

B. PHARMACY PROGRAM CURRICULUM

(Applicable for the batches admitted from the A.Y 2026-27)
Version 1.0

BACHELOR OF PHARMACY

Version 1.0 - Approved in the BoS Meeting held on 17.08.2026



Aditya Nagar, ADB Road, Surampalem, Andhra Pradesh, India - 533 437

ADITYA UNIVERSITY

Vision

To be a globally recognized university through excellence in Education, Innovation and Sustainable growth.

Mission

Deliver collaborative education to prepare students for global challenges through

- Transformative learning
- Vibrant research ecosystem
- Sustainable and inclusive community

School of Pharmacy

Vision:

To emerge as a center of excellence producing competent, ethical pharmacists and researchers through holistic education and lifelong learning.

Mission:

- Empower future pharmacists through outcome-based learning for global healthcare challenges.
- Promote collaborative research for national and global healthcare impact.
- Ensure integrity, inclusion, and accountability in global healthcare education.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

Graduates of the Program will:

- PEO 1:** Apply fundamental knowledge of pharmaceutical sciences to work effectively in pharmacy practice, pharmaceutical industry, research, and related healthcare fields.
- PEO 2:** Demonstrate practical skills in drug formulation, manufacturing, pharmaceutical analysis, quality control, and pharmacy practice.
- PEO 3:** Use scientific reasoning and problem-solving skills to address challenges related to medicines, drug development, and patient care.
- PEO 4:** Practice pharmacy with ethical responsibility, good communication, teamwork, and concern for patient safety and public health.
- PEO 5:** Pursue continuous learning and professional development to keep pace with advances in pharmaceutical sciences and healthcare.

PROGRAMME SPECIFIC OUTCOMES (PSO)

After successful completion of the program, the graduates will be able to

- PSO1:** Design, formulate, and evaluate medicinal products with quality and regulatory compliance.
- PSO2:** Provide therapeutic information and promote rational medication use in clinical settings.

PROGRAMME OUTCOMES (PO)

After successful completion of the program, the graduates will be able to

PO1. Pharmacy Knowledge

Apply comprehensive knowledge of pharmaceutical sciences, biomedical sciences, pharmacology, pharmacognosy, pharmaceutical chemistry, pharmacy practice, and manufacturing processes to understand drug actions, disease mechanisms, and therapeutic interventions and solve professional problems across diverse pharmacy domains.

PO2. Problem Analysis, Critical Thinking and Evidence-Based Decision Making

Identify, formulate, analyze, and interpret complex pharmaceutical problems using principles of scientific inquiry, critical thinking, biostatistics and evidence-based reasoning to arrive at defensible solutions and informed decision-making.

PO3. Pharmaceutical Skills & Practice

Demonstrate proficiency in formulation development, analysis, quality assurance, pharmacovigilance, clinical pharmacotherapy, and pharmacy practice through laboratory work, simulations, internships and experiential learning.

PO4. Modern Tools, AI & Digital Competence

Select, apply, and evaluate modern pharmaceutical tools, analytical instruments, digital technologies, artificial intelligence, machine learning, and computational techniques with awareness of their limitations and ethical use.

PO5. Research & Innovation

Design and conduct basic research, analyze data, interpret results, and contribute to innovation through research projects, startup initiatives, and problem-based learning relevant to industry, healthcare, and society.

PO6. Professional Ethics & Human Values

Apply ethical principles, professional integrity, regulatory frameworks, intellectual property rights, and universal human values while addressing professional, legal, and societal responsibilities in pharmacy practice.

PO7. Communication & Interpersonal Skills

Communicate effectively with patients, healthcare professionals, industry personnel, and society through clear documentation, reports, presentations, counseling, teamwork, and interdisciplinary collaboration.

PO8. Leadership, Management & Entrepreneurship

Demonstrate leadership, teamwork, planning, and managerial skills in pharmaceutical organizations, healthcare systems, quality systems, and entrepreneurial ventures, including innovation and startup ecosystems.

PO9. Pharmacist & Society

Evaluate public health, patient safety, legal, and societal issues related to pharmacy practice and contribute responsibly to healthcare delivery, rational use of medicines, and improvement of community health outcomes.

PO10. Environment and sustainability:

Recognize and address the environmental impact of pharmaceutical manufacturing, use, and disposal, and promote environmentally responsible practices, green pharmacy principles, and sustainable healthcare aligned with the United Nation's Sustainable Development Goals (SDGs).

PO11. Life-Long Learning & Professional Development

Recognize the need for continuous learning and demonstrate the ability to engage in self-directed, life-long learning to adapt to technological advancements, evolving healthcare needs, and professional growth.

School of Pharmacy

B. Pharmacy Program Curriculum – 2026

(Applicable for the students admitted from the A.Y 2026-27)

Category-wise Credit Division

S. No.	Broad Category of Courses	Credits
1	Major Core Courses (MCC)	153
2	University Elective Courses (UEC)	9
3	Ability Enhancement Courses (AEC)	3
4	Skill Enhancement Courses (SEC)	6
5	Value Added Courses (VAC)	2
6	Summer Internship (SI)	8
7	Research Project (PROJ)	12
Total Credits to be earned for B. Pharmacy Degree		193

Foundation Courses – FC

Intermediate-level Courses - IC

Advanced Courses – AC

Major Core Courses (MCC)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY02	I	General Pharmacy (Theory)	FC	3			3	30	45	75
2613PY04	I	Human Anatomy, Physiology and Pathophysiology I (Theory)	FC	4			4	40	60	100
2613PY05	I	Introduction to Pharmacognosy (Theory)	FC	3			3	30	45	75
2613PY06	I	Pharmaceutical Inorganic and Analytical Chemistry (Theory)	FC	3			3	30	45	75
2613PY07	I	General Pharmacy (Practical)	FC			1	1	20	30	50
2613PY09	I	Human Anatomy, Physiology and Pathophysiology I (Practical)	FC			1	1	20	30	50
2613PY10	I	Introduction to Pharmacognosy (Practical)	FC			1	1	20	30	50
2613PY11	I	Pharmaceutical Inorganic and Analytical Chemistry (Practical)	FC			1	1	20	30	50
2613PY13	II	Biochemistry (Theory)	FC	3			3	30	45	75
2613PY14	II	Human Anatomy, Physiology and Pathophysiology II (Theory)	FC	4			4	40	60	100
2613PY15	II	Pharmaceutical Organic Chemistry (Theory)	FC	4			4	40	60	100
2613PY16	II	Pharmacognosy and Phytochemistry (Theory)	FC	4			4	40	60	100
2613PY17	II	Physical Pharmaceutics (Theory)	FC	3			3	30	45	75
2613PY18	II	Biochemistry (Practical)	FC			1	1	20	30	50
2613PY19	II	Human Anatomy, Physiology and Pathophysiology II (Practical)	FC			1	1	20	30	50
2613PY20	II	Pharmaceutical Organic Chemistry (Practical)	FC			1	1	20	30	50
2613PY21	II	Pharmacognosy and Phytochemistry (Practical)	FC			1	1	20	30	50
2613PY22	II	Physical Pharmaceutics (Practical)	FC			1	1	20	30	50
2613PY26	III	Introduction to Machine Learning in Pharmaceutical Sciences (Theory)	IC	2			2	20	30	50
2613PY29	III	General Pharmacology (Theory)	IC	3			3	30	45	75
2613PY30	III	Heterocyclic Compounds and Stereochemistry (Theory)	IC	3			3	30	45	75
2613PY31	III	Pharmaceutical Dosage Forms I (Theory)	IC	3			3	30	45	75
2613PY32	III	Pharmaceutical Engineering (Theory)	IC	3			3	30	45	75
2613PY33	III	Pharmaceutical Microbiology (Theory)	IC	3			3	30	45	75
2613PY34	III	General Pharmacology (Practical)	IC			2	2	20	30	50
2613PY35	III	Heterocyclic Compounds and Stereochemistry (Practical)	IC			2	2	20	30	50
2613PY36	III	Pharmaceutical Dosage Forms I (Practical)	IC			1	1	20	30	50

2613PY40	IV	Herbal Drug Technology (Theory)	IC	3			3	30	45	75
2613PY41	IV	Medicinal Chemistry (Theory)	IC	3			3	30	45	75
2613PY42	IV	Pharmaceutical Biotechnology (Theory)	IC	3			3	30	45	75
2613PY43	IV	Social Pharmacy and Public Health (Theory)	IC	2			2	20	30	50
2613PY44	IV	Systemic Pharmacology I (Theory)	IC	3			3	30	45	75
2613PY45	IV	Herbal Drug Technology (Practical)	IC			1	1	20	30	50
2613PY46	IV	Medicinal Chemistry (Practical)	IC			1	1	20	30	50
2613PY47	IV	Pharmaceutical Biotechnology (Practical)	IC			1	1	20	30	50
2613PY48	IV	Social Pharmacy and Public Health (Practical)	IC			1	1	20	30	50
2613PY49	IV	Systemic Pharmacology I (Practical)	IC			1	1	20	30	50
2613PY51	V	Biomedical Chemistry (Theory)	IC	3			3	30	45	75
2613PY52	V	Industrial Pharmacognosy (Theory)	IC	3			3	30	45	75
2613PY54	V	Pharmaceutical Dosage Form II (Theory)	IC	2			2	20	30	50
2613PY55	V	Pharmaceutical Quality Assurance (Theory)	IC	3			3	30	45	75
2613PY56	V	Systemic Pharmacology II (Theory)	IC	3			3	30	45	75
2613PY57	V	Biomedical Chemistry (Practical)	IC			2	2	20	30	50
2613PY58	V	Industrial Pharmacognosy (Practical)	IC			1	1	20	30	50
2613PY59	V	Pharmaceutical Dosage Form II (Practical)	IC			1	1	20	30	50
2613PY60	V	Systemic Pharmacology II (Practical)	IC			2	2	20	30	50
2613PY61	VI	Advanced Pharmacognosy (Theory)	AC	3			3	30	45	75
2613PY62	VI	Biopharmaceutics and Pharmacokinetics (Theory)	AC	3			3	30	45	75
2613PY63	VI	Intellectual Property Rights (Theory)	AC	2			2	20	30	50
2613PY64	VI	AI Applications in Pharmaceutical Sciences (Theory)	AC	2			2	20	30	50
2613PY65	VI	Pharmaceutical Analysis (Theory)	AC	3			3	30	45	75
2613PY66	VI	Pharmaceutical Jurisprudence (Theory)	AC	3			3	30	45	75
2613PY73	VI	Biopharmaceutics and Pharmacokinetics (Practical)	AC			1	1	20	30	50
2613PY74	VI	Pharmaceutical Analysis (Practical)	AC			2	2	20	30	50
2613PY81	VII	Biostatistics and Research Methodology (Theory)	AC	3			3	30	45	75

2613PY82	VII	Cosmetics and Cosmeceuticals (Theory)	AC	2			2	20	30	50
2613PY83	VII	AI in Clinical Applications (Theory)	AC	2			2	20	30	50
2613PY84	VII	Modern Analytical Techniques (Theory)	AC	3			3	30	45	75
2613PY85	VII	Pharmacovigilance (Theory)	AC	3			3	30	45	75
2613PY86	VII	Pharmacy Practice (Theory)	AC	3			3	30	45	75
2613PY87	VII	Regulatory Affairs (Theory)	AC	2			2	20	30	50
2613PY95	VII	Modern Analytical Techniques (Practical)	AC			1	1	20	30	50
2613PY97	VIII	Ethical Considerations and Translational Applications of AI in Pharmacy (Theory)	AC	2			2	20	30	50
2613PY98	VIII	Clinical Pharmacotherapeutics (Theory)	AC	2			2	20	30	50
2613PY99	VIII	Industrial Pharmacy and Facility Design (Theory)	AC	3			3	30	45	75
2613PY100	VIII	Pharmaceutical Management (Theory)	AC	2			2	20	30	50
2613PY101	VIII	Sterile Dosage Forms and Novel Drug Delivery System (Theory)	AC	3			3	30	45	75
2613PY109	VIII	Sterile Dosage Forms and Novel Drug Delivery System (Practical)	AC			2	2	20	30	50
Total				122		31	153			

Ability Enhancement Courses (AEC)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY03	I	Healthcare Psychology and Communication Skills (Theory)	FC	1			1	20	30	50
2613PY08	I	Healthcare Psychology and Communication Skills (Practical)	FC			1	1	20	30	50
2613PY28	III	Ethics and Universal Human Values (Theory)	IC	1			1	20	30	50
Total				2		1	3			

Skill Enhancement Courses (SEC)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY01	I	Basics of Python Programming for Pharmaceutical Sciences (Theory)	FC	2			2	20	30	50
2613PY12	II	Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory)	FC	2			2	20	30	50
2613PY27	III	Environmental Sciences (Theory)	IC	1			1	20	30	50
2613PY108	VIII	Pharmaceutical Marketing Skills (Practical)	AC			1	1	20	30	50
Total				5		1	6			

Value Added Courses (VAC)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY53	V	Innovation and Startup Ecosystem (Theory)	IC	2			2	20	30	50
Total				2			2			

Summer Internship (SI)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY50	IV	Internship (Mandatory)	IC			4	4		100	100
2613PY80	VI	Internship (Mandatory)	AC			4	4		100	100
Total						8	8			

Research Project (PROJ)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY96	VII	Research Project	AC				6		150	150
2613PY113	VIII	Research Project	AC				6		150	150
Total							12			

University Elective Courses (UEC)

Course Code	Sem	Course Name	Level	L	T	P	C	CIE	SEE	Total
2613PY23	II	Communication Skills (Practical)	FC	0	0	1	1	20	30	50
2613PY24	II	Mental Well-Being, Stress & Conflict Management (Practical)								
2613PY25	II	Fundamentals of Computer Operations (Practical)								
2613PY37	III	Nutraceuticals and Functional Foods (Practical)	IC	0	0	1	1	20	30	50
2613PY38	III	Food Analysis (Practical)								
2613PY39	III	Yoga and Life Sciences (Practical)								
2613PY67	VI	Green Chemistry (Theory)	AC	1	0	0	1	20	30	50
2613PY68	VI	Materiovigilance and Hemovigilance (Theory)								
2613PY69	VI	Scientific Writing (Theory)								
2613PY70	VI	Drug Store and Business Management (Theory)								
2613PY71	VI	Career Building in Cultivation of Medicinal Plants (Theory)								
2613PY72	VI	Active Pharmaceutical Ingredients and Excipient Sciences (Theory)	AC	0	0	1	1	20	30	50
2613PY75	VI	Computer-Aided Drug Design (Practical)								
2613PY76	VI	Analytical Method Development and Validation (Practical)								
2613PY77	VI	Principles of Preclinical Studies (Practical)	AC	0	0	1	1	20	30	50
2613PY78	VI	Professional Skills (Practical)								
2613PY79	VI	Process Analytical Technology (PAT) and QbD in Formulation Science (Practical)	AC	0	0	1	1	20	30	50
2613PY88	VII	Current Good Manufacturing Practices (cGMP) (Theory)	AC	1	0	0	1	20	30	50
2613PY89	VII	Pharmaceutical Automation (Theory)								
2613PY90	VII	Modern Techniques in Cellular Biology (Theory)								
2613PY91	VII	Medical Devices (Theory)								
2613PY92	VII	Transformation of Food Waste into Medicinal Products (Theory)								
2613PY93	VII	Biosimilars, Vaccines & Macromolecules (Theory)								

2613PY94	VII	Precision Medicine (Theory)								
2613PY102	VIII	Pharmaceutical Packaging (Theory)	AC	2	0	0	2	20	30	50
2613PY103	VIII	Supply Chain Management (Theory)								
2613PY104	VIII	Industrial Safety and Waste Management (Theory)								
2613PY105	VIII	Traditional Healing Practices of India (Theory)								
2613PY106	VIII	Futuristic Pharma through AR/VR: Pharma 4.0 (Theory)								
2613PY107	VIII	Herbal Cosmetics for Industry Perspective (Theory)								
2613PY110	VIII	Cleaning Validation (Practical)	AC	0	0	1	1	20	30	50
2613PY111	VIII	Basic Training in Aseptic Handling Techniques (Practical)								
2613PY112	VIII	Impurity Profiling (Practical)								

LEVEL-WISE COURSES

FOUNDATION COURSES (FC)		INTERMEDIATE COURSES (IC)		ADVANCED COURSES (AC)	
PY-PGM (T)	Basics of Python Programming for Pharmaceutical Sciences (Theory)	ML-PS (T)	Introduction to Machine Learning in Pharmaceutical Sciences (Theory)	APCG (T)	Advanced Pharmacognosy (Theory)
GP (T)	General Pharmacy (Theory)	ES (T)	Environmental Sciences (Theory)	BPPK (T)	Biopharmaceutics and Pharmacokinetics (Theory)
HPCS (T)	Healthcare Psychology and Communication Skills (Theory)	EUHV (T)	Ethics and Universal Human Values (Theory)	IPR (T)	Intellectual Property Rights (Theory)
HAPP-I (T)	Human Anatomy, Physiology and Pathophysiology I (Theory)	GPCOL (T)	General Pharmacology (Theory)	AI-PS (T)	AI Applications in Pharmaceutical Sciences (Theory)
IPCG (T)	Introduction to Pharmacognosy (Theory)	HCS (T)	Heterocyclic Compounds and Stereochemistry (Theory)	PA (T)	Pharmaceutical Analysis (Theory)
PIAC (T)	Pharmaceutical Inorganic and Analytical Chemistry (Theory)	PDF-I (T)	Pharmaceutical Dosage Forms I (Theory)	PJ (T)	Pharmaceutical Jurisprudence (Theory)
GP (P)	General Pharmacy (Practical)	PE (T)	Pharmaceutical Engineering (Theory)	GC (T)	Green Chemistry (Theory)
HPCS (P)	Healthcare Psychology and Communication Skills (Practical)	PM (T)	Pharmaceutical Microbiology (Theory)	MVH V (T)	Materiovigilance and Hemovigilance (Theory)
HAPP-I (P)	Human Anatomy, Physiology and Pathophysiology I (Practical)	GPCOL (P)	General Pharmacology (Practical)	SW (T)	Scientific Writing (Theory)
IPCG (P)	Introduction to Pharmacognosy (Practical)	HCS (P)	Heterocyclic Compounds and Stereochemistry (Practical)	DSBM (T)	Drug Store and Business Management (Theory)
PIAC (P)	Pharmaceutical Inorganic and Analytical Chemistry (Practical)	PDF-I (P)	Pharmaceutical Dosage Forms I (Practical)	CBCM P (T)	Career Building in Cultivation of Medicinal Plants (Theory)
ABDA (T)	Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory)	NFF (P)	Nutraceuticals and Functional Foods (Practical)	APIES (T)	Active Pharmaceutical Ingredients and Excipient Sciences (Theory)
BC (T)	Biochemistry (Theory)	FA (P)	Food Analysis (Practical)	BPPK (P)	Biopharmaceutics and Pharmacokinetics (Practical)
HAPP-II (T)	Human Anatomy, Physiology and Pathophysiology II (Theory)	YLS (P)	Yoga and Life Sciences (Practical)	PA (P)	Pharmaceutical Analysis (Practical)

POC (T)	Pharmaceutical Organic Chemistry (Theory)	HDT (T)	Herbal Drug Technology (Theory)	CADD (P)	Computer-Aided Drug Design (Practical)
PCG-PHY (T)	Pharmacognosy and Phytochemistry (Theory)	MC (T)	Medicinal Chemistry (Theory)	AMD V (P)	Analytical Method Development and Validation (Practical)
PP (T)	Physical Pharmaceutics (Theory)	PBT (T)	Pharmaceutical Biotechnology (Theory)	PPCS (P)	Principles of Preclinical Studies (Practical)
BC (P)	Biochemistry (Practical)	SPPH (T)	Social Pharmacy and Public Health (Theory)	PS (P)	Professional Skills (Practical)
HAPP-II (P)	Human Anatomy, Physiology and Pathophysiology II (Practical)	SPCOL-I (T)	Systemic Pharmacology I (Theory)	PAT-QBD (P)	Process Analytical Technology (PAT) and QbD in Formulation Science (Practical)
POC (P)	Pharmaceutical Organic Chemistry (Practical)	HDT (P)	Herbal Drug Technology (Practical)	INT-2	Internship (Mandatory)
PCG-PHY (P)	Pharmacognosy and Phytochemistry (Practical)	MC (P)	Medicinal Chemistry (Practical)	BRM (T)	Biostatistics and Research Methodology
PP (P)	Physical Pharmaceutics (Practical)	PBT (P)	Pharmaceutical Biotechnology (Practical)	COS (T)	Cosmetics and Cosmeceuticals (Theory)
CS (P)	Communication Skills (Practical)	SPPH (P)	Social Pharmacy and Public Health (Practical)	AICA (T)	AI in Clinical Applications (Theory)
MWSCM (P)	Mental Well-Being, Stress & Conflict Management (Practical)	SPCOL-I (P)	Systemic Pharmacology I (Practical)	MAT (T)	Modern Analytical Techniques (Theory)
FCO (P)	Fundamentals of Computer Operations (Practical)	INT-1	Internship (Mandatory)	PVG (T)	Pharmacovigilance (Theory)
		BMC (T)	Biomedical Chemistry (Theory)	PPRA (T)	Pharmacy Practice (Theory)
		IPCG (T)	Industrial Pharmacognosy (Theory)	RA (T)	Regulatory Affairs (Theory)
		ISE (T)	Innovation and Startup Ecosystem (Theory)	cGMP (T)	Current Good Manufacturing Practices (cGMP) (Theory)
		PDF-II (T)	Pharmaceutical Dosage Form II (Theory)	PAUT (T)	Pharmaceutical Automation (Theory)
		PQA (T)	Pharmaceutical Quality Assurance (Theory)	MTCB (T)	Modern Techniques in Cellular Biology (Theory)
		SPCOL-II (T)	Systemic Pharmacology II (Theory)	MD (T)	Medical Devices (Theory)
		BMC (P)	Biomedical Chemistry (Practical)	TFW MP (T)	Transformation of Food Waste into Medicinal Products (Theory)
		IPCG (P)	Industrial Pharmacognosy (Practical)	BVM (T)	Biosimilars, Vaccines & Macromolecules (Theory)
		PDF-II (P)	Pharmaceutical Dosage Form II (Practical)	PM (T)	Precision Medicine (Theory)
		SPCOL-	Systemic Pharmacology II	MAT	Modern Analytical

		II (P)	(Practical)	(P)	Techniques (Practical)
				RP-I	Research Project
				ECTAI (T)	Ethical Considerations and Translational Applications of AI in Pharmacy (Theory)
				CPT (T)	Clinical Pharmacotherapeutics (Theory)
				IPFD (T)	Industrial Pharmacy and Facility Design (Theory)
				PMGT (T)	Pharmaceutical Management (Theory)
				SDF-NDDS (T)	Sterile Dosage Forms and Novel Drug Delivery System (Theory)
				PPKG (T)	Pharmaceutical Packaging (Theory)
				SCM (T)	Supply Chain Management (Theory)
				ISWM (T)	Industrial Safety and Waste Management (Theory)
				THPI (T)	Traditional Healing Practices of India (Theory)
				FP-ARVR (T)	Futuristic Pharma through AR/VR: Pharma 4.0 (Theory)
				HCIP (T)	Herbal Cosmetics for Industry Perspective (Theory)
				PMS (P)	Pharmaceutical Marketing Skills (Practical)
				SDF-NDDS (P)	Sterile Dosage Forms and Novel Drug Delivery System (Practical)
				CV (P)	Cleaning Validation (Practical)
				BTAH T (P)	Basic Training in Aseptic Handling Techniques (Practical)
				IP (P)	Impurity Profiling (Practical)
				RP-II	Research Project

SEMESTER-WISE CURRICULUM

I SEMESTER

Course Code	Course Title	Category	Level	Credits				Total Hours
				L	T	P	Total	
2613PY01	Basics of Python Programming for Pharmaceutical Sciences (Theory)	SEC	FC	2			2	2
2613PY02	General Pharmacy (Theory)	MCC	FC	3			3	3
2613PY03	Healthcare Psychology and Communication Skills (Theory)	AEC	FC	1			1	1
2613PY04	Human Anatomy, Physiology and Pathophysiology I (Theory)	MCC	FC	4			4	4
2613PY05	Introduction to Pharmacognosy (Theory)	MCC	FC	3			3	3
2613PY06	Pharmaceutical Inorganic and Analytical Chemistry (Theory)	MCC	FC	3			3	3
2613PY07	General Pharmacy (Practical)	MCC	FC			1	1	3
2613PY08	Healthcare Psychology and Communication Skills (Practical)	AEC	FC			1	1	2
2613PY09	Human Anatomy, Physiology and Pathophysiology I (Practical)	MCC	FC			1	1	3
2613PY10	Introduction to Pharmacognosy (Practical)	MCC	FC			1	1	3
2613PY11	Pharmaceutical Inorganic and Analytical Chemistry (Practical)	MCC	FC			1	1	3
Total							21	30

II SEMESTER

Course Code	Course Title	Category	Level	Credits				Total Hours
				L	T	P	Total	
2613PY12	Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory)	SEC	FC	2			2	2
2613PY13	Biochemistry (Theory)	MCC	FC	3			3	3
2613PY14	Human Anatomy, Physiology and Pathophysiology II (Theory)	MCC	FC	4			4	4
2613PY15	Pharmaceutical Organic Chemistry (Theory)	MCC	FC	4			4	4
2613PY16	Pharmacognosy and Phytochemistry (Theory)	MCC	FC	4			4	4
2613PY17	Physical Pharmaceutics (Theory)	MCC	FC	3			3	3
2613PY18	Biochemistry (Practical)	MCC	FC			1	1	3
2613PY19	Human Anatomy, Physiology and Pathophysiology II (Practical)	MCC	FC			1	1	3

2613PY20	Pharmaceutical Organic Chemistry (Practical)	MCC	FC			1	1	3
2613PY21	Pharmacognosy and Phytochemistry (Practical)	MCC	FC			1	1	3
2613PY22	Physical Pharmaceutics (Practical)	MCC	FC			1	1	3
2613PY23	Communication Skills (Practical)	UEC	FC			1	1	2
2613PY24	Mental Well-Being, Stress & Conflict Management (Practical)							
2613PY25	Fundamentals of Computer Operations (Practical)							
Total							26	37

III SEMESTER

Course Code	Course Title	Category	Level	Credits				Total Hours
				L	T	P	Total	
2613PY26	Introduction to Machine Learning in Pharmaceutical Sciences (Theory)	MCC	IC	2			2	2
2613PY27	Environmental Sciences (Theory)	SEC	IC	1			1	1
2613PY28	Ethics and Universal Human Values (Theory)	AEC	IC	1			1	1
2613PY29	General Pharmacology (Theory)	MCC	IC	3			3	3
2613PY30	Heterocyclic Compounds and Stereochemistry (Theory)	MCC	IC	3			3	3
2613PY31	Pharmaceutical Dosage Forms I (Theory)	MCC	IC	3			3	3
2613PY32	Pharmaceutical Engineering (Theory)	MCC	IC	3			3	3
2613PY33	Pharmaceutical Microbiology (Theory)	MCC	IC	3			3	3
2613PY34	General Pharmacology (Practical)	MCC	IC			2	2	4
2613PY35	Heterocyclic Compounds and Stereochemistry (Practical)	MCC	IC			2	2	4
2613PY36	Pharmaceutical Dosage Forms I (Practical)	MCC	IC			1	1	3
2613PY37	Nutraceuticals and Functional Foods (Practical)	UEC	IC			1	1	2
2613PY38	Food Analysis (Practical)							
2613PY39	Yoga and Life Sciences (Practical)							
Total							25	32

IV SEMESTER

Course Code	Course Title	Course		Credits				Total Hours
		Category	Level	L	T	P	Total	
2613PY40	Herbal Drug Technology (Theory)	MCC	IC	3			3	3
2613PY41	Medicinal Chemistry (Theory)	MCC	IC	3			3	3
2613PY42	Pharmaceutical Biotechnology (Theory)	MCC	IC	3			3	3
2613PY43	Social Pharmacy and Public Health (Theory)	MCC	IC	2			2	2
2613PY44	Systemic Pharmacology I (Theory)	MCC	IC	3			3	3
2613PY45	Herbal Drug Technology (Practical)	MCC	IC			1	1	3
2613PY46	Medicinal Chemistry (Practical)	MCC	IC			1	1	3
2613PY47	Pharmaceutical Biotechnology (Practical)	MCC	IC			1	1	3
2613PY48	Social Pharmacy and Public Health (Practical)	MCC	IC			1	1	2
2613PY49	Systemic Pharmacology I (Practical)	MCC	IC			1	1	3
2613PY50	Internship (Mandatory)	SI	IC			4	4	8
Total							23	28

V SEMESTER

Course code	Course Title	Course		Credits				Total Hours
		Category	Level	L	T	P	Total	
2613PY51	Biomedical Chemistry (Theory)	MCC	IC	3			3	3
2613PY52	Industrial Pharmacognosy (Theory)	MCC	IC	3			3	3
2613PY53	Innovation and Startup Ecosystem (Theory)	VAC	IC	2			2	2
2613PY54	Pharmaceutical Dosage Form II (Theory)	MCC	IC	2			2	2
2613PY55	Pharmaceutical Quality Assurance (Theory)	MCC	IC	3			3	3
2613PY56	Systemic Pharmacology II (Theory)	MCC	IC	3			3	3
2613PY57	Biomedical Chemistry (Practical)	MCC	IC			2	2	4
2613PY58	Industrial Pharmacognosy (Practical)	MCC	IC			1	1	3
2613PY59	Pharmaceutical Dosage Form II (Practical)	MCC	IC			1	1	3
2613PY60	Systemic Pharmacology II (Practical)	MCC	IC			2	2	4
Total							22	30

VI SEMESTER

Course Code	Course Title	Category	Level	Credits				Total Hours
				L	T	P	Total	
2613PY61	Advanced Pharmacognosy (Theory)	MCC	AC	3			3	3
2613PY62	Biopharmaceutics and Pharmacokinetics (Theory)	MCC	AC	3			3	3
2613PY63	Intellectual Property Rights (Theory)	MCC	AC	2			2	2
2613PY64	AI Applications in Pharmaceutical Sciences (Theory)	MCC	AC	2			2	2
2613PY65	Pharmaceutical Analysis (Theory)	MCC	AC	3			3	3
2613PY66	Pharmaceutical Jurisprudence (Theory)	MCC	AC	3			3	3
2613PY67	Green Chemistry (Theory)	UEC	AC	1			1	1
2613PY68	Materiovigilance and Hemovigilance (Theory)							
2613PY69	Scientific Writing (Theory)							
2613PY70	Drug Store and Business Management (Theory)							
2613PY71	Career Building in Cultivation of Medicinal Plants (Theory)							
2613PY72	Active Pharmaceutical Ingredients and Excipient Sciences (Theory)							
2613PY73	Biopharmaceutics and Pharmacokinetics (Practical)	MCC	AC			1	1	3
2613PY74	Pharmaceutical Analysis (Practical)	MCC	AC			2	2	4
2613PY75	Computer-Aided Drug Design (Practical)	UEC	AC			1	1	2
2613PY76	Analytical Method Development and Validation (Practical)							
2613PY77	Principles of Preclinical Studies (Practical)							
2613PY78	Professional Skills (Practical)	UEC	AC			1	1	2
2613PY79	Process Analytical Technology (PAT) and QbD in Formulation Science (Practical)							
2613PY80	Internship (Mandatory)	SI	AC			4	4	8
Total							26	28

VII SEMESTER

Course Code	Course Title	Category	Level	Credits				Total Hours
				L	T	P	Total	
2613PY81	Biostatistics and Research Methodology (Theory)	MCC	AC	3			3	3
2613PY82	Cosmetics and Cosmeceuticals (Theory)	MCC	AC	2			2	2
2613PY83	AI in Clinical Applications (Theory)	MCC	AC	2			2	2
2613PY84	Modern Analytical Techniques (Theory)	MCC	AC	3			3	3
2613PY85	Pharmacovigilance (Theory)	MCC	AC	3			3	3
2613PY86	Pharmacy Practice (Theory)	MCC	AC	3			3	3
2613PY87	Regulatory Affairs (Theory)	MCC	AC	2			2	2
2613PY88	Current Good Manufacturing Practices (cGMP) (Theory)	UEC	AC	1			1	1
2613PY89	Pharmaceutical Automation (Theory)							
2613PY90	Modern Techniques in Cellular Biology (Theory)							
2613PY91	Medical Devices (Theory)							
2613PY92	Transformation of Food Waste into Medicinal Products (Theory)							
2613PY93	Biosimilars, Vaccines & Macromolecules (Theory)							
2613PY94	Precision Medicine (Theory)							
2613PY95	Modern Analytical Techniques (Practical)	MCC	AC			1	1	3
2613PY96	Research Project	PROJ	AC				6	-
Total							26	22

VIII SEMESTER

Course Code	Course Title	Category	Level	Credits				Total Hours
				L	T	P	Total	
2613PY97	Ethical Considerations and Translational Applications of AI in Pharmacy (Theory)	MCC	AC	2			2	2
2613PY98	Clinical Pharmacotherapeutics (Theory)	MCC	AC	2			2	2
2613PY99	Industrial Pharmacy and Facility Design (Theory)	MCC	AC	3			3	3
2613PY100	Pharmaceutical Management (Theory)	MCC	AC	2			2	2
2613PY101	Sterile Dosage Forms and Novel Drug Delivery System (Theory)	MCC	AC	3			3	3
2613PY102	Pharmaceutical Packaging (Theory) [UEC Elective]	UEC	AC	2			2	2
2613PY103	Supply Chain Management (Theory)							
2613PY104	Industrial Safety and Waste Management (Theory)							
2613PY105	Traditional Healing Practices of India (Theory)							
2613PY106	Futuristic Pharma through AR/VR: Pharma 4.0 (Theory)							
2613PY107	Herbal Cosmetics for Industry Perspective (Theory)							
2613PY108	Pharmaceutical Marketing Skills (Practical)	SEC	AC			1	1	2
2613PY109	Sterile Dosage Forms and Novel Drug Delivery System (Practical)	MCC	AC			2	2	4
2613PY110	Cleaning Validation (Practical)	UEC	AC			1	1	2
2613PY111	Basic Training in Aseptic Handling Techniques (Practical)							
2613PY112	Impurity Profiling (Practical)							
2613PY113	Research Project	PROJ	AC				6	-
Total							24	22

ASSESSMENT SCHEMES FOR CIE & SEE SEMESTER WISE

Scheme for credit-based marks distribution: 4 Credits = 100 Marks (40 Internal / 60 External); 3 Credits = 75 Marks (30 Internal / 45 External); 2 or 1 Credits = 50 Marks (20 Internal / 30 External). Internal assessment (CIE) combines Continuous Mode marks and a Internal Examination; the External (SEE) is the Semester End Examination.

SEMESTER I

Course Code	Name of the Course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY01	Basics of Python Programming for Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY02	General Pharmacy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY03	Healthcare Psychology and Communication Skills (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
2613PY04	Human Anatomy, Physiology and Pathophysiology I (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
2613PY05	Introduction to Pharmacognosy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY06	Pharmaceutical Inorganic and Analytical Chemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY07	General Pharmacy (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY08	Healthcare Psychology and Communication Skills (Practical)	1	10	10	3 Hr	20	30	3Hr	50
2613PY09	Human Anatomy, Physiology and Pathophysiology I (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY10	Introduction to Pharmacognosy (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY11	Pharmaceutical Inorganic and Analytical Chemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50

SEMESTER II

Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY12	Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY13	Biochemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY14	Human Anatomy, Physiology and Pathophysiology II (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
2613PY15	Pharmaceutical Organic Chemistry (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
2613PY16	Pharmacognosy and Phytochemistry (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
2613PY17	Physical Pharmaceutics (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY18	Biochemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY19	Human Anatomy, Physiology and Pathophysiology II (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY20	Pharmaceutical Organic Chemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY21	Pharmacognosy and Phytochemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY22	Physical Pharmaceutics (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY23	Communication Skills (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY24	Mental Well-Being, Stress & Conflict Management (Practical)								
2613PY25	Fundamentals of Computer Operations (Practical)								

SEMESTER III

Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY26	Introduction to Machine Learning in Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY27	Environmental Sciences (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
2613PY28	Ethics and Universal Human Values (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
2613PY29	General Pharmacology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY30	Heterocyclic Compounds and Stereochemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY31	Pharmaceutical Dosage Forms I (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY32	Pharmaceutical Engineering (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY33	Pharmaceutical Microbiology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY34	General Pharmacology (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
2613PY35	Heterocyclic Compounds and Stereochemistry (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
2613PY36	Pharmaceutical Dosage Forms I (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY37	Nutraceuticals and Functional Foods (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY38	Food Analysis (Practical)								
2613PY39	Yoga and Life Sciences (Practical)								

SEMESTER IV

Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY40	Herbal Drug Technology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY41	Medicinal Chemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY42	Pharmaceutical Biotechnology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY43	Social Pharmacy and Public Health (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY44	Systemic Pharmacology I (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY45	Herbal Drug Technology (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY46	Medicinal Chemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY47	Pharmaceutical Biotechnology (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY48	Social Pharmacy and Public Health (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY49	Systemic Pharmacology I (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY50	Internship (Mandatory)	4	-	—	—	—	100	4 Hr	100

SEMESTER V

Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY51	Biomedical Chemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY52	Industrial Pharmacognosy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY53	Innovation and Startup Ecosystem (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY54	Pharmaceutical Dosage Forms II (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY55	Pharmaceutical Quality Assurance (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY56	Systemic Pharmacology II (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY57	Biomedical Chemistry (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
2613PY58	Industrial Pharmacognosy (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY59	Pharmaceutical Dosage Forms II (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY60	Systemic Pharmacology II (Practical)	2	10	10	4 Hr	20	30	4 Hr	50

SEMESTER VI

Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY61	Advanced Pharmacognosy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY62	Biopharmaceutics and Pharmacokinetics (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY63	Intellectual Property Rights (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY64	AI Applications in Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY65	Pharmaceutical Analysis (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY66	Pharmaceutical Jurisprudence (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY67	Green Chemistry (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
2613PY68	Materiovigilance and Hemovigilance (Theory)								
2613PY69	Scientific Writing (Theory)								
2613PY70	Drug Store and Business Management (Theory)								
2613PY71	Career Building in Cultivation of Medicinal Plants (Theory)								
2613PY72	Active Pharmaceutical Ingredients and Excipient Sciences (Theory)								
2613PY73	Biopharmaceutics and Pharmacokinetics (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY74	Pharmaceutical Analysis (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
2613PY75	Computer-Aided Drug Design (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY76	Analytical Method Development and Validation (Practical)								
2613PY77	Principles of Preclinical Studies (Practical)								
2613PY78	Professional Skills (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY79	Process Analytical Technology (PAT) and QbD in Formulation Science (Practical								
2613PY80	Internship (Mandatory)	4		—	—	—	100	4 Hr	100

SEMESTER VII

Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY81	Biostatistics and Research Methodology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY82	Cosmetics and Cosmeceuticals (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY83	AI in Clinical Applications (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY84	Modern Analytical Techniques (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY85	Pharmacovigilance (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY86	Pharmacy Practice (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY87	Regulatory Affairs (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY88	Current Good Manufacturing Practices (cGMP) (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
2613PY89	Pharmaceutical Automation (Theory)								
2613PY90	Modern Techniques in Cellular Biology (Theory)								
2613PY91	Medical Devices (Theory)								
2613PY92	Transformation of Food Waste into Medicinal Products (Theory)								
2613PY93	Biosimilars, Vaccines & Macromolecules (Theory)								
2613PY94	Precision Medicine (Theory)								
2613PY95	Modern Analytical Techniques (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY96	Research Project	6		—	—	—	150	4 Hr	150

Semester VIII



Course code	Name of the course	Credit	CIE				SEE		Total Marks
			Continuous Mode	Internal Assessment		Total	Marks	Duration	
				Marks	Duration				
2613PY97	Ethical Considerations and Translational Applications of AI in Pharmacy (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY98	Clinical Pharmacotherapeutics (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY99	Industrial Pharmacy and Facility Design (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY100	Pharmaceutical Management (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY101	Sterile Dosage Forms and Novel Drug Delivery System (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
2613PY102	Pharmaceutical Packaging (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
2613PY103	Supply Chain Management (Theory)								
2613PY104	Industrial Safety and Waste Management (Theory)								
2613PY105	Traditional Healing Practices of India (Theory)								
2613PY106	Futuristic Pharma through AR/VR: Pharma 4.0 (Theory)								
2613PY107	Herbal Cosmetics for Industry Perspective (Theory)								
2613PY108	Pharmaceutical Marketing Skills (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY109	Sterile Dosage Forms and Novel Drug Delivery System (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
2613PY110	Cleaning Validation (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
2613PY111	Basic Training in Aseptic Handling Techniques (Practical)								
2613PY112	Impurity Profiling (Practical)								
2613PY113	Research Project	6		—	—	—	150	4 Hr	150