Assay of Riboflavin By Ur - spectroscopy & colorimetry
<b>1.2 P</b>	<b>Pharmaceutical Formulation Technology &amp; Physical Pharmaceutics(Practical)</b>
CO 1	To study Non aqueous titrations
CO 2	To learn oxidation reduction titration
CO 3	To know quantitative determination of Alkaloids, Griseofulvin



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001





Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>M.Pharmacy Ist year II SEM (Pharmaceutical Analysis)</b>	
<b>2.1 T</b>	<b>Quality assurance (Theory)</b>
CO 1	To understand New Drug Application
CO 2	To learn Documentation and its Importance
CO 3	To study the Current good manufacturing practices (CGMP) as per WHO.
CO 4	To know about principles of quality assurance.
<b>2.2 T</b>	<b>Pharmaceutical Analysis-II (Theory)</b>
CO 1	To know the advanced study of medicines (GLC, GC-MS)
CO 2	To know the principles and procedures of LC-MS, MS-MS
CO 3	To learn instrumental methods in the development of medicines HPLC, HPTLC
CO 4	To develop medicines Flame Photometry, Fluorimetry,
CO 5	To know the advanced study of the principles and procedures and applications of instrumental methods in the development of medicines
<b>2.3 T</b>	<b>Analytical method development and validation (Theory)</b>
CO 1	To learn on the importance of patent and intellectual property rights & trained on the qualification aspects of instruments.
CO 2	To understand the importance of calibration to be performed for the instruments.
CO 3	To know the various validation aspects to be carried out in the industry.
CO 4	To gain knowledge on how validation are carried for various components such as instrument, cleaning, process validation.
<b>2.4 T</b>	<b>Regulatory affairs (Theory)</b>
CO 1	To understand about New Drug Application
CO 2	To study about Documentation
CO 3	To know the Importance of documentation,
CO 4	To learn Current good manufacturing practices (CGMP) as per WHO.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

<b>2.1 P</b>	<b>Analytical method development and validation (Practical)</b>
CO 1	To isolate and quantitative determination of casein, Lactose from Milk
CO 2	Knowledge on simultaneous estimation of paracetamol and Ibuprofen tablets,
CO 3	Assay of Glibendamide by UV-spectroscopy. interpretation of IR Spectrum and mass spectrum
<b>2.2 P</b>	<b>Pharmaceutical Analysis-II (Practical)</b>
CO 1	To identify organic compound by FTIR, NMR, CNMR and Mass Spectra techniques.
CO 2	Learn separation and quantification of biomolecules by various analytical techniques such as HPLC.
CO 3	Acquire knowledge of good documentation practices for preparation of protocols, batch records and master records.
CO 4	Evaluation and testing of various raw material, formulations, packaging material.
<b>COURSE OUTCOMES (2022-2024)</b>	
<b>M.Pharmacy 1st year I SEM (Pharmacology)</b>	
<b>1.1 T</b>	<b>Clinical Pharmacology and Toxicology (Theory)</b>
CO 1	To understand the Adverse Drug Reactions, Drug Interactions and ADR monitoring. <i>Mechanisms of ADR.</i>
CO 2	To know about the Pathophysiology and drug therapy of CNS, CVS, infectious and endocrine disorders.
CO 3	To learn about the Drug therapy in special populations.
CO 4	To know the Pharmacogenomics: Interracial and individual variability in drug metabolism and drug action.
CO 5	To know about the Principles of Toxicology and hypersensitivity and immune response, range finding tests.
<b>1.2 T</b>	<b>Advances in Preclinical Evaluation-I (Theory)</b>
CO 1	To understand the Regulations for laboratory animal care and ethical requirement and Organization of preclinical screening programme.
CO 2	To know the Drug discovery process, High throughput screening and human genomics .
CO 3	To learn about the Preclinical and clinical models employed in the screening of new drugs belonging to ANS and CVS.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	To know the To learn about the Preclinical and clinical models employed in the screening of new drugs belonging to Immunopharmacology and metabolic disorders.
CO 5	To know about the Principles of Toxicological evaluations and biostatistics.
<b>1.3 T</b>	<b>Clinical Research (Theory)</b>
CO 1	To understand the Introduction to Clinical Research and research drug design.
CO 2	To know about the Bioavailability and Bioequivalence studies.
CO 3	To know the Ethics and Guidelines in Biomedical Research.
CO 4	To understand establishing and functioning of Contract Research Organization (CRO) Roles and responsibilities of clinical trial personnel.
<b>1.4 T</b>	<b>Molecular and Biochemical Pharmacology Basics of Drug discovery and Drug development (Theory)</b>
CO 1	To understand the a general treatment of the approaches to drug design and drug receptor theory.
CO 2	To know about the Physiochemical properties in relation to biological action and drug design.
CO 3	To know the Guidelines for drug and analog drug design.
CO 4	To understand the principles of Computer aided drug design and the quantitative analysis of structure activity relationships.
CO 5	To know about the Molecular & Biochemical pharmacology Basis and Cell signaling, organization of signal transduction pathway of different substances.
<b>1.1 P</b>	<b>Advances in preclinical evaluation (Practical)</b>
CO 1	To prepare various physiological solutions
CO 2	To perform bioassay of Acetyl choline by 3 point and 4 point methods
CO 3	To evaluate CNS depressant and Anti convulsant activity
<b>1.2 P</b>	<b>Clinical Pharmacology and Toxicology (Practical)</b>
CO 1	To perform liver function test
CO 2	To determine lipid profile and renal function test.
CO 3	To understand GOD-POD methods



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	To understand importance of biomarker test
<b>M.Pharmacy Ist year II SEM (Pharmacology)</b>	
<b>2.1 T Advanced Pharmacology-I (Theory)</b>	
CO 1	To understand the Pharmacology of Drugs acting on synaptic and neuro effect for junction sites.
CO 2	To know the Pharmacology of drugs acting on Central Nervous System .
CO 3	To know the Pharmacology of drugs acting on Renal System.
CO 4	To know the Pharmacology of drugs acting on Cardiovascular System.
CO 5	To know the Pharmacology of drugs acting on Blood and blood forming organs.
<b>2.2 T Advanced Pharmacology-II (Theory)</b>	
CO 1	To understand the Pharmacology of Drugs acting on inflammation.
CO 2	To know the Pharmacology of drugs acting on Gastro intestinal functions .
CO 3	To learn about the Pharmacology of Chemotherapeutic drugs in different infectious diseases..
CO 4	To know the Pharmacology of drugs acting on Endocrine System.
CO 5	To know the Pharmacology of drugs acting on Reproductive system.
<b>2.3 T Advances in Preclinical Evaluation-II (Theory)</b>	
CO 1	To understand the official bioassays, experimental models and statistical designs employed in biological standardization of various substances.
CO 2	To learn about the Preclinical and clinical models employed in the screening of new drugs belonging to CNS, Analgesics, GI, Diuretics and anticancer agents.
CO 3	To learn about the Cell culture technology.
CO 4	To learn about the alternatives to animal screening procedures, Cell-line, patch clamp technique, In-vitro models, molecular biology techniques.
CO 5	To know about the Concept of transgenic animals, knockout animals, nude animals, receptor binding assays, principles of immunoassay, patch clamp techniques
<b>2.4 T Pharmacokinetics, Pharmacodynamics and Drug metabolism (Theory)</b>	
CO 1	To understand the Drug Absorption and Distribution.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 2	To know about the excretion of drugs, bioavailability and bioequivalence of drug products.
CO 3	To learn about the metabolism of drugs and factors influencing drug metabolism.
CO 4	To know the clinical pharmacokinetics
CO 5	To know about the pharmacodynamics & PK/PD modeling
<b>2.1 P</b>	<b>Advanced Pharmacology-I (Practical)</b>
CO 1	Able to design and perform in vitro pharmacological experiments using various isolated tissue preparations
CO 2	Able to understand OECD guidelines and perform acute toxicity studies and interpret pharmacokinetic profile of given drug
CO 3	Able to understand cardiovascular responses using various experimental techniques
<b>2.2 P</b>	<b>Pharmacokinetics, Pharmacodynamics and Drug metabolism (Practical)</b>
CO 1	To prepare standard graphs of caffeine, calculate the linearity and calculations
CO 2	To determine apparent permeability
<b>M.Pharmacy Ist year I SEM (Pharmaceutical Chemistry)</b>	
<b>1.1 T</b>	<b>Advanced Organic Chemistry-I (Theory)</b>
CO 1	To describe mechanisms for reactions in organic chemistry, polymer chemistry and biochemistry
CO 2	To apply the structure and theory to the study of organic reaction mechanisms
CO 3	To apply all the naming reactions in multistep process in manufacturing of drugs and drug intermediates special reactive intermediates including carbenes, carbanions and free radicals
CO 4	Will be able to design and carry out scientific experiments as well as accurately record and analyze the results of such experiments.
CO 5	To develop synthetic route for small molecules.
<b>1.2 T</b>	<b>Advanced Medicinal Chemistry-I (Theory)</b>
CO 1	A detailed understanding of the processes involved in the design, development and discovery of medicinal compounds.

# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)



Principal  
Vaagdevi College of Pharmacy  
Hanamkonda  
Principal  
Vaagdevi College of Pharmacy  
Hanamkonda



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 2	To design around the various market approved drug molecules
CO 3	To understand the mechanism of action of drugs belonging to the Antihypertensive, Psychoactive classes
CO 4	Anticonvulsant, H1/H2 receptor antagonistic, COX1 & COX2 inhibiting, Adrenergic & Cholinergic, Antineoplastic and Antiviral agents.
<b>1.3 T</b>	<b>Spectroscopic identification of organic compounds (Theory)</b>
CO1	Able to interpret different spectra and elucidate/confirm the structure of compounds he has isolated/ synthesized.
CO 2	Study of applications of the spectroscopic techniques in the determination of structure of various classes of compounds
CO 3	Knowledge on <sup>1</sup> H NMR, <sup>13</sup> C NMR, DEPT and 2DNMR
CO 4	Determination of structures using a combination of spectra/spectral data.
<b>1.4 T</b>	<b>Screening methods in Pharmacology (Theory)</b>
CO 1	The students would appreciate the knowledge gained on preclinical evaluation of drugs and recent experimental techniques in the drug discovery and development.
CO 2	Understand the maintenance of laboratory animals as per the guidelines, basic knowledge of various in-vitro and in-vivo preclinical evaluation processes
CO 3	Understand the regulations and ethical requirement for the usage of experimental animals
CO 4	Describe the various animals used in the drug discovery process and good laboratory practices in maintenance and handling of experimental animals
CO 5	Appreciate to correlate the preclinical data to humans
<b>1.1 P</b>	<b>Advanced Organic Chemistry-I (Practical)</b>
CO 1	Knowledge on basic Techniques: a) Calibration of thermometer and finding melting point, mixed melting point and boiling point. b) Purification and drying of organic solvents c) Crystallization d) Distillation, Fractional Distillation, Distillation under reduced pressure
CO 2	Knowledge on separation and identification of organic compounds from binary mixtures:
CO 3	Synthesis of some of the heterocyclic compounds



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Hanamkonda, Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	Understanding 1. Beckmann rearrangement 2) Fries rearrangement 3) Acetylation, methylation 4) Metal/acid reductions 5) Oppenauer oxidation 6) Friedel-Crafts alkylation & Acylation 7) Nitration using different reagents
<b>1.2 P</b>	<b>Advanced Medicinal Chemistry (Practical)</b>
CO 1	Synthesis, purification and identification some of drugs
CO 2	Screening of CNS activities, Experiments on isolated tissues
CO 3	Recording of spectra of some compounds
	<b>M.Pharmacy Ist year II SEM (Pharmaceutical Chemistry)</b>
<b>2.1 T</b>	<b>Advanced Organic Chemistry-II (Theory)</b>
CO 1	To understand strategies in organic synthesis
CO 2	To learn about Chiral drug synthesis
CO 3	To gain knowledge on modern synthetic methods
CO 4	To understand six-membered heterocyclic ring compounds with one heteroatom
CO 5	To synthesize various heterocyclic compounds
<b>2.2 T</b>	<b>Advanced Medicinal Chemistry-II (Theory)</b>
CO 1	To Acquire knowledge on psychopharmacological agents
CO 2	To understand anxiolytics, sedatives and hypnotics
CO 3	To know about antidepressants, antiepileptics, CNS stimulants and diuretics
CO 4	To study about a) Anthihyperlipidemic agents b) phosphodiesterase inhibitors c) Quinolone antibacterial agents.
<b>2.3 T</b>	<b>Chemistry of natural products (Theory)</b>
CO 1	To attain detailed knowledge about chemistry of medicinal compounds from natural origin
CO 2	To understand general methods of structural elucidation of medicinally active natural compounds
CO 3	To attain knowledge regarding isolation and purification of medicinal compounds from natural origin.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001



Viswambhara Educational Society

## VAAGDEVI COLLEGE OF PHARMACY

(Affiliated to Kakatiya University)

Approved by A.I.C.T.E., PCI New Delhi & Recognised by Govt. of Telangana.

CO 4	To characterize products by physical and spectroscopic means including IR, NMR, GC, and MS.
CO 5	To identify different types of natural products, their occurrence, structure, biosynthesis and properties.
<b>2.4 T</b>	<b>Chromatograph separation technology (Theory)</b>
CO 1	To gain knowledge on theory and instrumentation of the techniques such as TLC, HPLC, GC etc. for the separation of organic compounds.
CO 2	To study about electrophoresis
CO 3	To know about Paper chromatography b) Super Critical chromatography c) Chiral Separations d) Circular counter current chromatography (CCCC) e) Ion Exchange methods
<b>2.1 P</b>	<b>Advanced Medicinal Chemistry-II (Practical)</b>
CO 1	To prepare, purify and identify a) Dapsone b) Benzocaine c) Hydralazine d) Imipramine e) Sufadiazine
CO 2	To synthesis a compound using microwave oven
CO 3	Screening of a) Analgesic activity b) Anti inflammatory activity c) Acute toxicity studies d) Antibacterial and antifungal activity e) Free radical scavenging and anti-oxidant activities
CO 4	To record spectra for some compounds and analyzed
CO 5	Impurity profiling of some compounds
<b>2.2 P</b>	<b>Chemistry of natural products (Practical)</b>
CO 1	To separation compounds by HPLC
CO 2	To use column, flash and vacuum liquid chromatographies for isolating some of the above mentioned phytoconstituents
CO 3	To identify alkaloids in mixture by TLC
CO 4	To separate (sugars/amino acids) by paper chromatography.
CO 5	To perform tests to detect alkaloids, steroids, flavanoids and their glycosides.



# 2-2-457/3, Ramnagar, HANAMKONDA - 506 001, Warangal, Telangana.

Phone : 0870-2455111

Website : [www.vaagdevipharmacy.com](http://www.vaagdevipharmacy.com) E-mail: [vaagdevipharmacy117@yahoo.com](mailto:vaagdevipharmacy117@yahoo.com)

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001

Principal  
Vaagdevi College of Pharmacy  
Warangal-506 001