

COURSE STRUCTURE AND SYLLABUS

[w.e.f. Session 2024-26]

DIPLOMA IN PHARMACY



DEPARTMENT OF PHARMACY

SARALA BIRLA UNIVERSITY

Birla Knowledge City, Mahilong, Purulia Road

Ranchi - 835103

Jharkhand, INDIA

2024

VISION AND MISSION OF THE SARALA BIRLA UNIVERSITY

Vision:

To build an egalitarian global society based on national integrity, equality, social justice, secularism, freedom & fraternity, international understanding and scientific approach to the problems of the society, as enshrined in the constitution of India through various modes of teaching-learning process and supported by curricular and co-curricular activities.

Mission:

To develop well-motivated global leaders who will be intellectually competent, morally upright, socially committed, spiritually inspired and 'स्वान्तः सुखाय'. To propagate the philosophy of 'वसुधैव कुटुम्बकम्'.

DEPARTMENT OF PHARMACY

Vision:

To develop a globally recognized center for academic excellence by imparting quality education and research in Pharmaceutical sciences for the benefit of the people, healthcare system and the growth of the Pharmaceutical industry.

Mission:

- To focus on the Quality Education in the area of Pharmaceutical Sciences.
- To Develop Professional with Competitive Edge.
- To Promote Research for the Advancement of the Knowledge for the growth of the society.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

PEO1: Students should pursue lifelong learning in pharmacy with an emphasis on more relevant, modern, and hands-on laboratory experience in order to successfully compete in the regional, national, and international pharmaceutical industries

PEO2: To offer a broad, cutting-edge pharmaceutical education with solid foundations to support the various facets of the pharmaceutical industry.

PEO3: To cultivate entrepreneurial and leadership qualities in aspiring pharmacy professionals.

PEO4: The students are expected to instill in them a feeling of social duty, ethics, moral principles, and the authenticity of human touch.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Graduates in pharmacy will be familiar with the basics of creating both traditional and innovative pharmaceutical dosage forms, as well as how to dispense them and the most recent developments in the field of pharmaceutical product development.

PSO2: The graduates will gain the capacity to plan, carry out, and evaluate a variety of analytical studies and reports that the pharmaceutical industry uses for drug development, formulation design, production, and other related processes.

PSO3: Graduates in pharmacy will have a basic understanding of the ethics related to the pharmacy profession as well as a comprehension of the various regulations that regulate various elements of the pharmaceutical industry.

PROGRAM OUTCOMES (POs)

After completing the B.Pharm course the students will have:

PO1: 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.

PO2: Drug Formulation and Development: Understand and apply the principles of drug design, formulation, manufacturing, and quality assurance in the preparation of pharmaceutical products.

PO3: 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.

PO4: Problem analysis: Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyse, evaluate and apply information systematically and shall make defensible decisions.

PO5: Modern tool usage: Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.

PO6: Leadership skills: Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfilment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and wellbeing.

PO7: Professional Identity: Understand, analyse and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).

PO8: Pharmaceutical Ethics: Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behaviour 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.

PO9: 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.

PO10: 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.

PO11: 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.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-access and use feedback effectively from others to identify learning needs and to satisfy these needs on an on-going basis.

SARALA BIRLA UNIVERSITY

D.Pharm [PCI - CBCS Scheme]

Programme Structure [Year- I]

Course Code	Course Title	Course Credit	Course Type	Marks			Exam Duration (Hrs.)
				IA	EA	Total	
Theory							
ER20-11T	Pharmaceutics	0	Core	20	80	100	3
ER20-12T	Pharmaceutical Chemistry	0	Core	20	80	100	3
ER20-13T	Pharmacognosy	0	Core	20	80	100	3
ER20-14T	Human Anatomy and Physiology	0	Core	20	80	100	3
ER20-15T	Social Pharmacy	0	Core	20	80	100	3
Lab/ Practical							
ER20-11P	Pharmaceutics	0	Core	20	80	100	3
ER20-12P	Pharmaceutical Chemistry	0	Core	20	80	100	3
ER20-13P	Pharmacognosy	0	Core	20	80	100	3
ER20-14P	Human Anatomy and Physiology	0	Core	20	80	100	3
ER20-15P	Social Pharmacy	0	Core	20	80	100	3
Total		0	0	200	800	1000	30

Note:

1. For the courses having either assignments or field visit/s, the assessments of assignments or field visit/s shall be done directly for 10 marks and added to the sessional marks.
2. For the courses not having both assignment and field visit, the whole 20 marks shall be calculated from the sessional marks.

SARALA BIRLA UNIVERSITY

D.Pharm [PCI - CBCS Scheme]

Programme Structure [Year- II]

Course Code	Course Title	Course Credit	Course Type	Marks			Exam Duration (Hrs.)
				IA	EA	Total	
Theory							
ER20-21T	Pharmacology	0	Core	20	80	100	3
ER20-22T	Community Pharmacy and Management	0	Core	20	80	100	3
ER20-23T	Biochemistry	0	Core	20	80	100	3
ER20-24T	Pharmacotherapeutics	0	Core	20	80	100	3
ER20-25T	Hospital and Clinical Pharmacy	0	Core	20	80	100	3
ER20-26T	Pharmacy Law and Ethics	0	Core	20	80	100	3
Lab/ Practical							
ER20-21P	Pharmacology	0	Core	20	80	100	3
ER20-22P	Community Pharmacy and Management	0	Core	20	80	100	3
ER20-23P	Biochemistry	0	Core	20	80	100	3
ER20-24P	Pharmacotherapeutics	0	Core	20	80	100	3
ER20-25P	Hospital and Clinical Pharmacy	0	Core	20	80	100	3
Total		0	0	220	880	1100	33

Note:

1. For the courses having either assignments or field visit/s, the assessments of assignments or field visit/s shall be done directly for 10 marks and added to the sessional marks.
2. For the courses not having both assignment and field visit, the whole 20 marks shall be calculated from the sessional marks.

SARALA BIRLA UNIVERSITY							
D.Pharm [PCI - CBCS Scheme]							
Programme Structure [Year- I]							
Course Code	Course Title	Course Type	Lecture Hours	Tutorial Hours	Practical Hours	Total Hours	Classes per week
Theory							
ER20-11T	Pharmaceutics	Core	3	1	-	4	4
ER20-12T	Pharmaceutical Chemistry	Core	3	1	-	4	4
ER20-13T	Pharmacognosy	Core	3	1	-	4	4
ER20-14T	Human Anatomy and Physiology	Core	3	1	-	4	4
ER20-15T	Social Pharmacy	Core	3	1	-	4	4
Lab/ Practical							
ER20-11P	Pharmaceutics	Core	-	-	3	3	3
ER20-12P	Pharmaceutical Chemistry	Core	-	-	3	3	3
ER20-13P	Pharmacognosy	Core	-	-	3	3	3
ER20-14P	Human Anatomy and Physiology	Core	-	-	3	3	3
ER20-15P	Social Pharmacy	Core	-	-	3	3	3
Total			15	04	15	35	35
Total Lecture per week				15			
Total Tutorial per week				04			
Total Practical/ Lab classes per week				35			
TOTAL CLASSES PER WEEK [Year I]				54			

SARALA BIRLA UNIVERSITY							
D.Pharm [PCI - CBCS Scheme]							
Programme Structure [Year- II]							
Course Code	Course Title	Course Type	Lecture Hours	Tutorial Hours	Practical Hours	Total Hours	Classes per week
Theory							
ER20-21T	Pharmacology	Core	3	1	-	4	4
ER20-22T	Community Pharmacy and Management	Core	3	1	-	4	4
ER20-23T	Biochemistry	Core	3	1	-	4	4
ER20-24T	Pharmacotherapeutics	Core	3	1	-	4	4
ER20-25T	Hospital and Clinical Pharmacy	Core	3	1	-	4	4
ER20-26T	Pharmacy Law and Ethics	Core	3	1	-	4	4
Lab/ Practical							
ER20-21P	Pharmacology	Core	-	-	2	2	2
ER20-22P	Community Pharmacy and Management	Core	-	-	3	3	3
ER20-23P	Biochemistry	Core	-	-	2	2	2
ER20-24P	Pharmacotherapeutics	Core	-	-	1	1	1
ER20-25P	Hospital and Clinical Pharmacy	Core	-	-	1	1	1
Total			18	05	9	33	33
Total Lecture per week				18			
Total Tutorial per week				05			
Total Practical/ Lab classes per week				33			
TOTAL CLASSES PER WEEK [Year II]				56			

PHARMACEUTICS THEORY

ER20-11T

Degree	D. Pharm				
Course Code	ER20-11T				
Category	Professional Core Courses				
Course Title	Pharmaceutics-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	I
Pre-Requisites	Basic Knowledge of Pharmaceutics				

Lecture: 75

Course Objective:

1. Basic concepts, types and need of Pharmaceutical dosage form.
2. Advantages and disadvantages, methods of preparation / formulation of dosage form.
3. Packaging and labelling requirements.
4. Basic quality control tests, concepts of quality assurance.
5. Basic concept of good manufacturing practices

Course Outcome (COs)

CO1: Describe about the different dosage forms and their formulation aspects.

CO2: Explain the advantages, disadvantages, and quality control tests of different dosage forms

CO3: Demonstrate knowledge of pharmaceutical calculations, including measurement systems, concentration expressions, and dilutions.

CO4: Discuss the importance of quality assurance and good manufacturing practices

CO5: Apply principles of labelling, and packaging standards in pharmaceutical product preparation and dispensing.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	-	1	1	1	1	1	2	3	2	1
CO2	3	3	2	3	2	-	1	1	1	1	1	2	3	3	2
CO3	3	2	2	3	2	-	-	-	1	-	-	2	2	3	1
CO4	3	3	2	2	2	1	2	3	2	2	1	2	3	2	3
CO5	2	3	2	2	2	-	1	2	2	2	1	2	3	2	2

PHARMACEUTICS PRACTICAL

ER20-11P

Degree	D. Pharm				
Course Code	ER20-11P				
Category	Professional Core Courses				
Course Title	Pharmaceutics-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	I
Pre-Requisites	Basic Knowledge of Formulations				

Practical Hours: 3 Hrs/Week

Course Objective:

1. To understand and perform basic pharmaceutical preparations such as powders, mixtures, ointments, creams, and emulsions, following standard operating procedures.
2. Calculation of working formula from the official master formula.
3. Formulation of dosage forms based on working formula
4. Appropriate Packaging and labelling requirements
5. Methods of basic quality control tests

Course Outcome (COs)

CO1: Understand and apply the principles of formulation and preparation of various conventional dosage forms such as powders, ointments, creams, and emulsions.

CO2: Calculate the working formula from the given master formula

CO3: Formulate the dosage form and dispense in an appropriate container

CO4: Design the label with the necessary product and patient information

CO5: Perform the basic quality control tests for the common dosage forms

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	1	2	2	2	2	1	2	3	2	2
CO2	3	3	1	2	2	1	1	1	2	1	1	2	3	3	1
CO3	3	3	2	3	2	1	2	2	2	2	1	2	3	2	2
CO4	2	2	1	1	2	1	1	1	3	1	1	2	2	1	1
CO5	3	3	2	3	3	1	2	2	2	2	1	2	3	3	2

PHARMACEUTICAL CHEMISTRY – THEORY

ER20-12T

Degree	D. Pharm				
Course Code	ER20-12T				
Category	Professional Core Courses				
Course Title	Pharmaceutical Chemistry-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	I
Pre-Requisites	Basic Knowledge of Chemistry				

Lecture: 75

Course Objectives:

1. Understand the chemical classification, chemical name, and structure of organic and inorganic pharmaceuticals.
2. Comprehend the pharmacological uses, dosage, stability, and storage conditions of common pharmaceuticals.
3. Learn about impurity testing and the principles of basic quality control methods.
4. Identify formulations/dosage forms and brand names of widely used drugs.
5. Gain foundational knowledge of official monographs, nomenclature, and the role of various classes of drugs acting on different body systems.

Course Outcomes (COs):

CO1: Describe the chemical class, structure, and chemical name of commonly used organic and inorganic drugs.

CO2: Discuss the pharmacological uses, dosage regimen, stability, and storage conditions of pharmaceuticals.

CO3: Explain the principles and processes of impurity testing and basic quality control methods.

CO4: Identify different dosage forms and popular brand names of drugs.

CO5: Classify and understand mechanisms of drugs acting on various systems like CNS, ANS, CVS, and more.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	3	2	1	2	3	2	3	2	2	3	2	1
CO2	3	3	2	3	2	2	3	2	3	3	2	3	2	3	2
CO3	2	3	2	2	3	2	1	2	2	2	2	2	2	2	2
CO4	2	2	3	2	2	3	2	3	2	2	3	2	3	3	2
CO5	1	2	2	3	2	2	3	2	3	2	3	2	2	3	3

PHARMACEUTICAL CHEMISTRY – PRACTICAL

ER20-12P

Degree	D. Pharm				
Course Code	ER20-12P				
Category	Professional Core Courses				
Course Title	Pharmaceutical Chemistry-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	I
Pre-Requisites	Basic Knowledge of Pharmaceutical Chemistry				

Practical Hours: 3 Hrs/Week

Course Objectives:

1. To perform limit tests and assays of selected pharmaceutical substances as per pharmacopeial standards.
2. To prepare and standardize solutions using volumetric techniques.
3. To understand basic preparatory organic chemistry and carry out synthesis.
4. To conduct tests for identity, purity, and systematic qualitative analysis of drugs and pharmaceuticals.
5. To apply analytical techniques in pharmaceutical quality control for ensuring drug safety and efficacy as per regulatory requirements.

Course Outcomes (COs):

CO1: Perform limit tests for various inorganic pharmaceutical substances as per pharmacopoeia.

CO2 : Prepare and standardize chemical solutions using volumetric analysis.

CO3: Determine the purity of selected drugs using qualitative and quantitative methods.

CO4 : Synthesize selected organic pharmaceutical compounds and confirm their identity.

CO5 : Identify unknown drugs by systematic qualitative analysis procedures.

CO-PO/PSO Mapping Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	1	1	1	2	2	1	2	3	3	1
CO2	3	3	2	2	2	1	1	1	2	2	1	2	3	3	1
CO3	3	3	2	2	2	1	1	1	2	2	1	2	3	3	2
CO4	3	3	2	2	2	1	1	1	2	2	1	2	3	3	2
CO5	3	3	2	2	2	1	1	1	2	2	1	2	3	3	2

PHARMACOGNOSY THEORY

ER20-13T

Degree	D. Pharm				
Course Code	ER20-13T				
Category	Professional Core Courses				
Course Title	Pharmacognosy-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	I
Pre-Requisites	Basic Knowledge of Crude drugs				

Lecture: 75

Course Objective :

1. Introduce the basic concepts, history, and scope of pharmacognosy in the field of pharmacy.
2. Enable students to identify and classify crude drugs based on their morphological and anatomical characteristics.
3. Impart knowledge on the sources, cultivation, collection, and preservation of medicinal plants.
4. Familiarize students with the phytoconstituents such as alkaloids, glycosides, tannins, resins, volatile oils, and their therapeutic applications.
5. Develop skills to perform basic microscopic and chemical tests for crude drug identification.

Course Outcome:

CO1: Define and explain the scope, history, and importance of pharmacognosy in traditional and modern medicine.

CO2: Classify and describe various systems of medicine (e.g., Ayurveda, Unani, Siddha, Chinese).

CO3: Identify crude drugs of natural origin based on morphological and sensory characteristics.

CO4: Describe the methods of cultivation, collection, drying, and storage of medicinal plants.

CO5: Explain the pharmacological uses and phytochemical constituents of important crude drugs.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	2	-	-	1	-	1	2	2	2	2	1	1
CO2	3	2	-	2	-	-	2	1	1	2	1	2	3	2	1
CO3	3	2	2	2	-	-	1	1	-	2	2	2	2	1	1
CO4	3	3	-	3	-	-	-	-	1	1	-	2	3	2	1
CO5	3	3	-	3	2	-	-	2	1	2	2	2	3	3	3

PHARMACOGNOSY PRACTICAL

ER20-13P

Degree	D. Pharm				
Course Code	ER20-13P				
Category	Professional Core Courses				
Course Title	Pharmacognosy-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	I
Pre-Requisites	Basic Knowledge of Crude drugs				

Practical Hours: 3 Hrs/Week

Course Objective:

1. Enable students to identify crude drugs based on their morphological and sensory characteristics.
2. Train students in the microscopic evaluation of plant tissues and cellular structures using powder microscopy and sectioning techniques.
3. Demonstrate chemical tests for identification of important phytoconstituents like alkaloids, glycosides, tannins, saponins, and resins.
4. Familiarize students with quantitative microscopy techniques, such as determining stomatal index, vein islet number, and palisade ratio.
5. Instill knowledge and practice of proper documentation, labeling, and lab safety in handling herbal materials.

Course Outcome (COs)

CO1: Identify commonly used crude drugs by their morphological, organoleptic, and sensory characteristics

CO2: Prepare and observe transverse sections (T.S.) and perform powder microscopy of plant parts for identification.

CO3: Perform chemical tests to detect major phytoconstituents like alkaloids, glycosides, tannins, and saponins.

CO4: Carry out quantitative microscopy including determination of stomatal number, stomatal index, and palisade ratio.

CO5: Determine quality control parameters such as ash values, extractive values, and moisture content.

CO-PO-PSO Matrix:

CO/ PO/ PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	2	-	-	1	-	1	1	1	2	3	2	1
CO2	3	2	-	3	2	-	-	-	1	1	-	2	3	3	-
CO3	3	3	-	3	2	-	-	2	1	1	1	2	3	3	2
CO4	3	2	-	3	3	-	-	-	-	1	-	2	2	3	-
CO5	3	3	-	3	2	-	-	2	1	2	2	3	3	3	3

HUMAN ANATOMY AND PHYSIOLOGY THEORY

ER20-14T

Degree	D. Pharm				
Course Code	ER20-14T				
Category	Professional Core Courses				
Course Title	Human Anatomy and Physiology-Theory				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	I
Pre-Requisites	Basic Knowledge of Anatomy and Physiology of Human				

Lecture: 75

Course Objective:

1. Understand the basic terminologies and foundational concepts of human anatomy and physiology.
2. Describe the structure and function of cells, tissues, and organs in the human body.
3. Explain the anatomy and physiology of major body systems including cardiovascular, respiratory, digestive, nervous, and endocrine systems.
4. Recognize the integration and coordination of various organ systems for maintaining homeostasis.
5. Apply anatomical and physiological knowledge to understand pathological conditions and support pharmacological understanding..

Course Outcome:

CO1. Students should be able explain the gross morphology, structure and functions of various organs of the human body.

CO2. Students should be able to describe the various homeostatic mechanisms and their imbalances.

CO3 Students should be able to Identify the various tissues and organs of different systems of human body.

CO4. Students should be able to perform the various experiments related to special senses and nervous system.

CO5. Students should be able to appreciate coordinated working pattern of different organs of each system.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	2	2	1	3	2	2	2	1	2	3	2	3
CO2	3	2	1	2	1	1	2	2	1	2	1	2	3	2	3
CO3	3	2	1	2	1	1	2	2	1	1	1	2	3	2	2
CO4	3	2	1	2	2	1	2	2	2	1	1	2	2	2	2
CO5	3	2	1	2	2	1	2	2	1	1	1	2	3	2	2

HUMAN ANATOMY AND PHYSIOLOGY-PRACTICAL

ER20-14P

Degree	D. Pharm				
Course Code	ER20-14P				
Category	Professional Core Courses				
Course Title	Human Anatomy and Physiology-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	I
Pre-Requisites	Basic Knowledge of Anatomy and Physiology of Human				

Practical Hours: 3 Hrs/Week

Course Objective:

1. To describe the general blood collection techniques and carrying out various haematological assessments and interpreting the results.
2. To gain knowledge on recording and monitoring the vital physiological parameters in human subjects and the basic interpretations of the results
3. To be able to describe the microscopic examinations of the various tissues permanently mounted in glass slides.
4. To discuss the anatomical and physiological characteristics of various organ systems of the body using models, charts, and other teaching aids.
5. To discuss the anatomical features of the important human organs and tissues.

Course Outcome:

CO1. Student should be able to perform the haematological tests in human subjects and interpret the results.

CO2. Student should be able to record, monitor and document the vital physiological parameters of human subjects and interpret the results.

CO3 Student should be able to describe the anatomical features of the important human tissues under the microscopical conditions.

CO4. Student should be able to discuss the significance of various anatomical and physiological characteristics of the human body.

CO5. Student should be able to discuss the anatomical features of the important human organs and tissues.

CO-PO-PSO Matrix:

COs/POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	2	3	3	-	1	2	2	2	-	2	2	3	3
CO2	3	-	3	3	3	-	1	2	3	2	-	2	2	3	3
CO3	3	-	2	2	2	-	1	2	2	1	-	2	3	2	3
CO4	3	-	2	2	2	-	2	2	3	2	-	2	3	2	3
CO5	3	-	1	2	1	-	2	2	3	2	-	2	3	2	3

SOCIAL PHARMACY THEORY

ER20-15T

Degree	D. Pharm				
Course Code	ER20-15T				
Category	Professional Core Courses				
Course Title	Social Pharmacy-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	I
Pre-Requisites	Basic Knowledge of Pharmacist's role				

Lecture: 75

Course Objectives

1. To introduce the concept and scope of Social Pharmacy and the pharmacist's role in public health
2. To understand preventive healthcare measures including vaccination, family planning, and environmental health.
3. To study the basics of nutrition, food safety, and the impact of diet on health.
4. To learn the epidemiology and prevention of communicable diseases and the pharmacist's role in community awareness.
5. To understand national health programs, disaster management, and fundamentals of pharmacoeconomics and health systems.

Course Outcomes (COs)

After completing this course, the student will be able to:

CO1: Explain the scope of Social Pharmacy and recognize the pharmacist's public health responsibilities.

CO2: Apply knowledge of preventive healthcare, including immunization, maternal and child health, and environmental sanitation.

CO3: Identify nutritional needs, food safety issues, and drug-nutrient interactions.

CO4: Describe common communicable diseases, their control, and the pharmacist's role in public education and prevention.

CO5: Understand health systems, national health programs, disaster management, and pharmacoeconomics principles.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	1	-	3	2	-	-	2	-	1	-	-	3
CO2	3	-	-	2	-	2	-	-	-	2	-	-	-	-	2
CO3	3	-	-	2	-	-	-	-	2	-	2	-	-	2	-
CO4	3	-	-	1	-	2	2	-	2	2	-	-	-	-	3
CO5	3	-	2	2	-	2	-	-	-	2	-	-	-	-	-

SOCIAL PHARMACY PRACTICAL

ER20-15P

Degree	D. Pharm				
Course Code	ER20-15P				
Category	Professional Core Courses				
Course Title	Social Pharmacy-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	I
Pre-Requisites	Basic Knowledge of Pharmacist's role				

Practical Hours: 3 Hrs/Week

Course Objectives:

- To understand the national immunization schedule, reproductive and child health, and family planning methods.
- To learn about personal hygiene, menstrual hygiene, and oral health practices.
- To gain practical knowledge on microbial observation and the use of disinfectants and antiseptics.
- To develop skills in health communication and counseling for nutrition, tobacco cessation, and disease prevention.
- To acquire basic first aid skills, including life support techniques like CPR and use of AED.

Course Outcomes:

After completing this course, students will be able to:

CO1: Explain vaccination schedules and reproductive health nutritional needs.

CO2: Demonstrate correct personal, menstrual, and oral hygiene practices.

CO3: Identify common microbes microscopically and apply knowledge of disinfectants and repellents.

CO4: Prepare and deliver effective health education materials and counseling sessions on nutrition, tobacco cessation, and communicable diseases.

CO5: Perform first aid and basic life support techniques confidently in emergency situations.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	-	1	-	1	2	1	-	3	-	2	-	-	-
CO2	2	-	-	1	-	-	1	1	2	1	-	2	-	-	-
CO3	3	1	-	1	-	-	1	-	-	1	1	1	2	2	-
CO4	3	-	2	3	-	2	3	2	3	3	-	2	-	-	2
CO5	2	-	-	3	-	2	3	2	1	3	-	3	-	-	2

PHARMACOLOGY-THEORY

ER20-21T

Degree	D. Pharm				
Course Code	ER20-21T				
Category	Professional Core Courses				
Course Title	Pharmacology-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	II
Pre-Requisites	Basic Knowledge of Drug				

Lecture: 75

Course Objective:

1. To describe the history and scope of pharmacology, general pharmacology, and pharmacokinetics and knowledge on Pharmacodynamics, Drug Discovery and clinical evaluation of new drugs.
2. To be able to learn General concepts of pharmacology including pharmacokinetics, pharmacodynamics, routes of administration, etc.
3. Describe Pharmacological classification and indications of drugs
4. To understand and explain the Dosage regimen, mechanisms of action, contraindications of drugs.
5. To understand and explain the Common adverse effects of drugs.

Course Outcome:

CO1. Students will be able to understand the pharmacological actions of different categories of drugs and describe the basic concepts of pharmacokinetics and pharmacodynamics

CO2. Students will be able to enlist the various classes and drugs of choices for any given disease condition and explain the mechanism of drug action at organ system/sub cellular/ macromolecular levels.

CO3 Students will be able to advice the dosage regimen, route of administration and contraindications for a given drug.

CO4. Students will be able to describe the common adverse drug reactions.

CO5. Students will be able to appreciate correlation of pharmacology with other bio medical sciences

CO-PO-PSO Matrix:

COs/POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	3	2	-	2	1	1	2	1	2	3	2	1
CO2	3	3	2	3	2	1	2	2	1	3	1	2	3	3	2
CO3	3	3	2	3	2	1	2	2	2	3	1	2	3	3	2
CO4	2	1	1	2	1	-	1	2	1	2	-	1	2	2	2
CO5	2	1	1	2	1	-	2	2	2	2	1	2	2	2	3

PHARMACOLOGY PRACTICAL

ER20-21P

Degree	D. Pharm				
Course Code	ER20-21P				
Category	Professional Core Courses				
Course Title	Pharmacology-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	2	0	II
Pre-Requisites	Basic Knowledge of Experimental Pharmacology				

Practical Hours: 2 Hrs/Week

Course Objective: This course will demonstrate / provide hands-on experience in the virtual platform using appropriate software on the following:-

1. To describe the history and scope of pharmacology, general pharmacology, and experimental pharmacology and CPCSEA.
2. To gain knowledge on instruments used in the experimental pharmacology and common laboratory animals and various techniques of blood withdrawal in animals.
3. To be able to explain screening the effects of various drugs acting in the central nervous system and various routes of drug administrations in animals and Study of drug effects on isolated organs / tissues.
4. To understand and explain the study of pyrogen testing on rabbit.
5. To understand and explain the study of pharmacological effects of drugs like local anaesthetics, mydriatic and mitotic on rabbit eye.

Course Outcome:

CO1. Student will be able to study and report the local anaesthetic, mydriatic and mitotic effects of the given drug on the rabbit eye.

CO2. Student will be able to demonstrate routes of drug administration in animals in vivo and in vitro.

CO3 Student will be able to choose appropriate animal experiment model to study the effects of the given drugs acting on the central nervous system and will submit the report.

CO4. Student will be able to perform the effects of given tissues (simulated) on isolated organs / tissues and interpret the results

CO5. Student should be able to Interpret the dose dependent responses of drugs in various animal experiment models and perform common laboratory techniques in animals and procedures for laboratory animal maintenance.

CO-PO-PSO Matrix:

COs/POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	2	2	-	2	1	2	1	1	2	3	2	1
CO2	3	2	2	3	2	1	2	1	2	2	1	2	3	3	1
CO3	3	3	2	3	2	1	2	2	2	2	1	2	3	3	2
CO4	3	3	2	3	2	1	2	2	2	2	1	2	3	3	2
CO5	3	3	2	3	2	1	2	2	2	2	1	3	3	3	2

COMMUNITY PHARMACY AND MANAGEMENT THEORY

Degree	D. Pharm				
Course Code	ER20-22T				
Category	Professional Core Courses				
Course Title	Community Pharmacy and Management-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	II
Pre-Requisites	Basic Knowledge of Community Pharmacy Practice				

Lecture: 75

Course Objectives:

1. To introduce the concept, history, and development of community pharmacy practice nationally and internationally.
2. To understand the legal, professional, and ethical responsibilities of community pharmacists, including prescription handling and dispensing practices.
3. To develop effective communication and patient counseling skills for interacting with patients and healthcare professionals.
4. To learn the importance of medication adherence, OTC medications, and community pharmacy health screening services.
5. To gain knowledge of community pharmacy management, including legal requirements, inventory control, financial planning, and emerging digital health technologies.

Course Outcomes: After completing this course, students will be able to:

CO1- Explain the evolution, scope, and professional responsibilities of community pharmacy practice.

CO2- Demonstrate proper prescription handling, dispensing procedures, and adherence to good pharmacy practices.

CO3- Apply effective communication and counseling techniques to support patient care and chronic disease management.

CO4- Promote medication adherence and safe use of OTC medications while providing appropriate health screening services.

CO5- Manage community pharmacy operations efficiently, including legal compliance, inventory management, financial accounting, and use of digital tools

CO-PO-PSO Matrix

COs/POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	-	2	2	1	2	3	2	3	3	-	1	2	-	1
CO2	3	1	2	3	2	1	3	3	3	3	1	1	3	1	1
CO3	2	-	1	3	3	2	2	3	3	2	-	1	2	-	-
CO4	2	1	1	2	3	1	2	3	3	2	-	-	3	1	1
CO5	3	-	2	3	2	2	3	1	2	3	1	1	2	1	1

COMMUNITY PHARMACY AND MANAGEMENT-PRACTICAL

ER20-22P

Degree	D. Pharm				
Course Code	ER20-22P				
Category	Professional Core Courses				
Course Title	Community Pharmacy and Management-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	3	0	II
Pre-Requisites	Basic Knowledge of Community Pharmacy Practice				

Practical Hours: 3 Hrs/Week

Course Objectives:

- To develop skills in handling and reviewing prescriptions following professional and legal standards.
- To identify drug-drug interactions in prescriptions and take appropriate follow-up actions.
- To prepare accurate dispensing labels and auxiliary labels for prescribed medications.
- To gain practical experience in conducting various health screening tests for patient monitoring and early detection.
- To enhance patient counselling skills for chronic diseases, minor ailments, and proper use of medication devices.

Course Outcomes: After completing this course, students will be able to:

CO1- Review prescriptions for accuracy, legality, and completeness.

CO2 - Detect and resolve drug-drug interactions appropriately.

CO3- Generate correct dispensing and auxiliary labels for prescribed drugs.

CO4- Conduct patient health screenings using standard tools and interpret results.

CO5- Counsel patients effectively and demonstrate proper drug/device administration techniques.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	1	2	1	-	1	3	1	3	-	1	2	-	2
CO2	3	1	-	2	1	-	-	3	-	3	-	-	2	-	3
CO3	2	3	2	1	2	-	-	-	2	-	-	-	3	1	-
CO4	2	-	3	3	2	1	-	-	1	2	-	1	1	3	-
CO5	2	-	-	-	1	-	3	3	3	1	-	2	-	-	1

BIOCHEMISTRY & CLINICAL PATHOLOGY – THEORY

ER20-23T

Degree	D. Pharm				
Course Code	ER20-23T				
Category	Professional Core Courses				
Course Title	Biochemistry & Clinical Pathology-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	II
Pre-Requisites	Basic Knowledge of Biomolecules				

Lecture: 75

Course Objective:

1. To understand the structure, classification, and biological functions of major biomolecules such as carbohydrates, lipids, proteins, and nucleic acids, and their significance in cellular metabolism and physiological processes.
2. To explore the catalytic mechanisms of enzymes, including their diagnostic and therapeutic applications, and the principles underlying enzyme kinetics and inhibition.
3. To examine the biochemical pathways involved in the metabolism of carbohydrates, lipids, proteins, and nucleic acids, and to relate their dysfunction to common metabolic disorders and human diseases.
4. To analyze the biochemical basis of organ function tests (liver, kidney, pancreas, etc.), interpreting their results for clinical significance and application in disease diagnosis and monitoring.
5. To develop skills for qualitative and quantitative analysis of biomolecules and metabolites in biological fluids (such as blood and urine), and to understand the clinical pathology of these samples in the context of health and disease.

Course Outcome:

CO1: Students will be able to describe the structure, classification, and biological significance of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids.

CO2: Students will demonstrate understanding of enzyme kinetics, mechanisms, classifications, and their clinical and therapeutic relevance.

CO3: Students will be able to explain key metabolic pathways and associate them with diseases caused by their dysregulation.

CO4: Students will gain the ability to analyze and interpret organ function test results and correlate them with clinical conditions.

CO5: Students will evaluate biomolecular constituents in biological samples and assess their clinical implications in pathological conditions

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	3	1	2	2	1	3	2	2	3	2	2
CO2	3	3	2	2	3	1	2	2	2	3	2	3	3	3	2
CO3	3	3	2	2	3	1	3	3	2	3	2	3	3	3	2
CO4	3	3	2	3	3	2	3	3	2	3	2	3	3	3	3
CO5	3	3	3	2	3	2	3	3	2	3	3	3	3	3	3



BIOCHEMISTRY & CLINICAL PATHOLOGY – PRACTICAL ER20-23P

Degree	D. Pharm				
Course Code	ER20-23P				
Category	Professional Core Courses				
Course Title	Biochemistry & Clinical Pathology-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	2	0	II
Pre-Requisites	Basic Knowledge of Biomolecules				

Practical Hours: 2 Hrs/Week

Course Objective:

1. To develop a fundamental understanding of the qualitative analysis of major biomolecules such as carbohydrates, proteins, amino acids, and lipids through classical chemical tests and observation-based techniques.
2. To enable students to perform qualitative and quantitative analysis of normal and abnormal constituents in biological fluids, especially urine, thereby identifying physiological and pathological conditions.
3. To impart practical skills in the estimation of biochemical parameters such as glucose, creatinine, chlorides in urine, creatine, glucose, cholesterol, calcium, urea, and liver enzymes (SGOT/SGPT) in blood/serum (simulated).
4. To explore the enzymatic and acid hydrolysis of starch, allowing students to understand the principle of enzyme activity and carbohydrate digestion.
5. To correlate laboratory findings with physiological and pathological conditions, thus preparing students for diagnostic and clinical biochemistry applications.

Course Outcome (COs)

CO1: Students will be able to identify and differentiate carbohydrates, proteins, amino acids, and lipids through qualitative biochemical tests.

CO2: Students will be able to analyze normal and abnormal constituents of urine and interpret their significance in relation to physiological and pathological conditions.

CO3: Students will demonstrate the ability to estimate biochemical parameters such as glucose, creatinine, and chlorides in urine, and creatine, cholesterol, calcium, urea, and SGOT/SGPT in simulated blood/serum samples.

CO4: Students will be able to demonstrate and explain the enzymatic and acid hydrolysis of starch, highlighting the role of salivary amylase in digestion.

CO5: Students will be able to correlate biochemical test results with underlying physiological or pathological states to support basic clinical interpretation.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	3	2	–	2	1	2	–	1	3	3	3	2
CO2	3	1	2	3	3	1	2	2	2	3	1	2	2	3	3
CO3	3	3	2	3	3	1	1	2	2	2	1	2	2	3	2
CO4	3	1	1	2	2	–	2	1	1	1	–	3	2	2	1
CO5	3	2	2	3	2	2	3	3	2	3	2	3	2	3	3



PHARMACOTHERAPEUTICS THEORY

ER20-24T

Degree	D. Pharm				
Course Code	ER20-24T				
Category	Professional Core Courses				
Course Title	Pharmacotherapeutics-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	II
Pre-Requisites	Basic Knowledge of Clinical and Therapeutic approaches				

Lecture: 75

Course Objective:

1. To impart knowledge of clinical conditions and therapeutic approaches for commonly encountered diseases, including cardiovascular, respiratory, endocrine, infectious, and neurological disorders.
2. To develop the ability to understand and interpret patient-specific data, including symptoms, lab investigations, and disease progression, to support rational drug therapy.
3. To provide foundational training in therapeutic planning by applying the Subjective, Objective, Assessment, and Plan (SOAP) format for various clinical conditions.
4. To enable students to calculate and adjust drug dosages appropriately for special populations such as pediatric and geriatric patients, considering pathological states.
5. To equip students with the skills to counsel patients effectively on disease management, medication adherence, lifestyle modifications, and monitoring of therapeutic outcomes.

Course Outcome:

CO1: Understand and apply the Subjective, Objective, Assessment, and Plan (SOAP) format to create and interpret therapeutic care plans for various common diseases such as hypertension, diabetes, asthma, tuberculosis, etc.

CO2: Identify drug-related problems including adverse drug reactions, contraindications, and interactions, and make appropriate therapeutic decisions to optimize patient care.

CO3: Demonstrate the ability to provide patient counseling for chronic and infectious diseases, including guidance on medication use, lifestyle modifications, adherence, and therapeutic monitoring.

CO4: Perform accurate dose calculations and adjustments in special populations such as pediatric and geriatric patients, considering disease conditions and pharmacokinetic variations.

CO5: Interpret clinical parameters, lab reports, and case history to support evidence-based decision-making in pharmacotherapeutics interventions.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	2	3	1	1	2	2	3	3	1	2	3	2	2
CO2	3	1	1	3	1	1	2	3	2	3	1	2	3	3	3
CO3	3	1	2	2	1	2	3	3	3	3	1	2	3	2	3
CO4	3	1	2	3	2	1	1	2	2	3	1	2	3	3	2
CO5	3	1	2	3	2	1	2	2	3	3	1	3	3	3	2



PHARMACOTHERAPEUTICS – PRACTICAL

ER20-24P

Degree	D. Pharm				
Course Code	ER20-24P				
Category	Professional Core Courses				
Course Title	Pharmacotherapeutics-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	1	0	II
Pre-Requisites	Basic Knowledge of Clinical and Therapeutic approaches				

Practical Hours: 1 Hr/Week

Course Objective:

- To develop practical skills in the preparation, dispensing, and counselling of various dosage forms related to pharmacotherapeutics.
- To enable students to apply theoretical knowledge in the identification, selection, and appropriate use of drugs in common therapeutic conditions.
- To train students in calculating and preparing prescriptions accurately, with emphasis on dose, dosage forms, and patient-specific factors.
- To familiarize students with the practical aspects of drug administration routes, storage, labelling, and documentation.
- To enhance the ability to provide effective patient counselling on drug use, side effects, precautions, and adherence.

Course Outcome:

CO1: Demonstrate the ability to accurately interpret and dispense prescriptions related to common therapeutic conditions.

CO2: Develop skills in preparing and labeling various pharmaceutical dosage forms used in pharmacotherapy.

CO3: Apply knowledge of drug actions, side effects, contraindications, and precautions during dispensing and patient counseling.

CO4: Perform calculations related to dose, dosage regimen, and dilution required for safe and effective drug administration.

CO5: Counsel Patients effectively regarding proper drug use, adherence, storage, and potential adverse effects.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	3	2	1	2	2	3	2	1	2	3	2	2
CO2	3	3	2	2	2	1	2	1	2	1	1	2	3	3	1
CO3	3	3	2	3	2	1	3	3	3	2	1	2	3	3	3
CO4	3	2	2	3	3	1	2	1	2	1	1	3	3	3	1
CO5	3	2	2	3	2	2	3	3	3	2	1	3	3	2	3

HOSPITAL & CLINICAL PHARMACY –THEORY

ER20-25T

Degree	D. Pharm				
Course Code	ER20-25T				
Category	Professional Core Courses				
Course Title	Hospital & Clinical Pharmacy-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	II
Pre-Requisites	Basic Knowledge of Hospital and Clinical Pharmacy Practices				

Lecture: 75

Course Objective:

1. To understand the organizational structure and functions of a hospital pharmacy including roles.
2. To gain knowledge of the drug distribution systems in hospitals, such as unit dose dispensing, floor stock system, and satellite pharmacy services, and their implications for patient safety and efficiency.
3. To study clinical pharmacy practices including medication history interview, prescription auditing, adverse drug reaction (ADR) monitoring, and therapeutic drug monitoring (TDM).
4. To develop skills in patient counselling, drug information services, and rational use of medicines, fostering better communication between pharmacists, patients, and healthcare teams.
5. To understand the role of the pharmacist in critical care areas such as intensive care units, emergency wards, and ethical and evidence-based medication use.

Course Outcome:

CO1: Students will be able to explain about the basic concepts of hospital pharmacy administration

CO2: Students will be able to manage the supply chain and distribution of medicines within the hospital settings

CO3: Students will be able to assist the other healthcare providers in monitoring drug therapy and address drug related problems.

CO4: Students will be able to understand distribution systems in hospital settings and identify the role of the hospital pharmacist in ensuring safe and effective medication management.

CO5: Students will be able to apply clinical pharmacy principles such as prescription auditing, patient counseling, ADR monitoring, and therapeutic drug monitoring to improve patient care and promote the rational use of medicines

CO-PO-PSO Matrix:

COs/POs/PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	1	2	2	-	1	1	1	2	1	2	3	2	1
CO2	3	3	1	3	2	-	1	1	1	2	1	2	3	3	2
CO3	3	3	1	3	2	-	1	1	1	2	2	2	3	3	1
CO4	3	3	1	3	2	-	1	1	1	2	1	2	3	3	2
CO5	3	3	1	3	2	-	1	1	1	2	2	3	3	2	1

HOSPITAL & CLINICAL PHARMACY –PRACTICAL

ER20-25P

Degree	D. Pharm				
Course Code	ER20-25P				
Category	Professional Core Courses				
Course Title	Hospital & Clinical Pharmacy-Practical				
Scheme & Credits	L	T	P	Credit	Year
	0	0	1	0	II
Pre-Requisites	Basic Knowledge of Hospital and Clinical Pharmacy Practices				

Practical Hours: 1 Hr/Week

Course Objective:

1. To study different methods to systematically approach and respond to drug information queries.
2. To study how to interpret common laboratory reports to understand the need for optimizing dosage regimens
3. To study how to report suspected adverse drug reactions to the concerned authorities
4. To analyze and interpret uses and methods of handling various medical/surgical aids and devices.
5. To gain practical insights on how to interpret drug-drug interactions in the treatment of common diseases.

Course Outcome (COs)

CO1: Professionally handle and answer the drug information queries.

CO2: Interpret the common laboratory reports.

CO3: Report suspected adverse drug reactions using standard procedures.

CO4: Understand the uses and methods of handling various medical/surgical aids and devices

CO5: Interpret and report the drug-drug interactions in common diseases for optimizing the drug therapy.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	-	-	2	2	-	2	-	2	3	2	2
CO2	3	3	2	3	2	-	-	-	-	-	-	2	3	2	-
CO3	3	2	-	3	-	-	-	-	2	2	-	3	3	3	-
CO4	3	3	2	2	2	-	2	-	-	2	-	2	3	2	2
CO5	3	3	-	3	-	-	-	2	-	-	-	2	2	2	2

PHARMACY LAW AND ETHICS THEORY

ER20-26T

Degree	D. Pharm				
Course Code	ER20-26T				
Category	Professional Core Courses				
Course Title	Pharmacy Law & Ethics-Theory				
Scheme & Credits	L	T	P	Credit	Year
	3	1	0	0	II
Pre-Requisites	Basic Knowledge of Pharmacy Law				

Lecture: 75

Course Objective:

1. Understand General perspectives, history, evolution of pharmacy law in India
2. Learn Act and Rules regulating the profession and practice of pharmacy in India
3. Understand Important code of ethical guidelines pertaining to various practice standards
4. Study Brief introduction to the patent laws and their applications in pharmacy
5. To prepare students to act as responsible, legally compliant, and ethically sound pharmacy professionals in diverse healthcare settings.

Course Outcome (COs)

CO1: Describe the history and evolution of pharmacy law in India

CO2: Interpret the act and rules regulating the profession and practice of pharmacy in India

CO3: Discuss the various codes of ethics related to practice standards in pharmacy

CO4: Interpret the fundamentals of patent laws from the perspectives of pharmacy

CO5: To familiarize students with professional codes of ethics and their application in ensuring responsible and ethical conduct in pharmacy practice.

CO-PO-PSO Matrix:

COs/ POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	2	1	1	2	3	2	1	1	2	2	1	2
CO2	3	2	1	2	1	1	2	3	2	1	1	2	3	2	3
CO3	3	2	1	2	1	1	2	3	2	1	1	2	3	3	3
CO4	3	2	1	2	1	1	2	3	2	1	1	2	2	2	2
CO5	3	2	1	2	1	1	2	3	2	1	1	2	3	3	3