



VIGNAN'S

FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH

(Deemed to be University) - Estd. u/s 3 of UGC Act 1956

R26

Academic Regulations

Bachelor of Pharmacy

w.e.f. batch 2026-30



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GRADUATE ATTRIBUTES (GA's)

Graduate Attributes (GAs) represent the key competencies and professional qualities expected from every pharmacy graduate, irrespective of the program such as D.Pharm, B.Pharm, Pharm.D or M.Pharm. While the level of mastery may vary, these attributes remain common and guide the overall outcomes of pharmacy education.

- 1. Pharmaceutical Knowledge Proficiency**
 - Strong grounding in core and applied pharmaceutical sciences and practice.
- 2. Scientific and Analytical Thinking**
 - Ability to critically analyze data, processes, and clinical information.
- 3. Ethical and Professional Integrity**
 - Commitment to ethical conduct, patient safety, and regulatory compliance.
- 4. Patient-Centered Orientation**
 - Sensitivity to patient needs, cultural diversity, and healthcare outcomes.
- 5. Industry and Practice Readiness**
 - Preparedness for roles in industry, hospitals, community pharmacy, research, and regulation.
- 6. Digital and Technological Awareness**
 - Familiarity with AI, data analytics, automation, and modern pharmaceutical technologies.
- 7. Effective Communication Skills**
 - Clear, empathetic, and professional interaction across healthcare settings.
- 8. Teamwork and Leadership Skills**
 - Ability to collaborate, lead, and contribute constructively in teams.
- 9. Innovation and Problem-Solving Mindset**
 - Capability to identify problems and develop practical, evidence-based solutions.
- 10. Lifelong Learning Orientation**
 - Motivation for continuous professional development and higher education.

PROGRAMME EDUCATIONAL OBJECTIVES

The Bachelor of Pharmacy (B. Pharm) programme aims to prepare graduates with strong knowledge of pharmaceutical sciences, practical skills, professional ethics, and a commitment to patient care and public health. The graduates of the programme are expected to achieve the following Programme Educational Objectives (PEOs):

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 OUTCOMES (POs)

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.



कर्मण्ये द्युः स्वाध्यायान् प्रविशन्नासति निःशङ्कम्

PHARMACIST'S OATH

I swear by the code of ethics of Pharmacy Council of India, in relation to the community and shall act as an integral part of health care team.

I shall uphold the laws and standards governing my profession.

I shall strive to perfect and enlarge my knowledge to contribute to the advancement of pharmacy and public health.

I shall follow the system which I consider best for pharmaceutical care and counselling of patients.

I shall endeavour to discover and manufacture drugs of quality to alleviate sufferings of humanity.

I shall hold in confidence the knowledge gained about the patients in connection with my professional practice and never divulge unless compelled to do so by the law.

I shall associate with organizations having their objectives for betterment of the profession of Pharmacy and make contribution to carry out the work of those organizations.

While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of pharmacy respected by all, at all times !

Should I trespass and violate this oath, may the reverse be my lot !

GLOSSARY

KEYWORD	DEFINITION
Ability Enhancement Courses	Courses of varying durations which are optional, and offered in the curriculum that improves the understanding of the subject and enhance ability of the students.
Academic Calendar	The schedule of the institution for the academic year, giving details of all academic and administrative events.
Assessment	Performance evaluation based on certain established criteria
Attainment of Course Outcomes (COs)	COs are to be attained by all students at the end of a formal course. While the method of computation of attainment of COs is not unique, each institution has to follow a well-defined direct method of computing CO attainment based on the student performance in all assessment instruments, and indirect method of computing Cos through course exit survey of students
Bloom's Taxonomy	A hierarchical framework used to classify educational learning objectives into levels of complexity and specificity, utilized here to design question papers and assessment tools.
Choice Based Credit System (CBCS)	A mode of learning in higher education which facilitates a student to have some freedom in selecting his/her own choices, across various disciplines for completing a UG / PG program. All UG and PG programs, as per UGC, have to implement CBCS
Co-Curricular Activities	Activities, which support the curriculum such as field trips, hospital visits, community medicine shops, display of academic achievements, quiz, debate, discussion, seminars, role-play, etc.
Collaboration	Formal agreement/ understanding between any two or more institutions for training, research, student/ faculty exchange or extension support.
Continuous Assessment	A component of internal assessment that evaluates regular engagement, including attendance and student-teacher interaction.
Counseling	Assisting and mentoring students individually or collectively for academic, career, personal and financial decision-making.
Course	A course is a unit of 1 to 6 credits in a formal program. A 3-credit course will have three classroom sessions of one-hour duration during each week for the entire semester.

Course Outcomes (COs)	COs are statements that describe what students should be able to do at the end of a course.
Credit	A credit system is a systematic way of describing an educational programme by attaching credits to its components as a unit of measure for academic work. One (1) credit is assigned for every one hour of lecture per week or every two hours of practical (laboratory) work per week. For internship and projects, 30 hours equals 1 credit.
Cumulative Grade Point Average (CGPA)	A calculation based on the SGPA of all eight semesters, used to determine the final class and rank.
E-learning Resources	Learning resources available on Internet
Elective Courses	A choice available to students to select from among a large number of Courses
Enrichment Courses	Value added courses offered by institution for student empowerment. They enhance the curriculum by amplifying, supplementing and replacing such parts or features as have become ineffective or obsolete.
Evaluation Process	Assessment of learning, teaching and evaluation process and reforms to increase the efficiency and effectiveness of the system.
Experiential Learning	Is a process of learning through experience and is more specifically defined as “learning through reflection on doing”.
Field Project	Formal projects students need to undertake that involve conducting surveys outside the college/university premises and collection of data from designated communities or natural places
Graduate Attributes	The disciplinary expertise or technical knowledge that has traditionally formed the core of most university courses. They are qualities that also prepare graduates as agents for social good in an unknown future.
Grievance Redressal	Mechanisms for receiving, processing and addressing dissatisfaction expressed, complaints and other formal requests made by learners, staff and other stakeholders on the institutional provisions promised and perceived.
ICT	Information and Communication Technology Consists of the hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images) as well as related services.

Internal Examination Committee	A body chaired by the Principal that plans the internal assessment calendar, approves question paper patterns, and addresses student grievances regarding internal marks.
Internship	A mandatory period of at least 120 hours of work in a pharmaceutical industry, hospital, or clinical research organization, typically completed after Semester V and VI under an identified mentor.
Learning Outcomes	Specific intentions of a Programme or module, written in clear terms. They describe what a student should know, understand, or be able to do at the end of that Programme or module
Levels of Outcomes	<p>Programme Educational Objectives (PEOs): PEOs are broad statements that describe the professional achievements and career accomplishments that graduates are expected to attain a few years after completing the programme.</p> <p>Programme Outcomes (POs): POs are statements that describe the knowledge, skills, and competencies that students should acquire by the time they graduate from the programme.</p> <p>Course Outcomes (COs): COs are statements that describe what students should be able to know, understand, and perform at the end of a specific course.</p>
Miller's Pyramid	A framework for assessing clinical competence, used to monitor the progress and attainment of pharmacy students.
Multi-disciplinary Courses	Courses of varying durations which are optional, and offered outside the curriculum in the multidisciplinary areas that encourage understanding of recent trends in allied areas and helping the students in getting placed.
OBE: Outcome Based Education	OBE is an educational theory that bases each part of an educational system around goals (outcomes). Each student should have achieved the goal by the end of the educational experience
Outcome	An outcome of an educational Programme is what the student should be able to do at the end of a Programme/ course/ instructional unit.
Participative Learning	Participatory Learning and Action is a family of approaches, methods, attitudes, behaviours and relationships, which enable and empower people to share, analyze and enhance their knowledge of their life and conditions, and to plan, act, monitor, evaluate and reflect.
Problem Based Learning (PBL)	Is a student-centred pedagogy in which students learn about a subject through the experience of solving an open-ended problem found in trigger material. The PBL process does not focus on problem solving with a defined solution, but it allows for the development of other desirable skills and attributes. This includes

	knowledge acquisition, enhanced group collaboration and communication.
Programme	A structured set of courses and learning experiences offered over a specified period, leading to the award of a certificate, diploma, or degree recognized by the appropriate regulatory authority (e.g., UGC/PCI).
Program Committee	A committee led by a senior teacher that reviews class progress, discusses curriculum issues, and monitors the attainment of program outcomes.
Remedial Courses	Courses offered to academically disadvantaged students in order to help them cope with academic requirements.
Research Project	A supervised project carried out in groups of no more than three students during the final year, relating to an elective subject.
Semester	A period of study consisting of not less than 90 working days. Odd semesters run from June/July to November/December, and even semesters run from December/January to May/June
Semester Grade Point Average (SGPA)	A number representing the weighted average of the grade points obtained in all courses during a single semester.
Sessional	Tests conducted for each course during the semester, the average of which contributes to the internal assessment marks.
Skill Enhancement Courses	Courses of varying durations which are optional, and offered in the curriculum that develop the required skills and helping the students in getting placed.
Progression	Vertical movement of students from one level of education to the next higher level successfully or towards gainful employment.
Value Added Courses	Courses of varying durations which are optional, and offered outside the curriculum that add value and helping the students in getting placed.

REGULATION

1. Short title and commencement

This regulation shall be called as “The Regulation for the B. Pharm. Degree Programme Choice Based Credit System (CBCS) as per National Education Policy 2020 of the Pharmacy Council of India, New Delhi”. It shall come into effect immediately upon notification by the Pharmacy Council of India. The regulations framed are subject to modification from time to time by Pharmacy Council of India.

2. Minimum qualification for admission

2.1 First year B. Pharm:

- i. A candidate shall have passed the 10+2 examination conducted by the respective State or Central Government authorities, or any equivalent examination recognized by bodies such as the Association of Indian Universities (AIU) or the Council of Boards of School Education in India (COBSE), including wings such as IGNOU and NIOS, with English as one of the subjects and with Physics and Chemistry as compulsory subjects, along with either Mathematics or Biology.
- ii. Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations.

2.2. B. Pharm lateral entry (to third semester):

Candidate shall have passed in D. Pharm. course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act.

3. Duration of the Programme

The course of study for B. Pharm shall extend over a period of eight semesters (four academic years) and six semesters (three academic years) for lateral entry students. The curricula and syllabi for the Programme shall be prescribed from time to time by Pharmacy Council of India.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Working days in each semester

Each semester shall consist of not less than 90 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from December/January to May/June in every calendar year. A break of not less than 7 days shall be provided between the semesters.

6. Attendance and progress

A candidate must maintain a minimum of 75% attendance in each individual course. Attendance for theory and practical components shall be considered separately. Only

candidates who satisfactorily complete the prescribed course requirements shall be eligible to appear for the respective examinations.

7. Programme/Course credit structure

As per the Choice Based Credit System (CBCS), certain quantum of academic work viz. theory classes, practical classes etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly, the credit associated with any of the other academic, co/extra- curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week.

7.1. Credit assignment

7.1.1. Theory and Practical courses

Courses are broadly classified as Theory, Practical, Project and Internship. Theory (T) courses consist of lecture (L) hours, while Practical (P) courses consist of hours spent in the laboratory. The Credits

(C) assigned to a course dependent on the number of instructional hours per week and are calculated using a multiplier of one (1) for lecture hours, and a multiplier of one-half (1/2) for practical (laboratory) hours. For example, a theory course having three lectures per week throughout the semester carries 3credits. Similarly, a practical course with four laboratory hours per week throughout semester carries 2 credits. If the calculated credit value results in a fraction of 0.5 or below, the lower integer value will be assigned as the credit. Every 30 hours spent on internship (I) and projects shall be considered equivalent to 1 credit.

7.1.2 Minimum credit requirements

The minimum credit points required for award of a B. Pharm. degree is 193. These credits are distributed across Theory courses, Practical courses, Internship and Project over the duration of eight semesters. The semester-wise distribution of credits is presented in Table IX. Courses generally progress in sequences, building competencies and their positioning indicate certain levels of academic maturity on the part of the learners. Learners are expected to follow the semester-wise schedule of courses given in the syllabus.

The lateral entry students shall take additional courses, namely Healthcare Psychology and Communication Skills (Theory and Practical) and Basics of Python Programming for Pharmaceutical Sciences (Theory) during Semester III, and Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory) during Semester IV of the programme. The lateral entry student shall be awarded 47 credit points, equivalent to the cumulative credits earned as per the scheme of their Diploma in Pharmacy (D. Pharm.) programme, upon successful completion of the above-mentioned courses. Out of the total 47 credits, 41 credits shall be accounted for the Diploma programme, and the remaining 6 credits shall be awarded for the above-mentioned additional courses. The 41 credits accounted for the lateral entry students shall be recorded in the Semester III marks sheet.

8. Academic work

A regular record of attendance in Theory, Practical, Internship and Research Projects shall be maintained by the teaching staff of respective courses.

9. Course of study

The course of study for B. Pharm shall include Semester wise Theory & Practical as given in Tables – I to VIII. The number of hours allotted to each theory and practical course in any semester shall not be less than that shown in Tables – I to VIII.

Table-I, I Year I Semester

Course Code	Course Name	L-T-P-C	Category
26BP101	Basics of Python Programming for Pharmaceutical Sciences (Theory)	2-0-0-2	Mandatory
26BP102	General Pharmacy (Theory)	3-0-0-3	Mandatory
26BP103	Healthcare Psychology and Communication Skills (Theory)	1-0-0-1	Mandatory
26BP104	Human Anatomy, Physiology and Pathophysiology I (Theory)	4-0-04	Mandatory
26BP105	Introduction to Pharmacognosy (Theory)	3-0-0-3	Mandatory
26BP106	Pharmaceutical Inorganic and Analytical Chemistry (Theory)	3-0-0-3	Mandatory
26BP107	General Pharmacy (Practical)	0-0-3-1	Lab
26BP108	Healthcare Psychology and Communication Skills (Practical)	0-0-2-1	Lab
26BP109	Human Anatomy, Physiology and Pathophysiology I (Practical)	0-0-3-1	Lab
26BP110	Introduction to Pharmacognosy (Practical)	0-0-3-1	Lab
26BP111	Pharmaceutical Inorganic and Analytical Chemistry (Practical)	0-0-3-1	Lab
Credits		21	

Table-II, I Year II Semester

Course Code	Course Name	L-T-P-C	Category
26BP112	Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory)	2-0-0-2	Mandatory
26BP113	Biochemistry (Theory)	3-0-0-3	Mandatory
26BP114	Human Anatomy, Physiology and Pathophysiology II (Theory)	4-0-0-4	Mandatory
26BP115	Pharmaceutical Organic Chemistry (Theory)	4-0-0-4	Mandatory
26BP116	Pharmacognosy and Phytochemistry (Theory)	4-0-0-4	Mandatory
26BP117	Physical Pharmaceutics (Theory)	3-0-0-3	Mandatory
26BP118	Biochemistry (Practical)	0-0-3-1	Lab
26BP119	Human Anatomy, Physiology and Pathophysiology II (Practical)	0-0-3-1	Lab
26BP120	Pharmaceutical Organic Chemistry (Practical)	0-0-3-1	Lab
26BP121	Pharmacognosy and Phytochemistry (Practical)	0-0-3-1	Lab
26BP122	Physical Pharmaceutics (Practical)	0-0-3-1	Lab
26BP123	Communication Skills	0-0-2-1	Elective (LAB)
26BP124	Mental Well-Being, Stress & Conflict Management		
26BP125	Fundamentals of Computer Operations		
Credits		26	

Table-III, II Year I Semester

Course Code	Course Name	L-T-P-C	Category
26BP201	Introduction to Machine Learning in Pharmaceutical Sciences (Theory)	2-0-0-2	Mandatory
26BP202	Environmental Sciences (Theory)	1-0-0-1	Mandatory
26BP203	Ethics and Universal Human Values (Theory)	1-0-0-1	Mandatory
26BP204	General Pharmacology (Theory)	3-0-0-3	Mandatory
26BP205	Heterocyclic Compounds and Stereochemistry (Theory)	3-0-0-3	Mandatory
26BP206	Pharmaceutical Dosage Forms I (Theory)	3-0-0-3	Mandatory
26BP207	Pharmaceutical Engineering (Theory)	3-0-0-3	Mandatory
26BP208	Pharmaceutical Microbiology (Theory)	3-0-0-3	Mandatory
26BP209	General Pharmacology (Practical)	0-0-4-2	Lab
26BP210	Heterocyclic Compounds and Stereochemistry (Practical)	0-0-4-2	Lab
26BP211	Pharmaceutical Dosage Forms I (Practical)	0-0-3-1	Lab
26BP212	Nutraceuticals and Functional Foods	0-0-2-1	Elective (LAB)
26BP213	Food Analysis		
26BP214	Yoga and Life Sciences		
Credits		25	

Table-IV, II Year II Semester

Course Code	Course Name	L-T-P-C	Category
26BP215	Herbal Drug Technology (Theory)	3-0-0-3	Mandatory
26BP216	Medicinal Chemistry (Theory)	3-0-0-3	Mandatory
26BP217	Pharmaceutical Biotechnology (Theory)	3-0-0-3	Mandatory
26BP218	Social Pharmacy and Public Health (Theory)	2-0-0-2	Mandatory
26BP219	Systemic Pharmacology I (Theory)	3-0-0-3	Mandatory
26BP220	Herbal Drug Technology (Practical)	0-0-3-1	Lab
26BP221	Medicinal Chemistry (Practical)	0-0-3-1	Lab
26BP222	Pharmaceutical Biotechnology (Practical)	0-0-3-1	Lab
26BP223	Social Pharmacy and Public Health (Practical)	0-0-2-1	Lab
26BP224	Systemic Pharmacology I (Practical)	0-0-3-1	Lab
26BP225	Internship (Mandatory)	0-0-8-4	Lab
Credits		23	

Table-V, III Year I Semester

Course Code	Course Name	L-T-P-C	Category
26BP301	Biomedical Chemistry (Theory)	3-0-0-3	Mandatory
26BP302	Industrial Pharmacognosy (Theory)	3-0-0-3	Mandatory
26BP303	Innovation and Startup Ecosystem (Theory)	2-0-0-2	Mandatory
26BP304	Pharmaceutical Dosage Form II (Theory)	2-0-0-2	Mandatory
26BP305	Pharmaceutical Quality Assurance (Theory)	3-0-0-3	Mandatory
26BP306	Systemic Pharmacology II (Theory)	3-0-0-3	Mandatory
26BP307	Biomedical Chemistry (Practical)	0-0-4-2	Lab
26BP308	Industrial Pharmacognosy (Practical)	0-0-3-1	Lab
26BP309	Pharmaceutical Dosage Form II (Practical)	0-0-3-1	Lab
26BP310	Systemic Pharmacology II(Practical)	0-0-4-2	Lab
Credits		22	

Table-VI, III Year II Semester

Course Code	Course Name	L-T-P-C	Category
26BP311	Advanced Pharmacognosy (Theory)	3-0-0-3	Mandatory
26BP312	Biopharmaceutics and Pharmacokinetics (Theory)	3-0-0-3	Mandatory
26BP313	Intellectual Property Rights (Theory)	2-0-0-2	Mandatory
26BP314	AI applications in Pharmaceutical Sciences (Theory)	2-0-0-2	Mandatory
26BP315	Pharmaceutical Analysis (Theory)	3-0-0-3	Mandatory
26BP316	Pharmaceutical Jurisprudence (Theory)	3-0-0-3	Mandatory
26BP317	Green Chemistry	1-0-0-1	Elective
26BP318	Materiovigilance and Hemovigilance		
26BP319	Scientific Writing		
26BP320	Drug Store and Business Management		
26BP321	Career Building in Cultivation of Medicinal Plants		
26BP322	Active Pharmaceutical Ingredients and Excipient Sciences		
26BP323	Biopharmaceutics and Pharmacokinetics (Practical)	0-0-3-1	Lab
26BP324	Pharmaceutical Analysis (Practical)	0-0-4-2	Lab
26BP325	Computer-Aided Drug Design	0-0-2-1	Elective (LAB)
26BP326	Analytical Method Development and Validation		
26BP327	Principles of Preclinical Studies		
26BP328	Professional Skills	0-0-2-1	Elective (LAB)
26BP329	Process Analytical Technology (PAT) and QbD in Formulation Science		
26BP330	Internship (Mandatory)	0-0-8-4	Lab
Credits		26	

Table-VII, IV Year I Semester

Course Code	Course Name	L-T-P-C	Category
26BP401	Biostatistics and Research methodology (Theory)	3-0-0-3	Mandatory
26BP402	Cosmetics and Cosmeceuticals (Theory)	2-0-0-2	Mandatory
26BP403	AI in Clinical applications (Theory)	2-0-0-2	Mandatory
26BP404	Modern Analytical Techniques (Theory)	3-0-0-3	Mandatory
26BP405	Pharmacovigilance (Theory)	3-0-0-3	Mandatory
26BP406	Pharmacy Practice (Theory)	3-0-0-3	Mandatory
26BP407	Regulatory Affairs (Theory)	2-0-0-2	Mandatory
26BP408	Current Good Manufacturing Practices (cGMP)	1-0-0-1	Elective
26BP409	Pharmaceutical Automation		
26BP410	Modern Techniques in Cellular Biology		
26BP411	Medical Devices		
26BP412	Transformation of Food Waste into Medicinal Products		
26BP413	Biosimilars, Vaccines & Macromolecules		
26BP414	Modern Analytical Techniques (Practical)	0-0-3-1	Lab
26BP415	Research Project	0-0-12-6	Lab
Credits		26	

Table-VIII, IV Year II Semester

Course Code	Course Name	L-T-P-C	Category
26BP416	Ethical Considerations and Translational Applications of AI in Pharmacy (Theory)	2-0-0-2	Mandatory
26BP417	Clinical Pharmacotherapeutics (Theory)	2-0-0-2	Mandatory
26BP418	Industrial Pharmacy and Facility Design (Theory)	3-0-0-3	Mandatory
26BP419	Pharmaceutical Management (Theory)	2-0-0-2	Mandatory
26BP420	Sterile Dosage Forms and Novel Drug Delivery System (Theory)	3-0-0-3	Mandatory
26BP421	Pharmaceutical Packaging	2-0-0-2	Elective
26BP422	Supply Chain Management		
26BP423	Industrial Safety and Waste Management		
26BP424	Traditional Healing Practices of India		
26BP425	Futuristic Pharma through AR/VR: Pharma 4.0		
26BP426	Herbal Cosmetics for Industry Perspective		
26BP427	Pharmaceutical Marketing Skills (Practical)	0-0-2-1	Lab
26BP428	Sterile Dosage Forms and Novel Drug Delivery System (Practical)	0-0-4-2	Lab
26BP429	Cleaning Validation	0-0-2-1	Elective (LAB)
26BP430	Basic Training in Aseptic Handling Techniques		
26BP431	Impurity Profiling		
26BP432	Research Project	0-0-12-6	Lab
Credits		24	

Table-IX: Total Credits per Semester

Semester	Total Credits
I	21
II	26
III	25
IV	23
V	22
VI	26
VII	26
VIII	24
Grand Total	193

Note: Earning total credits [193] as mentioned above are mandatory for award of the degree. However, Institute/University has the liberty to offer additional courses as per their mandates or may also offer additional credits through various MOOCs upon approval of their respective academic council.

10. Programme Committee and Internal Examination Committee

10.1 Programme Committee

1. The B. Pharm. Programme shall have a Programme Committee constituted by the Head of the Institution/Principal in consultation with all the Heads of the Departments and reconstituted annually.
2. The composition of the Programme Committee shall be as follows:
 - The Principal/HoI shall serve as the Chairperson
 - One senior teacher from any department shall act as the B. Pharm Coordinator
 - One teacher from each department offering B. Pharm courses and
 - Four student representatives of the programme (one from each academic year), nominated by the Head of the Institution.
3. The Programme Committee shall meet at least twice in every semester to perform the following duties.
4. Duties of the Programme Committee (not limited to):
 - i. Periodically reviewing the progress of classes and attendance.
 - ii. Discussing problems concerning the curriculum, syllabus, and conduct of classes.
 - iii. Communicating its recommendations on academic matters to the Head of the Institution, with such communications being duly recorded.
 - iv. Periodically reviewing and monitoring the attainment of Programme Outcomes and Course Outcomes along with Bloom's Taxonomy Levels and/or Miller's Pyramid.

- v. Encouraging the use of ICT tools and providing e-learning resources for higher- order learning.
- vi. Ensuring effective implementation of participative, problem-based, experiential learning, and innovative pedagogical approaches for effective outcomes.

10.2 Internal Examination Committee

1. The B. Pharm. Programme shall have an Internal Examination Committee constituted by the Principal / HoI in consultation with all the Heads of the Departments and may be reconstituted as and when necessary.
2. The composition of the Internal Examination Committee shall be as follows:
 - Principal / HoI – Chairperson
 - B. Pharm Programme Coordinator – Member Secretary
 - One senior faculty member from each department involved in B. Pharm teaching Members
 - Examination Cell In-charge – Member
3. The Committee shall meet periodically, before each Sessional Examination (Internal Assessment) and before the end-semester examination.
4. Duties of the Internal Examination Committee (not limited to):
 - i. Plan and approve the internal assessment calendar for all semesters.
 - ii. Ensure uniformity, transparency, and fairness in continuous assessment, sessional, and practical examinations.
 - iii. Moderation of sessional question papers and assessment tools in alignment with programme and course outcomes, incorporating Bloom’s Taxonomy Levels and/or Miller’s Pyramid.
 - iv. Monitor the conduct and evaluation of theory, practical, internship, and project assessments.
 - v. Ensure compliance with PCI regulations, university ordinances, and NEP-2020 assessment reforms.
 - vi. Promote outcome-based, skill-oriented, and innovative assessment methods.
 - vii. Review, moderate, and finalize internal assessment marks prior to submission to the university.
 - viii. Address student grievances related to internal assessments in a timely and structured manner.
 - ix. Maintain proper records, reports, and minutes related to internal examinations and assessments.
 - x. Recommend remedial measures and academic support as and when required.

10.3 Scheme for credit-based marks distribution for assessment

The general scheme for credit wise marks distribution is as given below. The detailed scheme for internal assessment and end semester examinations is given in Table – X (a-h).

Credits	Maximum Marks	Internal Assessment	External Assessment
4	100	40	60
3	75	30	45
2 or 1	50	20	30

11. End semester examinations

The End Semester Examinations for each theory and practical course through semesters I to VIII shall be conducted by the university. (Table-X).

Table-Xa: Semester I

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	End Sem Exam Duration	Total Marks
Basics of Python Programming for Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
General Pharmacy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Healthcare Psychology and Communication Skills (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
Human Anatomy, Physiology and Pathophysiology I (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
Introduction to Pharmacognosy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmaceutical Inorganic and Analytical Chemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75

General Pharmacy (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Healthcare Psychology and Communication Skills (Practical)	1	10	10	3 Hr	20	30	3Hr	50
Human Anatomy, Physiology and Pathophysiology I (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Introduction to Pharmacognosy (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Pharmaceutical Inorganic and Analytical Chemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50

Table-Xb: Semester II

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Applied Biostatistics and Data Analytics for Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Biochemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Human Anatomy, Physiology and Pathophysiology II (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
Pharmaceutical Organic Chemistry (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
Pharmacognosy and Phytochemistry (Theory)	4	20	20	1 Hr	40	60	3 Hr	100
Physical Pharmaceutics (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Biochemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Human Anatomy, Physiology and Pathophysiology II (Practical)	1	10	10	3 Hr	20	30	3 Hr	50

Pharmaceutical Organic Chemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Pharmacognosy and Phytochemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Physical Pharmaceutics (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
SEC – Elective 1 (Practical)	1	10	10	3 Hr	20	30	3 Hr	50

Table-Xc: Semester III

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Introduction to Machine Learning in Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Environmental Science (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
Ethics and Universal Human Values (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
General Pharmacology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Heterocyclic Compounds and Stereochemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmaceutical Dosage Forms I (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmaceutical Engineering (Theory)	3	15	15	1 Hr	30	45	2 Hr	75

Pharmaceutical Microbiology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
General Pharmacology (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
Heterocyclic Compounds and Stereochemistry (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
Pharmaceutical Dosage Forms I (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
AEC – Elective 2 (Practical)	1	10	10	3 Hr	20	30	3 Hr	50

Table-Xd: Semester IV

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Herbal Drug Technology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Medicinal Chemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmaceutical Biotechnology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Social Pharmacy and Public Health (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Systemic Pharmacology I (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Herbal Drug Technology (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Medicinal Chemistry (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Pharmaceutical Biotechnology (Practical)	1	10	10	3 Hr	20	30	3 Hr	50

Social Pharmacy and Public Health (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Systemic Pharmacology I (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Internship (Mandatory)	4	Refer Section 22	—	—	—	100	4 Hr	100

Table-Xe: Semester V

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Biomedical Chemistry (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Industrial Pharmacognosy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Innovation and Startup Ecosystem (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Pharmaceutical Dosage Forms II (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Pharmaceutical Quality Assurance (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Systemic Pharmacology II (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Biomedical Chemistry (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
Industrial Pharmacognosy (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Pharmaceutical Dosage Forms II (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Systemic Pharmacology II (Practical)	2	10	10	4 Hr	20	30	4 Hr	50

Table-Xf: Semester VI

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Advanced Pharmacognosy (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Biopharmaceutics and Pharmacokinetics (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Intellectual Property Rights (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
AI Applications in Pharmaceutical Sciences (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Pharmaceutical Analysis (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmaceutical Jurisprudence (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
AEC – Elective 3 (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
Biopharmaceutics and Pharmacokinetics (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Pharmaceutical Analysis (Practical)	2	10	10	4 Hr	20	30	4 Hr	50

SEC – Elective 4 (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
VAC – Elective 5 (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Internship (Mandatory)	4	Refer Section 22	–	–	–	100	4 Hr	100

Table-Xg: Semester VII

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Biostatistics and Research Methodology (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Cosmetics and Cosmeceuticals (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
AI in Clinical Applications (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Modern Analytical Techniques (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmacovigilance (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmacy Practice (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Regulatory Affairs (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
AEC – Elective 6 (Theory)	1	10	10	1 Hr	20	30	1.5 Hr	50
Modern Analytical Techniques (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Research Project	6	Refer Section 21	—	—	—	150	4 Hr	150

Table-Xh: Semester VIII

Name of the Course	Credit	Continuous Mode (Marks)	Sessional Exam (Marks)	Sessional Duration	Internal Total	End Semester Marks	Exam Duration	Total Marks
Ethical Considerations and Translational Applications of AI in Pharmacy (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Clinical Pharmacotherapeutics (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Industrial Pharmacy and Facility Design (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
Pharmaceutical Management (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Sterile Dosage Forms and Novel Drug Delivery System (Theory)	3	15	15	1 Hr	30	45	2 Hr	75
AEC – Elective 7 (Theory)	2	10	10	1 Hr	20	30	1.5 Hr	50
Pharmaceutical Marketing Skills (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Sterile Dosage Forms and Novel Drug Delivery System (Practical)	2	10	10	4 Hr	20	30	4 Hr	50
VAC – Elective 8 (Practical)	1	10	10	3 Hr	20	30	3 Hr	50
Research Project	6	Refer Section 21	–	–	–	150	4 Hr	150

11.2. Internal assessment: Continuous internal assessment and sessional examination

The marks allocated for Continuous mode of Internal assessment and Sessional examination shall be awarded as per the scheme given below.

Table–XI: Scheme for awarding internal assessment: Continuous mode and Sessional

a. Theory

Theory – Internal assessment pattern of marks distribution

Theory		Internal assessment pattern of marks distribution			
Credit Type	Max. Marks	Total	Attendance (Refer Table–XII) and Student–Teacher Interaction	Academic Activities (Average of best three of any five: quiz, assignment, open book test, field work, group discussion, seminar, etc.)	Sessional (Average of two tests) Duration 1 Hour
4	100	40	10	10	20
3	75	30	7.5	7.5	15
2 or 1	50	20	05	05	10

b. Practical

Practical – Internal assessment pattern of marks distribution

Theory		Internal assessment pattern of marks distribution			
Credit Type	Max. Marks	Total	Attendance (Refer Table–XII) and Student–Teacher Interaction	Based on Practical Records, Regular viva voce, etc.	Sessional (Average of two tests) Duration – As per allotted hours#)
2 or 1	50	20	05	05	10

For practical courses (core as well as elective), those having four hours per week shall have a four-hour duration for the sessional and end-semester examinations. Practical courses with less than four hours per week shall have a three-hour duration for the sessional and end-semester examinations.

Table–XII: Guidelines for the allotment of marks for attendance

Percentage of Attendance	Theory			Practical
	4 Credit	3 Credit	2 or 1 Credit	
90 – 100	4	3.5	2	2
85 – 89	3	2.5	1.5	1.5
75 – 84	2	1.5	1	1
Less than 75	0	0	0	0

11.2.1. Sessional Exams

Two Sessional exams shall be conducted for each theory / practical course as per the schedule fixed by the college(s)/University. The scheme of question paper for theory and practical Sessional examinations is given in Table XIII– XIV below.

Table–XIII: Internal Assessment Question Paper Pattern (Theory)

Type of questions	For all courses
I. Multiple Choice Questions (MCQs) Or Objective Type Questions	4×1 Mark each or 2×2 Marks each (Compulsory)
II. Short Answers	2×3 Marks each (2 out of 3)
III. Long Answers	1×10 Marks each (1 out of 2)
Max. Marks	20
Duration	1 Hour

*Note: For internal operational convenience, the assessment will be conducted for 20 Marks for all the courses. The marks obtained shall be considered without any conversion for courses with 4 credits, proportionately scaled down to 15 marks for courses with 3 credits, and to 10 marks for courses with 2 or 1 credits in compliance with Table XI.

Table–XIV: Internal Assessment Question Paper Pattern (Practical)

Type of questions	2 or 1 Credit Course
Synopsis	2
Major Experiment	4
Minor Experiment	2
Viva voce	2
Max. Marks	10
Duration	As per the allotted hours in scheme

The average marks of two Sessional exams shall be computed for internal assessment as per the requirements given in Table – XI.

11.3. End semester Examination

The End semester Theory and practical examination shall be conducted as per the scheme given in Table XV– XVI as per the credits allotted.

Table–XV: End Semester Question Paper Pattern (Theory)

Type of questions	4 Credit Course	3 Credit Course	2 or 1 Credit Course
I. Multiple Choice Questions (MCQs) Or Objective Type Questions	20×1 Mark each or 10×2 Marks each (Compulsory)	10×1 Mark each (Compulsory)	10×1 Mark each (Compulsory)
II. Short Answers	5×4 Marks each (5 out of 7)	5×4 Marks each (5 out of 7)	5×2 Marks each (5 out of 7)
III. Long Answers	2×10 Marks each (2 out of 3)	2×7.5 Marks each (2 out of 3)	2×5 Marks each (2 out of 3)
Max. Marks	60	45	30
Duration	3 Hours	2 Hours	1.5 Hours

Table–XVI: End Semester Question Paper Pattern (Practical)

Type of questions	2 or 1 Credit Course
Synopsis	7.5
Major Experiment	10
Minor Experiment	5
Viva voce	7.5
Max. Marks	30
Duration	As per the allotted hours in scheme #

For practical courses (core as well as elective), those having four hours per week shall have a four-hour duration for the sessional and end-semester examinations. Practical courses with less than four hours per week shall have a three-hour duration for the sessional and end-semester examinations.

12. Promotion and award of grades

12.1. Promotion: A student shall be declared PASS and eligible to receive a grade in a course of the B.Pharm. programme if he/she secures at least 50% marks in that particular course, including internal assessment. For example, to be declared PASS and to receive a grade, the

student must secure a minimum of 50 marks out of a total of 100, inclusive of internal assessment marks (continuous internal assessment and sessional examination marks) and the end-semester theory examination marks as applicable

12.2. Grace Marks and Moderation: Grace marks shall be awarded to the students as per the norms of the University, with due emphasis on promoting learner progression.

13. Carry forward of internal assessment marks

In case a student fails to secure the minimum 50% in any Theory or Practical course as specified in 12, then he/she shall reappear for the end semester examination of that course. However, his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

14. Improvement of internal assessment

A student shall have the opportunity to improve his/her performance only once in the Sessional exam component of the internal assessment. The re-conduct of the Sessional exam shall be completed within that particular semester only. The re-conduct of sessional examinations for failed candidates shall be conducted only once for the purpose of improving their sessional marks, without changing their continuous internal assessment.

15. End semester supplementary examinations

Supplementary examination should be completed within 2 months of publishing results of regular end semester examination. The proposed end semester examinations to be conducted as per the schedule below

Table–XVI: Tentative schedule of end semester examinations

Semester	For Regular Examiantion
I, III, V and VII	November / December
II, IV, VI and VIII	May / June

16. Academic progression

Students are permitted to progress to the next semester even if they fail a course. However, to appear for the Semester VIII end semester examination, a student must have successfully completed all courses up to Semester VII. The final CGPA shall be awarded only after successful completion of all courses from Semester I to Semester VIII within the maximum duration prescribed by PCI. Lateral entry students shall successfully complete all courses from Semester III to Semester VII before appearing for the Semester VIII end semester examination

17. Grading of performance

17.1. Letter grades and grade points allocations:

Based on the performances, each student shall be awarded a final letter grade at the end of the semester for each course. The letter grades and their corresponding grade points are given in Table – XVII.

Table–XVII: Letter grades and grade points equivalent to percentage of marks and performance

Percentage of Marks Obtained	Letter Grade	Grade Point	Performance
90.00 – 100	O	10	Outstanding
80.00 – 89.99	A	9	Excellent
70.00 – 79.99	B	8	Good
60.00 – 69.99	C	7	Fair
50.00 – 59.99	D	6	Average
Less than 50	F	0	Fail
Absent	AB	0	Fail

A student who remains absent for any end semester examination shall be assigned a letter grade of AB and a corresponding grade point of zero. He/she should reappear for the said evaluation/examination in due course. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

18. The Semester Grade Point Average (SGPA)

The performance of a student in a semester is indicated by a number called ‘Semester Grade Point Average’ (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the student during the semester.

$$SGPA = \frac{C1G1 + C2G2 + C3G3 + C4G4 + C5G5}{C1 + C2 + C3 + C4 + C5}$$

The SGPA is calculated to two decimal points. It should be noted that, the SGPA for any semester shall take into consideration the F and ABS grade awarded in that semester.

19. Cumulative Grade Point Average (CGPA)

The CGPA is calculated with the SGPA of all the VIII semesters to two decimal points and is indicated in final grade report card/final transcript showing the grades of all VIII semesters and their courses.

$$SGPA = \frac{C1S1 + C2S2 + C3S3 + C4S4 + C5S5 + C6S6 + C7S7 + C8S8}{C1 + C2 + C3 + C4 + C5 + C6 + C7 + c8}$$

CGPA To Percentage Conversion

It is mandatory for Examining Authority to mention both, marks and SGPA and/or CGPA scores, in the marksheets. The conversion factor for calculation of CGPA into percentage should be 10.0 uniformly.

Credit Record and Transfer Mechanism

The Examining Authority shall be responsible for creation and verification of Academic Bank

of Credits ID, uploading and maintenance of semester wise credits/grades and award in the ABC and National Academic Depository (NAD) to facilitate the credit transfer and redemption as per guidelines of statutory bodies.

20. Declaration of class

The classification of the degree shall be determined based on the Cumulative Grade Point Average (CGPA) obtained by the candidate, as indicated below:

- First Class with Distinction: **CGPA of 7.50 and above**
- First Class: **CGPA of 6.00 to 7.49**
- Second Class: **CGPA of 5.00 to 5.99**

21. Project work

All students shall undertake a project under the supervision of a teacher and submit a report, preferably with the involvement of an external mentor from Industry, Hospital, NABL or CDSCO-approved labs, or an Allied/Interdisciplinary field. The project shall be carried out in groups not exceeding three members. The project report must be submitted in triplicate as a typed and bound copy of no less than 25 pages. Internal and external examiners appointed by the University shall evaluate the project during the practical examinations of the respective semester(s), and students shall be evaluated in groups. Additionally, students are permitted the option to pursue a continuous research theme initiated in the seventh semester and extending through the eighth semester. Under this provision, the specific project milestones achieved by the conclusion of the seventh semester shall undergo formal evaluation by the appointed examiners during that semester's final examination.

The projects shall be evaluated as per the criteria given in **Table XVIII** and **Table XIX** below.

Table - XVIII: Evaluation of Dissertation Book

Sl. No.	Evaluation Criteria	Maximum Marks
1	Objectives of the work undertaken	10
2	Methodology adopted	20
3	Results and discussion	20
4	Conclusion and outcome	10
	Total	60

Table XIX. Evaluation of Dissertation Presentation

Sl. No.	Evaluation Criteria	Maximum Marks
1	Presentation of work	40
2	Communication skills	20
3	Question and answer skills	30
	Total	90

Explanation: The 60 marks assigned to the dissertation book shall be same for all the students in a group. However, the 90 marks assigned for presentation shall be awarded based on the performance of individual students in the given criteria.

22. Internship

Every candidate shall be required to complete a minimum of 240 hours of practical training, spread over a period of two semesters, in a Pharmaceutical/ Cosmetics/ Medical Devices/ Food Industry, or in a Hospital/Community Pharmacy, or any other relevant field as per the prescribed course content. He/she has to submit two internship reports which will be evaluated separately.

Certificate and Report submission: 75 Marks

Presentation and Discussion: 25 Marks

Total: 100 Marks

23. Industry/Field Visits and other Co-curricular Activities.

It shall be compulsory for pharmacy Institutions to organize industrial/field visit and other co-curricular activities to promote holistic learning through participative, problem-based, experiential and innovative pedagogical methods. Students shall submit individual reports, which shall be assessed in continuous evaluation mode as part of any core course each year, as decided by the Programme Committee.

23.1 Industry/Field Visits

It shall be compulsory for students to undertake at least one industrial/field visit during each year to facilities involved in the manufacturing of active pharmaceutical ingredients, excipients, pharmaceutical formulations, medical devices, food, cosmetics, government/ NABL approved drug and medical device testing laboratories or NABH accredited hospital. It shall be assured by the institutions that the facilities chosen for a particular year shall not be repeated.

23.2 Memorandum of Understanding (MoU)

A formal and legally valid Memorandum of Understanding (MoU) must be executed (minimum 10) between the pharmacy Institution and pharmaceutical Industry/ government/NABL approved drug and medical device testing laboratories/ NABH accredited hospital. Out of those MoUs, 5 must be with the pharmaceutical industries.

23.3 Co-curricular Activities

It shall be compulsory for the pharmacy institution to adopt a village or a ward in the panchayath/municipal corporation and engage in community service activities. The community services shall include (but not limited to) prescription survey, awareness of rational drug use, patient counselling services or activities as per the prescribed course content.

24. Award of Ranks

Ranks and Medals shall be awarded on the basis of final CGPA. However, candidates who fail in one or more courses during the B. Pharm Programme shall not be eligible for award of ranks. Moreover, the candidates should have completed the B. Pharm Programme in minimum prescribed number of years (i.e. four years) for the award of Ranks.

25. Award of Degree

Candidates who fulfil the requirements mentioned above shall be eligible for award of degree during the ensuing convocation.

26. Duration for Completion of the Programme

The maximum period permitted for completion of the Programme shall be twice the prescribed duration of the Programme. Any student who fails to complete the Programme within this stipulated period shall be required to discontinue the course.

27. Re-admission after Break of Study

A candidate seeking re-admission to the programme after a break in studies must obtain approval from the university by paying the prescribed condonation fee. Condonation will not be granted if the break in study exceeds two years or if the student fails to complete the programme within the maximum permitted duration ($N \times 2$).

CURRICULAR STRUCTURE

T: Theory **P:** Practical **AEC:** Ability Enhancement Course **SEC:** Skill Enhancement Course **VAC:** Value Addition Course

The numeral against the T / P cell indicates the credit assigned for the course. e.g.:

T	3
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 indicates Theory course with 3 credits.

Note: -Refer the detailed syllabus for exact course codes

Semester																
Course Type	I		II		III		IV		V		VI		VII		VIII	
Core-1	T	3	T	3	T	3	T	3	T	3	T	3	T	3	T	3
	General Pharmacy		Biochemistry		General Pharmacology		Herbal Drug Technology		Biomedical Chemistry		Biopharmaceutics and Pharmacokinetics		Modern Analytical Techniques		Sterile Dosage Form and Novel Drug Delivery Systems	
Core-2	P	1	P	1	P	1	P	1	P	1	P	1	P	1	P	2
	General Pharmacy		Biochemistry		General Pharmacology		Herbal Drug Technology		Biomedical Chemistry		Biopharmaceutics and Pharmacokinetics		Modern Analytical Techniques		Sterile Dosage Form and Novel Drug Delivery Systems	

Course Type	I		II		III		IV		V		VI		VII		VIII	
Core-3	T	1	T	4	T	3	T	3	T	3	T	3	T	3	T	3
	Healthcare Psychology and Communication Skills		Human Anatomy, Physiology and Pathophysiology II		Heterocyclic Compounds and Stereochemistry		Medicinal Chemistry		Industrial Pharmacognosy		Pharmaceutical Analysis		Biostatistics Research methodology		Industrial Pharmacy and Facility Design	
Core-4	P	1	P	1	P	1	P	1	P	1	P	2	T	3	T	2
	Healthcare Psychology and Communication Skills		Human Anatomy, Physiology and Pathophysiology II		Heterocyclic Compounds and Stereochemistry		Medicinal Chemistry		Industrial Pharmacognosy		Pharmaceutical Analysis		Pharmacovigilance		Clinical Pharmacotherapeutics	
Core-5	T	4	T	4	T	3	T	3	T	2	T	3	T	3	T	2
	Human Anatomy, Physiology and Pathophysiology I		Pharmaceutical Organic Chemistry		Pharmaceutical Dosage Forms I		Pharmaceutical Biotechnology		Pharmaceutical Dosage Forms II		Advanced Pharmacognosy		Pharmacy Practice		Pharmaceutical Management	
Core-6	P	1	P	1	P	1	P	1	P	1	T	3	T	2	T	2
	Human Anatomy, Physiology and Pathophysiology I		Pharmaceutical Organic Chemistry		Pharmaceutical Dosage Forms I		Pharmaceutical Biotechnology		Pharmaceutical Dosage Forms II		Pharmaceutical Jurisprudence		Cosmetics and Cosmeceuticals		Ethical Considerations and Translational Applications of AI in Pharmacy	
Core-7	T	3	T	4	T	3	T	2	T	3	T	2	T	2	P	1
	Introduction To Pharmacognosy		Pharmacognosy and Phytochemistry		Pharmaceutical Engineering		Social Pharmacy and Public Health		Systemic Pharmacology and Chemotherapy		Intellectual Property Rights		AI in Clinical applications		Pharmaceutical Marketing Skills	

Course Type	I		II		III		IV		V		VI		VII		VIII	
Core-8	P	1	P	1	T	3	P	1	P	1	P	2	T	2	—	
	Introduction To Pharmacognosy		Pharmacognosy and Phytochemistry		Pharmaceutical Microbiology		Social Pharmacy and Public Health		Systemic Pharmacology and Chemotherapy		AI applications in Pharmaceutical Sciences		Regulatory Affairs		—	
Core-9	T	3	T	3	T	2	T	2	T	3	—		—		—	
	Pharmaceutical Inorganic and Analytical Chemistry		Physical Pharmaceutics		Introduction to Machine Learning in Pharmaceutical Sciences		Systemic Pharmacology I		Pharmaceutical Quality Assurance		—		—		—	
Core-10	P	1	P	1	T	1	P	1	T	2	—		—		—	
	Pharmaceutical Inorganic and Analytical Chemistry		Physical Pharmaceutics		Environmental Science		Systemic Pharmacology I		Innovation and Startup Ecosystem		—		—		—	
Core-11	T	2	T	3	T	1	—		—		—		—		—	
	Basics of Python Programming for Pharmaceutical Sciences (Theory)		Applied Biostatistics and Data Analytics for Pharmaceutical Sciences		Ethics and Universal Human Values		—		—		—		—		—	
Internship	—		—		—		—	4	—		—	4	—		—	
	—		—		—		Internship (Mandatory)		—		Internship (Mandatory)		—		—	
Research	—		—		—		—		—		—		—	6	—	6
	—		—		—		—		—		—		Research Project		Research Project	

Course Type	I	II	III	IV	V	VI	VII	VIII
AEC	—	—	P 1	—	—	T 1	T 1	T 2
	—	—	Elective 2	—	—	Elective 3	Elective 6	Elective 7
SEC	—	P 1	—	—	—	P 1	—	—
	—	Elective 1	—	—	—	Elective 4	—	—
VAC	—	—	—	—	—	P 1	—	P 1
	—	—	—	—	—	Elective 5	—	Elective 8
Credits per semester	21	23	23	25	25	26	26	24
Total Credits	193							

