NIRMA UNIVERSITY

INSTITUTE OF PHARMACY

NAAC ACCREDITED 'A+' GRADE

B.PHARM.

VOLUME II

STUDENTS' INFORMATION BOOKLET

2025-26

प्रार्थना

या कुन्देन्दु तुषारहार धवला या शुभ्र वस्त्रावृता ।
या वीणा वर दण्ड मण्डितकरा या श्वेत पद्मासना ॥
या ब्रह्माच्युत शंकर प्रभृतिभिः देवैः सदा वन्दिता ।
सा मां पातु सरस्वती भगवती निःशेष जाड्यापहा ॥

श्लोक अर्थ - *जो विद्या की देवी भगवती सरस्वती कुन्द के फूल, चन्द्रमा, हिमराशि और मती के हार की तरह धवल वर्ण की हैं और जो श्वेत वस्त्र धारण करती हैं, जिनके हाथ में वीणा-दण्ड शोभायमान है, जिन्होंने श्वेत कमलों पर आसन ग्रहण किया है तथा ब्रह्मा, विष्णु एवं शंकर आदि देवताओं द्वारा जो सदा पूजित हैं, वही सम्पूर्ण जड़ता और अज्ञान को दूर कर देने वाली माँ सरस्वती हमारी रक्षा करें ।*

Meaning - Salutations to Devi Saraswati, Who is pure white like Jasmine, with the coolness of Moon, brightness of Snow and shine like the garland of Pearls; and Who is covered with pure white garments, Whose hands are adorned with Veena (a stringed musical instrument) and the boon-giving staff; and Who is seated on pure white Lotus, Who is always adored by Lord Brahma, Lord Acyuta (Lord Vishnu), Lord Shankara and other Devas, O Goddess Saraswati, please protect me and remove my ignorance completely.

PREAMBLE

The Handbook for students, distributed in two volumes (Volume I and Volume II), provides comprehensive information about the Institute of Pharmacy (IPNU) at Nirma University, along with detailed descriptions of the undergraduate B. Pharm. programme.

Volume I of the Handbook encompasses general information about Nirma University. It outlines critical details about campus regulations, including student discipline and code of conduct guidelines. Additionally, it describes the academic infrastructure, teaching and learning processes, student-centric activities, and the general facilities and support services available to students on campus.

Volume II of the Handbook delves into the academic specifics of the Institute. It includes the Academic Rules and Regulations, encompassing the academic requirements and code of conduct policies for students at the University. This volume also provides essential information on registration procedures, the grading system, academic standards, attendance requirements, and disciplinary measures, along with various policies and necessary forms.

It is imperative for all students to familiarize themselves with the rules and regulations of both the Institute and the University. The University/Institute reserves the right to modify the rules and regulations outlined in the Handbook without prior notice. The University's decisions on all matters are final. For additional clarification, students are advised to contact the Student Section.

These Handbooks serve to inform students about the University and its programmes and should not be considered as the University's Regulation book. Consequently, no claims can be made based on the information provided in these Handbooks.

Professor Dr Gopal Natesan
MPharm, PhD (India), MBA (Malaysia),
PG Cert Teaching & Learning (UK), FHEA (UK), SEFM, RPh (India)
Director, Institute of Pharmacy

DIRECTOR'S MESSAGE

Dear Students,

Welcome to the Bachelor of Pharmacy (B. Pharm.) programme at the Institute of Pharmacy, Nirma University. It is with great pleasure and pride that I address you at the beginning of this transformative journey. Our B. Pharm. programme is designed to equip you with the knowledge, skills, and competencies required to excel in the ever-evolving field of pharmacy. As healthcare professionals, pharmacists play a pivotal role in patient care, ensuring the safe and effective use of medications, and contributing to the overall health and well-being of the community. Here at Nirma University, we are committed to nurturing your potential and guiding you towards becoming leaders in this noble profession.

The Institute of Pharmacy is distinguished by its state-of-the-art facilities, a rigorous curriculum, and a faculty composed of accomplished scholars and practitioners who are dedicated to providing you with a robust educational experience. Our curriculum is not only grounded in scientific and clinical excellence but also emphasizes the importance of ethics, communication, and empathy in healthcare.

Throughout your time in the B. Pharm. program, you will be engaged in a variety of learning experiences, including lectures, laboratory work, tutorials, industrial training and research projects. These experiences are designed to foster critical thinking, problem-solving, and lifelong learning. You will have the opportunity to work alongside healthcare professionals in diverse settings, gaining practical insights and honing your skills. We encourage you to take full advantage of the resources and opportunities available to you. Participate actively in class discussions, seek guidance from your mentors, and collaborate with your peers. Remember that your education is a journey of continuous growth, and the challenges you encounter are opportunities to develop resilience and expertise.

As you embark on this academic endeavour, I urge you to uphold the highest standards of professionalism and integrity. The pharmacy profession demands a commitment to ethical practice and compassionate care. Strive to make a positive impact on the lives of your patients and contribute to the advancement of the pharmacy field. I am confident that with dedication, perseverance, and a passion for excellence, you will achieve great success and make significant contributions to the healthcare community.

Welcome to the Institute of Pharmacy, Nirma University. I wish you all the best in your studies and future career.

Professor Dr Gopal Natesan
Director, Institute of Pharmacy

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SECTION A

General Information

ABOUT INSTITUTE OF PHARMACY

Institute of Pharmacy was established in the year 2003 under Nirma University with the aim of developing able professionals in the field of pharmaceutical sciences. In a short span of time, it has become one of the leading institutions in the country, offering pharmaceutical education at the undergraduate, postgraduate, doctoral and postdoctoral level.

The Institute offers B. Pharm., Pharm D., M. Pharm. (Pharmaceutics, Pharmacology, Pharmaceutical Analysis and Regulatory Affairs), Full time and Part time Ph.D. and Post-doctoral Programmes.

The Institute has adopted Outcome Based Education (OBE) to further advance the development of professional knowledge, inculcate employability skills in addition to development of character and social responsibility. To achieve the same objective, vision and mission of the institute was also defined in line with University's vision and mission. The Institute has also framed its programme educational objectives and programme outcomes. The Institute has more than 5.0 crore rupees grant from government agencies and has collaboration with various research centres and industries. The Institute houses state-of the-art instruments, like supercritical fluid extractor and chromatogram, HPTLC, HPLC, MPLC, GC, Fluorescence Spectrometer, Raman Spectrometer, UV-VIS-NIR Spectrophotometer, FTIR, DSC, ELISA, PCR, Electrophoresis, Texture Analyser, Automated Dissolution Apparatus, Extruder-Spheronizer, Multiple diffusion Assembly, High Pressure Homogenizer, Particle Size Analyser, Microwave synthesizer, Stereotaxic apparatus with Micro-dialysis as well as software's, like Gold Suit, eCTD, Design Expert, etc.

Institute is also equipped with Cell Culture Laboratory and Aseptic Laboratory (Class 1000) facility which provides all the basic and advanced equipment's required for the culturing of mammalian cells. The facility enables students to work with primary and secondary cell lines. It also has machine room with manufacturing and testing equipment's. The expertise of in-house faculty members and regular interactive sessions with national and international experts through workshops, conferences make the most of it for the young-minds of the Institute and other organizations in advancing their research.

The Institute has a two-storied animal house facility registered with the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Government of India. Besides, there is also a medicinal plant garden "Nirma Herbal Wealth", having an area of 3356.5 sqm with around 150 genera and 500 plants.

VISION AND MISSION

VISION

Striving to excel in pharmaceutical education, research & innovation to develop outstanding professionals catering to the health care needs of the humankind.

MISSION

The institute aims to develop employable students, researchers and entrepreneurs by inculcating critical thinking, problem solving ability, ethical values and leadership skills. Institute provides vibrant environment for continuous learning by strengthening industrial collaboration for developing competent professionals.

ACCREDITATION AND RANKING

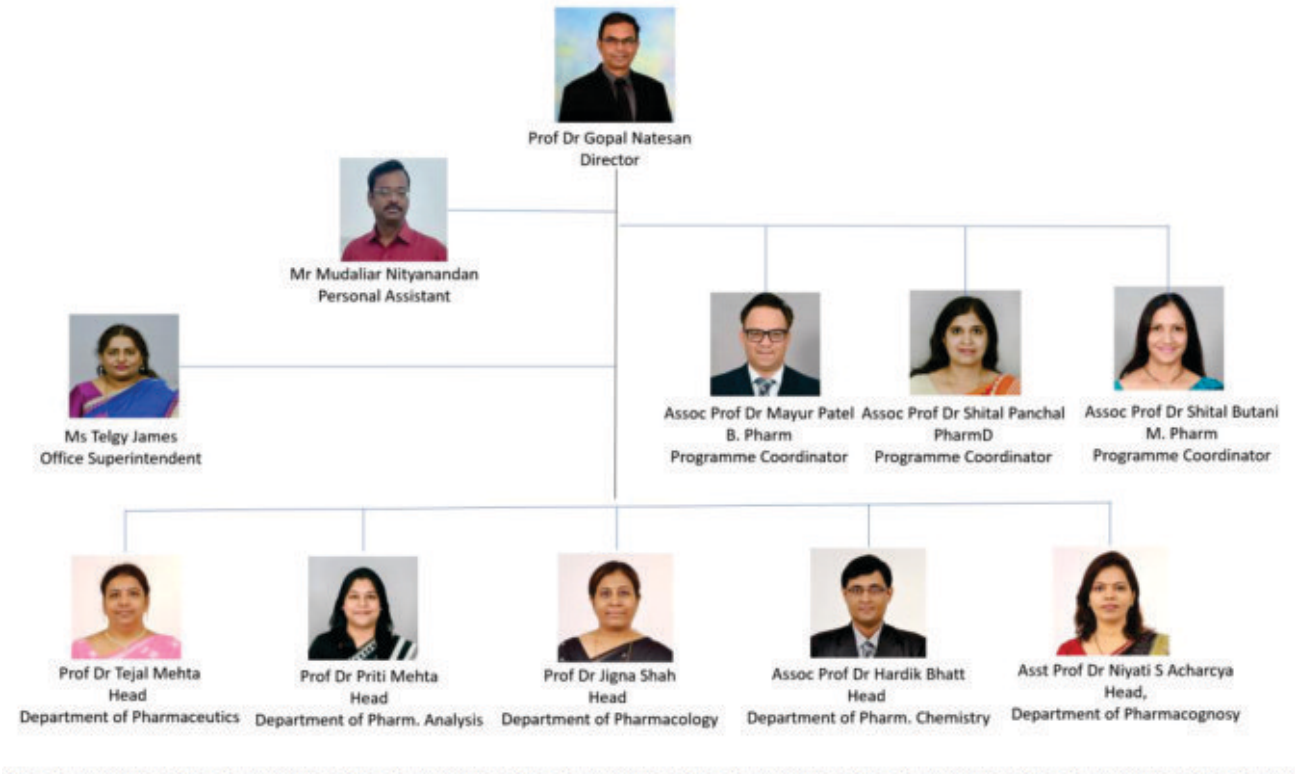
The Institute of Pharmacy, Nirma University is a constituent institutes undergo accreditation and ranking periodically, which stimulate the academic environment for promoting quality of teaching, learning, and research. This also encourages self-evaluation, accountability, autonomy, and innovations in higher education. The University is accredited with "A+" grade by National Assessment and Accreditation Council (NAAC) in its 3rd cycle

Institute has been ranked 32nd in India Ranking 2025 by Ministry of Human Resource Development, (MHRD), Government of India in its National Institutional Ranking Framework (NIRF). The B.Pharm. Programme has been re-accredited by National Board of Accreditation (NBA) for three years from the academic year 2022-2023

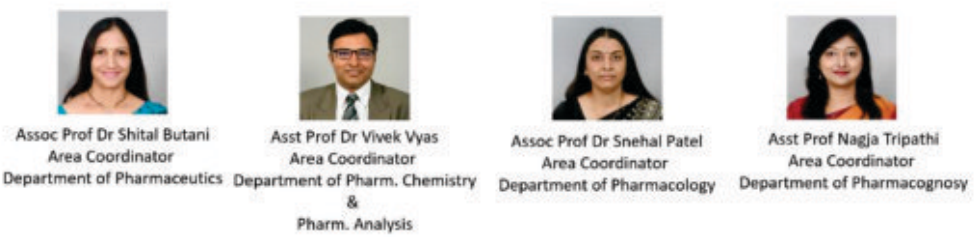
Institute of Pharmacy, Nirma University bagged the FIRST RANK amongst all Pharmacy Institutions of Gujarat state with FIVE STAR rating in Gujarat State Institutional Rating Framework (GSIRF) 2024 ratings by Knowledge Consortium of Gujarat, Dept. of Education, Government of Gujarat.

The University received the Centre of Excellence (CoE) status from the Government of Gujarat in January 2022 and was re-accredited in 2025 for 6 years.

INSTITUTE OF PHARMACY - ORGANISATION CHART



AREA COORDINATORS



IMPORTANT CONTACT DETAILS AT UNIVERSITY LEVEL

S. No.	Programme Management Staff	Designation	Department	email id	Ext. No.
1	Dr Ravindra Sen	Deputy Registrar (Academic)	Academic	dy_registrar.nu@nirmauni.ac.in	681
2	Dr Nilesh Patel	Deputy Registrar (Examination)	Examination	dy_registrar.exam@nirmauni.ac.in	698
3	Dr Bhavesh Parekh	Students Welfare Board	Student Welfare	studentwelfare@nirmauni.ac.in	312

IMPORTANT CONTACT DETAILS AT INSTITUTE OF PHARMACY

S. No.	Programme Management Staff	Designation	Department	email id	Ext. No.
1	Ms Telgy James	Office Superintendent	Administrative Office	os.ip@nirmauni.ac.in	714
2	Ms Pooja Pandey	Student Section	Administrative Office	sts.ip@nirmauni.ac.in	715
3	Mr Hashmukh Rathod	Examination Section	Administrative Office	hasmukh.rathod@nirmauni.ac.in	715
4	Ms Jigisha Patel	Student Section	Administrative Office	sts.ip@nirmauni.ac.in	715
5	Mr Mudaliar Nityanandan	Personal Assistant to Director	Administrative Office	nityanandan@nirmauni.ac.in	713
6	Dr Anshu Shrivastava	Assistant Professor	Cultural Coordinator, IPNU	anshu.srivastava@nirmauni.ac.in	-
7	Dr Richa Gupta	Assistant Professor	Cultural Coordinator, IPNU	richa.gupta@nirmauni.ac.in	718
8	Dr Vanrajsinh Thakor	Assistant Professor	Sports Coordinator, IPNU	vanrajsinh.thakor@nirmauni.ac.in	725
9	Dr. Tejas Dhameliya	Assistant Professor	NSS Coordinator, IPNU	tejasm.dhameliya@nirmauni.ac.in	729
10	Dr Udit Chaube	Assistant Professor	Attendance Coordinator	udit.chaube@nirmauni.ac.in	718

NETWORKING INITIATIVES AND COLLABORATIONS

Memoranda of Understanding (MoUs) create seamless opportunities for collaboration and interaction between the Institute of Pharmacy, Nirma University and other entities. These agreements facilitate the exchange of ideas, resources and expertise, fostering mutual growth and innovation. By establishing formal partnerships with reputed universities and organizations both nationally and internationally, MoUs encourage joint research projects, academic exchange and collaborative educational programs. Partnering with diverse institutions broadens the Institute's access to knowledge, resources and technological advancements, enriching the academic and research environment for students and faculty. Collaborative efforts under MoUs lead to significant advancements in pharmaceutical research, including the development of new drugs, innovative therapies and improved healthcare solutions. Additionally, these partnerships offer professional development opportunities through workshops, seminars, and conferences, keeping the Institute's members current with the latest trends in pharmacy. MoUs with industry leaders provide internships, training programs, and job placements for students, effectively bridging the gap between academia and industry requirements. The Institute's various MoUs with universities and organizations both within India and globally reflect its commitment to fostering an environment of excellence and innovation through strategic collaborations.

MoU with Foreign Universities/Organizations

- Binghamton University, New York, USA
- Massachusetts College of Pharmacy and Health Science - MCPHS University, Boston, USA
- University of Southern California, USA
- University of Turin, Torino, Italy
- Universiti Teknologi MARA, Malaysia
- Changwon National University, South Korea
- Plovdic University, Bulgaria
- Tirupati USA, LP.

MoU with Hospitals /Research Organizations

- Physical Research Laboratory (PRL), Ahmedabad
- Space Application Centre (ISRO), Ahmedabad
- Apollo Hospitals International Ltd, Ahmedabad
- KD Hospital, Ahmedabad
- SGVP Holistic Hospital, Ahmedabad
- EPIC Hospital, Ahmedabad
- Operant Pharmacy Federation, Pali, Rajasthan

MoU with Industries

- Cadila Pharmaceutical Research Centre, Ahmedabad
- Intas Pharmaceuticals Ltd., Ahmedabad
- Amanta Healthcare Ltd., Ahmedabad
- Finecure Pharmaceuticals Ltd., Ahmedabad
- Piramal Drug Development Services Ltd, Ahmedabad
- Novo Bliss Research Private Ltd., Ahmedabad
- West Coast Pharmaceutical Works Ltd., Ahmedabad
- Lexcru Water Industries Pvt. Ltd., Ahmedabad
- Evonik Pharma, Ahmedabad
- Sushen Medicaments, Ahmedabad
- PharmaLab India Pvt. Ltd., Ahmedabad
- BioDev Services Pvt. Ltd., Ahmedabad
- MIT-45 Inc., USA' in MoU with Industries

INDUSTRY PARTNERS / RECRUITERS

Institute of Pharmacy is honored to engage in collaborations with prominent organizations in the pharmaceutical, healthcare, and related sectors. Our valued industry partners significantly enhance our research, internships, and overall educational experience, driving innovation in the field.

- Alembic Pharmaceuticals Ltd.
- GSK Pharmaceuticals
- Amneal Pharmaceuticals
- Zydus Lifescience Ltd
- Macleods Pharmaceuticals Ltd
- Dr Reddy's Laboratories
- Sun Pharmaceuticals Ltd
- Finecure Pharmaceuticals Ltd
- Intas Pharmaceuticals Ltd
- Troikaa Pharmaceuticals Ltd.
- Torrent Pharmaceuticals Ltd
- Lupin Research Centre
- Novartis India Ltd.
- Piramal Healthcare Ltd
- APCER Lifesciences
- BioQuest Pharmaceuticals
- Emcure Pharmaceuticals Ltd
- HOF Pharmaceuticals Ltd
- Indegene Ltd.
- Biocon Ltd.
- Lambda Therapeutics Research
- Meteoric Biopharmaceuticals Ltd
- Molkem Chemicals Pvt Ltd
- Nestle India Ltd.
- Shaip
- Stivaph Healthcare Pvt Ltd
- Syngene International
- Sushen Medicamentos Pvt Ltd
- Nivea India
- Genpact

INTERNATIONAL RELATIONS OFFICE

International Collaborations

With advancements in communication technologies, affordable travel, and changing mindsets, globalization has significantly increased over the last decade. Universities can leverage this trend for mutual benefits through strategic partnerships. Collaborations with multinational companies also facilitate practical research, employment opportunities, and social engagement. The International Relations Office at Nirma University is dedicated to planning and executing global collaborations to enhance the quality of education, aligning with the dynamics of 21st-century learning for our students.

This includes establishing strategic partnerships with leading universities and research institutions worldwide to foster academic and research excellence, facilitating exchange programmes that offer students and faculty international exposure, cultural exchange, and diverse academic experiences, and collaborating on joint research projects with international partners to address global challenges and advance knowledge in various fields. Additionally, partnering with multinational companies provides students with international internships and employment opportunities, enhancing their global employability. The Office also focuses on organizing and participating in international workshops, seminars, and conferences to stay abreast of global trends and innovations in education and research, sharing technological resources and expertise with international partners to enhance research capabilities and educational resources, and collaborating with international accrediting bodies to ensure that the educational standards meet global benchmarks.

International Students Affairs

The International Relations Office is also dedicated to helping international students, faculty, and scholars achieve their academic, personal, and professional goals. This is accomplished through advising, facilitating visa processes, promoting cross-cultural opportunities, and offering services designed with international aspects in mind. The Office provides comprehensive support to ensure a smooth transition for international students and staff, addressing their unique needs and challenges.

Additionally, the International Relations Office works to integrate international students into the campus community by organizing cultural events, orientation programs, and social activities. These initiatives help foster a welcoming and inclusive environment, encouraging interaction and understanding between local and international members of the university.

Furthermore, the Office collaborates with academic departments to develop tailored academic support services, including language assistance, tutoring, and mentoring programs. By doing so, it ensures that international students can thrive academically and reach their full potential.

The International Relations Office also establishes networks with alumni worldwide, creating a global community that supports ongoing collaboration, networking, and career opportunities for graduates. This global alumni network provides valuable resources and connections for current students and recent graduates as they embark on their professional journeys.

Overall, the International Relations Office plays a crucial role in enhancing the internationalization of Nirma University, ensuring that all members of the university community benefit from a diverse and globally connected educational experience.

PLACEMENT CELL

The Placement Cell at Nirma University is dedicated to fostering strong, mutually beneficial relationships between industry and academia. By maintaining close ties with pharmaceutical industries, contract research organizations, and state and national R&D organizations, the Placement Cell aims to bridge the gap between industry needs and the academic output of the institute. This engagement not only enhances student placements and training but also contributes to curriculum improvement.

Each Institute within Nirma University has its own Placement Cell, managed by a dedicated Corporate Relations Manager. This team is supported by faculty placement coordinators and student coordinators, working under the guidance of the Director and in collaboration with departmental heads. The Placement Cell facilitates various activities, including student visits to industries, industrial training, project placements and campus interviews. The Placement Cell is dedicated to ensuring a seamless transition from academia to industry for students. To achieve this, Institute conducts training programmes aimed at enhancing students' soft skills, technical abilities, and overall employability. Furthermore, mock interviews are conducted to prepare students for real-world recruitment processes.

INFRASTRUCTURE AND AMENITIES

The placement cell is fully equipped with all modern amenities. The rooms are air-conditioned and equipped with multimedia and audio-visual equipment to facilitate effective interaction. Additionally, the following facilities are also available on campus:

- Dedicated access to Computer Lab for conducting online tests
- Air-conditioned halls for presentations
- Conference Rooms
- Interview Rooms
- Skype/Video Conferencing
- Internet/Wi-Fi access
- Guest House for Corporate Visitors
- Food Court
- ATM Facilities
- Health Club and Gym
- Health Care Centre
- Book Store
- Canteen
- Art Gallery
- Cricket Ground






INDUSTRIAL TRAINING AND PROJECTS

- The Placement Cell plays a pivotal role in securing industry training and project opportunities for students during the summer vacation. These experiences are crucial for their professional development and growth.
- Industrial training is an integral component of the curriculum, designed to prepare students for real-world challenges. Depending on the programme requirements, undergraduate and postgraduate students are placed in various industries for periods ranging from 4 to 24 weeks. During this time, they work under the supervision and guidance of industry professionals, with regular monitoring and evaluation conducted by the placement team.
- By integrating these elements, we ensure that our students are well-equipped with the skills and experience needed to thrive in their professional careers.

SALIENT FEATURES
OF THE INSTITUTE OF PHARMACY, NIRMA UNIVERSITY

Over the years, the Institute of Pharmacy at Nirma University has established itself as a premier institution, achieving excellence in various domains. Here's a detailed look at its salient features:

State-of-the-Art Infrastructure

Imagine stepping into a laboratory that feels like a high-tech playground. The Institute boasts well-equipped labs with the latest instruments and technology, ensuring students can conduct experiments and research with precision. The advanced research centres are hubs for innovation, where ground breaking discoveries are made. Additionally, the specialized classrooms are designed to enhance learning experiences with modern amenities like smart boards and interactive setups.

Expert Faculty

Think of the faculty as a team of superheroes in the field of pharmacy. Each faculty member is highly qualified, often with advanced degrees from prestigious institutions. They have received awards and patents for their contributions to science, ensuring they bring the latest knowledge to the classroom. Their publications in reputed journals signify their active involvement in cutting-edge research, providing students with insights from the frontlines of the industry.

Cutting-edge Research Opportunities

Imagine being part of a detective team solving mysteries of diseases and drug interactions. The Institute encourages interdisciplinary projects, allowing students to work at the intersection of various fields like chemistry, biology, and engineering. Collaborations with the industry and publications in reputed journals ensure that students contribute to real-world advancements and stay abreast of the latest developments.

Industry Programmes

Picture a bridge that connects the classroom to the corporate world. Through workshops, seminars, and networking events, students gain practical exposure, learning directly from industry experts. These programmes are designed to enhance career development, ensuring students are industry-ready by the time they graduate.

Placement and Internship Support

Think of this feature as a launchpad for careers. The Institute has a dedicated placement and internship support team that works tirelessly to connect students with top pharmaceutical

companies. With strong industry ties, students have numerous opportunities to secure internships and placements, ensuring a smooth transition from academic life to professional careers.

Entrepreneurship Support

Imagine a greenhouse nurturing young plants into flourishing trees. The Institute fosters a culture of innovation and enterprise, encouraging students to explore entrepreneurship. Through incubation support and start-up initiatives, students receive guidance and resources to turn their innovative ideas into successful businesses.

Global Collaborations

Envision a global classroom without walls. The Institute has partnerships with renowned international universities and research institutions, offering students opportunities for global exposure. Through exchange programmes and collaborative research, students can broaden their horizons and gain diverse perspectives.

Institute Advisory Committee

Think of this committee as a council of wise mentors. It comprises eminent personalities from academia and industry who guide the Institute's practices. They monitor and steer teaching-learning practices, research initiatives, and consultancy projects, ensuring the Institute remains at the forefront of academic excellence.

Interactive Learning

Imagine a classroom where learning feels like a fun, interactive game. The Institute utilizes modern tools, web resources, and Wi-Fi to create an engaging learning environment. This fosters active engagement and knowledge retention, making education more effective and enjoyable.

Mentoring and Guidance

Think of this as having a personal coach for your academic and personal development. Students receive constant mentoring on a one-to-one basis, focusing on career guidance, personal development, and motivation. This ensures that each student receives tailored support to achieve their full potential.

Communication and Exam Coaching

Picture a boot camp for communication skills and competitive exams. The Institute provides skills training and preparation for exams like GPAT, TOEFL, GRE, etc. This enhances students' overall employability and academic achievements, equipping them with the tools needed to excel in their careers.

Library Services

Imagine a treasure trove of knowledge at your fingertips. The Institute boasts an excellent, fully automated library with over 9990 volumes of books, 98 e-journals, and 23 print periodicals. With remote log-in facilities, students can access databases and reference materials from anywhere, supporting their academic and research needs.

Industry Exposure

Think of this as a sneak peek into the professional world. Through summer training and industry visits, students gain real-world insights and practical experience. This exposure is invaluable in understanding industry dynamics and applying theoretical knowledge to practical scenarios.

Campus Facilities

Picture a campus that feels like a small, self-sufficient town. The Institute offers transportation, a modern canteen, medical services, banking, and an in-house doctor with ambulance services. These facilities ensure that students have a comfortable and supportive environment for their studies.

Support for Needy Students

Imagine a library that lends not just books but also a helping hand. The book bank facility ensures that all students have equitable access to necessary study materials, supporting those in need.

Anti-Ragging Policy

Think of a safe haven where learning is the primary focus. The Institute has a strict anti-ragging policy, ensuring a safe and respectful learning environment for all students.

Recreational Facilities

Picture a campus where students can unwind and stay fit. With playgrounds, indoor games, and a gymnasium, the Institute encourages physical activities and overall well-being, ensuring students have a balanced lifestyle.

These features collectively make the Institute of Pharmacy at Nirma University a nurturing ground for future leaders in the field of pharmacy, combining academic rigor with practical experience and personal development.

SECTION B

Student Centric Information

ABOUT THE PROGRAMME

The Bachelor of Pharmacy programme at the Institute of Pharmacy, Nirma University is a four-year (eight semesters) undergraduate programme that has been designed to provide in-depth knowledge and practical experience in the field of pharmacy. The curriculum is designed to enhance the skills of the students in terms of knowledge, communication, patient care, healthcare system organisations, development of professional identity, critical thinking, and lifelong learning. The Institute has introduced an innovative approach to Outcome Based Education (OBE) in the curriculum, befitting the needs of the day. The core pharmacy subjects include Pharmaceutics, Pharmacology, Pharmaceutical Chemistry, Pharmaceutical Analysis, and Pharmacognosy. Each semester consists of at least 100 working days, including examinations, ensuring thorough coverage of the course material.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

PEO No.	Programme Educational Objectives
PEO1	To acquire effective knowledge of pharmaceutical sciences leading to hold key position in industry as well as health care sector.
PEO2	To attain practical training and technical expertise in pharmaceutical fields.
PEO3	To inculcate professional and ethical standards with effective interpersonal communication skills.
PEO4	To develop an interdisciplinary pharmaceutical approach towards society benefit, problem solving and lifelong learning.
PEO5	To adapt and implement best practices in the profession by enrichment of knowledge and skills in research and critical thinking.

PROGRAMME LEARNING OUTCOMES

No.	Programme Outcomes
PO1	**Pharmacy Knowledge:** Possess comprehensive and core knowledge associated with the profession of pharmaceutical sciences; behavioral, social, administrative pharmacy sciences; and clinical pharmacy and biomedical literature, drug action and patient centered care.
PO2	**Planning Abilities:** Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills in drug information services, pharmacovigilance and therapeutic drug monitoring.
PO3	**Problem analysis:** Utilize observational, analytical and critical thinking skills to solve the real-world problems based on evidences and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make responsible decisions related to pharmaceutical care.
PO4	**Modern tool usage:** Acquire and apply digital technologies and resources with an understanding of the strength and limitations in the field of pharmacy practice and health care sciences.
PO5	**Leadership skills:** Initiate and empower team building and inter-professional team based care to fulfill professional and societal needs when appropriate to facilitate improvement in health and well-being.
PO6	**Professional Identity:** Understand, analyze and communicate the altruism, integrity, trustworthiness, flexibility and respect of their professional roles in society (e.g., health care professionals, promoters of health, educators, managers, employers, employees).
PO7	**Pharmaceutical Ethics:** Uphold highest standards of ethical and legal codes of practice as per laws and regulations governing the profession while making decisions and taking responsibility for the outcomes associated with the decisions.
PO8	**Communication:** Communicate effectively and empathetically with the pharmacy community, patients, healthcare professionals and with society at large.
PO9	**The Pharmacist and society:** Develop and implement epidemiological and pharmacoeconomic studies to facilitate evidence-based approaches for treatment and societal health and wellness.
PO10	**Environment and sustainability:** Ability to develop sustainable solutions in health care, societal and environment context.
PO11	**Life-long learning:** Recognize the need for self-reflective, self-critical willingness for continuous personal and professional improvement through independent and life-long learning in the broadest context to drug therapy management and interpretation of data using relevant approaches.

COMPONENTS OF COURSES

The academic schedule of the courses may consist of one or more of the following components with their respective scope as described.

Lecture

Teaching learning sessions conducted through real and virtual classrooms with various multimedia aids and other forms of students learning engagements as per requirement of the course and approved by the Dean.

Tutorial

Supplementary to classroom teaching and as per Nirma University Tutorial Policy and as amended from time to time in accordance with PCI regulations.

Practical Work (LPW)

Supplementary to classroom teaching and professional preparation as per Practical Work Policy of the Institute and as amended from time to time.

Industrial Training

Industrial training is a phase of training wherein a student is expected to undergo training in pharmaceutical industry and acquire skills under the expert supervision to understand the functioning of pharmaceutical industry.

Project work

The B. Pharm. programme includes a project work component designed to enhance students' skills in data collection and reporting. This project is conducted under the supervision of a faculty member and must be approved by the Head of the Department or Head of the Institution.

Upon completion, the project is presented as both a written report and a presentation at the end of the eight semester. Assessment is conducted by both external and internal examiners. The project work encompasses defining the objectives, employing appropriate methodologies, analysing results, engaging in discussions and drawing conclusions. This comprehensive approach ensures students gain practical research experience and develop critical analytical skills essential for their professional growth.

EXAMINATION

The examination system in the B. Pharm. programme is designed to encourage systematic and continuous study among students. Continuous Evaluation (CE), laboratory work (PW) and project work are assessed regularly. Students are required to maintain regular attendance and complete all assignments and practicals to acceptable standards.

Each semester includes a final semester end examination (SEE) and a supplementary examination, with both written and practical (including oral) components. The maximum marks for each part of a course are specified in the Teaching and Examination Scheme.

To pass, a student must secure at least 50% marks separately in the theory examinations, including sessional marks, and at least 50% marks in each of the practical examinations, also including sessional marks. The Semester End Examination (SEE) covers the entire syllabus and is conducted at the end of each semester. For students who receive an F grade in a current semester, supplementary examinations (SPE) may be offered after the SEE under IR registration.

For detailed information on grades, passing standards, and related matters, refer to the Academic Rules and Regulations section in the programme booklet.

INSTITUTE OF PHARMACY, NIRMA UNIVERSITY

ACADEMIC CALENDAR

(July 2025 to December 2025) - AY 2025-26

B.Pharm Sem I	
Semester Commencement	06-11-2025
Induction Programme	06-11-2025 to 07-11-2025
Teaching Starts	10-11-2025
Sessional Examination (Theory)	05-01-2026 to 10-01-2026
Sessional Examination (Practical)	19-01-2026 to 24-01-2026
Semester Ends	07-03-2026
Semester End Examination (Theory)	09-03-2026 to 14-03-2026
Semester End Examination (Practical)	16-03-2026 to 21-03-2026
Commencement of Next Semester	23-03-2026

Holiday	
Christmas	25 December 2025 (Thursday)
Makar Sankranti	14 January 2026 (Wednesday)
Republic Day	26 January 2026 (Monday)
Maha Shivratri	15 February 2026 (Sunday)
Holi (Dhuleti)	04 March 2026 (Wednesday)
Eid ul-Fitr (Ramzan Eid)	20 March, 2026 (Friday)

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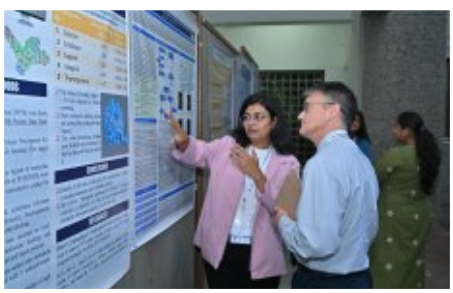
STUDENT ACTIVITIES

Orientation Programme

The Institute organizes a unique orientation programme of about one week for all new entrants in order to enhance familiarity, and to acclimatize the freshers to the academic and social environment of the campus. Various lectures on Prospects of Pharmacy Education, Time Management, Stress Management, Human Relations, Positive Attitude, Communication Skills, etc. are delivered by eminent speakers to the students. This programme enables the students and faculty to interact and understand each other. It also provides smooth transition from school life to a new environment of professional studies.

Co-curricular Activities

The Institute gives due importance to projects, industrial visits and training during academic breaks to support curricular work of the students. The students are motivated to present seminars on latest developments in the field of pharmaceutical sciences, which helps to enhance their library reading, scientific writing and presentation skills. The students have participated at various National and State Level competitions and have also won awards. The Institute also regularly organizes a National level Quiz "NIRMAQUEST". Extensive participation is received from institutions of the state as such a competition provides the students a platform to bring out their communication skills and general, factual and scientific knowledge. The Various carrier guidance seminars been regularly been organized for the students through the series of seminars. The students were encouraged to participate in the various co-curricular activities outside the campus also. Various industry visits used to be planned for the students for exploring them in the industry world.



Extra-Curricular Activities

The Institute organizes every year cultural festival "ROSTRUM", which are competitions of various events like drama, skits, dances, songs & pinnacle, where the students demonstrate their skills and the budding artists show their talents. "EUPHORIA" is a dedicated programme conducted for first year students to provide a platform to new students for participation in various extra-curricular activities. Sports events are also regularly organized every year. Celebrations of Independence Day and Republic Day are also organized. Pharmacist day Celebration, Foundation Day & Teachers Day celebration are other events which are routinely planned at the institute level. Inter-institute competitions are also being organized and students of Institute of Pharmacy participate in NUZEAL and one act play competition at University level. Students are also participating in various competitions outside Nirma University such as the west zone level youth festival organized by AIU in drama, music, art and craft and literary events.

Sports

At the Institute of Pharmacy, Nirma University, we prioritize the all-round development of our Pharm.D. students by promoting physical fitness and fostering qualities such as leadership, teamwork, and sportsmanship through a variety of athletic and non-athletic activities. Throughout the year, students have the opportunity to participate in numerous sports competitions, which include:

- Running Events: 100m, 200m, 400m, 800m, and 1500m races.
- Throwing Events: Shotput, discus throw, and javelin throw.
- Jumping Events: Long jump and triple jump.
- Indoor Games: Chess, carrom, and table tennis.
- Racquet Sports: Lawn tennis and badminton.
- Traditional Indian Sports: Kabaddi and kho-kho.
- Team Sports: Cricket, basketball, football, and volleyball.

These activities are designed not only to enhance physical fitness but also to inculcate a sense of camaraderie and competitive spirit among students. By participating in these diverse sports, students develop essential life skills that complement their academic achievements, contributing to their holistic growth and preparation for future challenges. Student Welfare Board of Nirma University organises annual sports competition and Winners are encouraged to participate in Inter-University sports tournaments and youth festivals. Additionally, some adventure activities like mountaineering camps at Himalaya, Desert Adventure Camp, etc. are also organised.

Extension Activities

Institute of Pharmacy, Nirma University aims at developing not only good professionals but also making socially responsible individuals. The social extenstion activities make the students aware of societal needs and through this the students are actively involved in different activities such as cleanliness drive, plantation drive, old age home visit, etc. To create awareness among the students, the Institute also organises expert lectures and field visits related to this area.

The National Service Scheme (NSS) is an Indian government-sponsored public service programme conducted by the Ministry of Youth Affairs and Sports. Institute of Pharmacy has vibrant NSS team members who regularly contribute to the well-being of Jaspur village, adopted by the institute. There are two types of activities: Regular Activities [running throughout the year] and Annual Special Camp [one-week residential camp]. All the NSS volunteers who have served NSS for at least two years and performed 240 hours of work under the NSS programme are entitled to a certificate from the university.

STUDENT ASSOCIATIONS

INSTITUTE OF PHARMACY NIRMA UNIVERSITY ALUMNI ASSOCIATION (IPNUAA)

IPNUAA fosters robust networking with alumni through a diverse array of initiatives. These include engaging alumni as guest speakers, visiting faculty, members of the Institutional Quality Assurance Cell (IQAC-I), and members in the Board of Studies. Moreover, alumni are invited to share their expertise and insights with current students through technical talks and career guidance sessions, enhancing the students' access to valuable knowledge and professional connections. Our alumni members residing abroad actively contribute by conducting online webinars. Additionally, IPNUAA hosts regular events such as the annual alumni meet and sector-specific networking gatherings. These occasions provide an invaluable platform for final year students to interact with alumni, facilitating meaningful connections and enhancing career prospects.

NIRMA INSTITUTE OF PHARMACY STUDENTS' ASSOCIATION (NIPSA)

Nirma Institute of Pharmacy Students' Association (NIPSA) empower students to organize co-curricular & extra-curricular programmes, guest lectures, and talent events independently which develops team work, managerial and leadership skills in the students. Various Clubs like Entrepreneurship Club, Design Club, Literature Club, Drama Club, Photography Club, etc. provide overall development of the students of the Institute.

OTHER ACTIVITIES

Nirma Quest

Nirma Quest, an annual state-level quiz competition for pharmacy and other disciplines is organized by the Institute of Pharmacy at Nirma University. The competition features various rounds, including passable questions, non-passable questions, and rapid-fire questions, culminating in buzzer rounds for audio, video, pictogram, and mega memory in the final round. This results in a captivating competition, with winners receiving certificates and cash prizes.

Ramzat

Ras-Garba is organized after Navratri festival. All students, staff members, faculty members, HODs and HOIs of constituent institutes of Nirma University and officers of the University join this festival. The winners in different categories are awarded trophies.

Celebration of National Days

On the occasion of Independence Day, the University organises the flag hoisting ceremony at its campus. Renowned dignitaries from the various walks of life are invited as the Chief Guest for the occasion. A patriotic song competition is conducted on this occasion as a mark of respect for our freedom fighters. On the occasion of the Republic Day, the University conducts an array of events, including the flag hoisting ceremony where dignitaries are invited as the Chief Guest, plus an exhibition of photographs shot by university students is opened for all, to name a few.

International Day of Yoga

The United Nations General Assembly declared 21st June as International Day of Yoga. To mark the occasion, the Government of India celebrates this day in a befitting manner all over the country. In the same vein, the University celebrates International Day of Yoga in its campus every year. All University officers, teaching and non-teaching staff, perform yoga under a trainer in the morning.

STUDENTS' WELFARE BOARD AT NIRMA UNIVERSITY

At the Nirma University, the Students' Welfare Board (SWB) is dedicated to fostering the social, cultural, and spiritual growth of students through a variety of activities throughout the year. These initiatives are designed to promote holistic development and ensure a vibrant campus life.

The annual sports competitions include a wide range of events such as cricket, football, volleyball, basketball, kho-kho, kabaddi, lawn tennis, badminton, table tennis, carom, chess, and athletics. These competitions are held at both the institute and inter-institute levels, encouraging students to engage in physical activities and develop team spirit. Additionally, adventure activities like mountaineering camps in the Himalayas and desert adventure camps are organized periodically to instill a sense of adventure and resilience among students.

Cultural activities play a pivotal role in the overall development of students, helping them acquire essential soft skills such as resource management, public speaking, teamwork, leadership, and ethics. The university is equipped with state-of-the-art infrastructure to support a variety of cultural activities, including musical performances, dance, theatre, painting, and fashion shows. The most anticipated cultural event, NUZEAL, is organized annually, showcasing the diverse talents of students.

The Students' Welfare Board also addresses important social issues through cultural events, covering topics such as gender equality, exploitation in education, the importance of morals and ethics, patriotism, communal harmony, global citizenship, and environmental issues. Moreover, the university actively encourages student participation in various state and national level cultural activities held at different institutions and universities across the country.

A highlight of the cultural calendar is the annual Ras-Garba Mahotsav (RAMZAT), celebrated on the first Saturday after Navratri. This event brings together students and faculty to enjoy Garba, the traditional dance form of Gujarat, fostering a sense of community and cultural pride.

Overall, the Students' Welfare Board ensures a well-rounded and enriching experience for all students, contributing significantly to their personal and professional development.

AWARD OF MEDALS

Nirma University Gold Medals

At Nirma University, the prestigious Gold Medals are instituted to recognize outstanding scholastic performance. These medals are awarded to students demonstrating exceptional academic achievements across various disciplines under the university. The awards are presented during the Convocation ceremony of the respective degree program.

Criteria for the Award:

- *One Gold Medal is awarded to the student who secures the first position in the B.Pharm. program.*
- *The overall Cumulative Performance Index (CPI) at the end of eight semester of the programme is considered..*

Norms for awarding medals include:

- *Passing and earning all the credits for all courses in all years of the programme on the first attempt within the stipulated time frame.*
- *Securing the highest CPI*
- *Having no punitive actions taken against them for using unfair means during examinations (except warnings) or for any indiscipline behaviour resulting in major penalties.*

These criteria ensure that the Gold Medal is awarded to students who not only excel academically but also demonstrate integrity and discipline throughout their academic journey.

Award of NERF (Nirma Education and Research Foundation) Medals

Every year, NERF medals are awarded to the students of different Institute for their scholastic performance. These medals are awarded to the student who perform well in their respective years and reached the top position. To achieve these medals, the students are required to meet certain norms as prescribed by the University which is subject to amendment by the competent authority from time. In addition to this, students are also recognized with awards and certificates for their skills in curricular, co-curricular and extra-curricular activities. These medals and certificates are normally given during the Foundation Day Celebrations of the Institute.

Book Bank Services to students

The Library Resource Center at the Institute of Pharmacy, Nirma University, offers a valuable Book Bank Service to support students. This service is specifically designed to assist needy meritorious students by providing them with essential textbooks and reference materials. The primary aim is to ensure that all students have equal access to the necessary academic resources, thereby promoting educational equity and academic excellence. Through this initiative, the institute strives to reduce financial burdens and enhance the learning experience, enabling students to achieve their full potential without the constraint of resource availability.

GUIDELINES FOR SHOWING THE ASSESSED ANSWER BOOKS

- The process of showing the assessed answer books after the declaration of results should be completed within the first week of commencement of the next semester as per the announcement of Academic Calendar or in the first week after the declaration of the result whichever is later.
- Examination Section will prepare a notice of showing the assessed answer books to the student and same notice will be put on notice board for the information of the students.
- HOI concerned will appoint the Convener from the Institute of Pharmacy Examination Committee.
- Until the said process gets over, the custody of the assessed answer books will remain with the Institute under the supervision of Coordinator of Examination department at the Institute.
- Modality of showing the assessed answer books in the classroom to the interested students should be decided by the concerned HOIs.
- The appointed Convener from the Examination Committee will take due care while showing the assessed answer books to the students to avoid any Unfair-means used or answer book does not lost for which the person who is assigned the job will take care with the help of Assistant / Laboratory Assistant as a supporting staff can be provided by HOI.
- The re-evaluation is permitted in the Semester End Examination / Supplementary Examination for Theory courses as per university norms on chargeable basis.
- According to the guidelines set by the Head of Institute (HOI), the Coordinator of the Examination Department, assisted by the supporting staff, will issue sealed packets of assessed answer books to the designated Convener. These individuals will show the assessed answer books to interested students. An issue register will be maintained, recording the number of assessed answer books distributed and received. Both the issuing and receiving authorities will sign the register to confirm the transaction.
- When showing assessed answer books to students, if any errors are found—such as mistakes in totalling marks, transferring marks from inside pages to the front page, or unassessed answers—the person responsible should report these issues using the prescribed format. The identified answer books, along with the remaining assessed answer books, should be returned in a sealed packet to the Coordinator of the Examination Department.
- All cases of correction should be sent to the Dy. Registrar (Examination) in University in sealed cover on the same day for further process.

SECTION C

Teaching and Examination Scheme

TEACHING SCHEME:

The Teaching and Examination Scheme at the Institute of Pharmacy, Nirma University, outlines the structure and methodology for delivering the B. Pharm. program. This scheme encompasses various courses, the distribution of teaching hours, course components, examination components, their weightages, and the credits allotted to each course. The detailed teaching schemes for each academic year, including the courses offered, are approved periodically by the Academic Council based on the recommendations of the Faculty of Pharmacy.

EXAMINATION SCHEME:

Student assessment in the B. Pharm. programme is comprehensive, involving multiple components:

A) Sessional Examination (SE):

There is one written sessional examination in the middle of each semester.

B) Practical Examination (PRE):

This includes various subcomponents as prescribed by the Pharmacy Council of India, such as Synopsis, Major and Minor Experiments, and Viva Voce. Practical work assignments are continuously and periodically assessed throughout the year.

C) Semester End Examination (SEE):

It is written exam, conducted at the end of every semester, covering the entire syllabus of the course. The teaching and examination schemes for each course in the B. Pharm. programme are periodically approved by the Academic Council on the recommendation of the Faculty of Pharmacy. The assessment criteria for SE and PRE differ depending on the nature and structure of the respective courses. The detailed assessment schemes for SE, PRE and SEE are finalized and notified in the course outline by the Dean, in accordance with the assessment policy approved by the Academic Council.

This structured approach ensures a systematic and thorough evaluation of students' knowledge and skills, promoting continuous learning and academic excellence.

Teaching and Examination Scheme (Semester Wise)

The Academic Council shall approve the teaching and examination scheme, syllabus and all relevant academic matters including modifications, addition, deletion etc., on the recommendation of Faculty of Pharmacy.

B. Pharm. Semester I

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP101T	Human Anatomy and Physiology I-Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP102T	Pharmaceutical Analysis I – Theory	10	15	1 Hr	25	75	3 Hr	100
3	BP103T	Pharmaceutics - I Theory	10	15	1 Hr	25	75	3 Hr	100
4	BP104T	Pharmaceutical Inorganic Chemistry-Theory	10	15	1 Hr	25	75	3 Hr	100
5	BP105T	Communication Skills- Theory*	5	10	1 Hr	15	35	1.5 Hr	50
6	BP106RBT/ BP106RMT	Remedial Biology / Remedial Mathematics- Theory*	5	10	1 Hr	15	35	1.5 Hr	50
7	BP107P	Human Anatomy and Physiology - Practical	5	10	4 Hr	15	35	4 Hr	50
8	BP108P	Pharmaceutical Analysis I - Practical	5	10	4 Hr	15	35	4 Hr	50
9	BP109P	Pharmaceutics - I Practical	5	10	4 Hr	15	35	4 Hr	50
10	BP110P	Pharmaceutical Inorganic Chemistry - Practical	5	10	4 Hr	15	35	4 Hr	50
11	BP111P	Communication Skills- Practical*	5	5	2 Hr	10	15	2 Hr	25
12	BP112RBP	Remedial Biology - Practical*	5	5	2 Hr	10	15	2 Hr	25
		Total	**70/ 75$/ 80#**	**115/ 125$/ 130#**	**23/ 24$/ 26# Hr**	**185/ 200$/ 210#**	**490/ 525$/ 540#**	**31.5/ 33$/ 35# Hr**	**675/ 725$/ 750#**

 # Applicable ONLY for the students who have studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology (RB) course.

$ Applicable ONLY for the students who have studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics (RM) course.

** Non University Examination (NUE) - The subject experts at college level shall conduct examinations*

L: Lectures, P/T: Practicals/Tutorial, C: Credits *SEE: Semester End Examination*

LPW: Laboratory / Project Work *CE: Continuous Evaluation*

B. Pharm. Semester II

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP201T	Human Anatomy and Physiology II – Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP207P	Human Anatomy and Physiology II – Practical	5	10	4 Hr	15	35	4 Hr	50
3	BP202T	Pharmaceutical Organic Chemistry I – Theory	10	15	1 Hr	25	75	3 Hr	100
4	BP208P	Pharmaceutical Organic Chemistry I– Practical	5	10	4 Hr	15	35	4 Hr	50
5	BP205T	Computer Applications in Pharmacy – Theory *	10	15	1 Hr	25	50	2 Hr	75
6	BP210P	Computer Applications in Pharmacy – Practical*	5	5	2 Hr	10	15	2 Hr	25
7	BP206T	Environmental Sciences – Theory *	10	15	1 Hr	25	50	2 Hr	75
8	BP211T	Pharmaceutical Engineering – Theory	10	15	1 Hr	25	75	3 Hr	100
9	BP212P	Pharmaceutical Engineering - Practical	5	10	4 Hr	15	35	4 Hr	50
		Total	**70**	**110**	**19 Hr**	**180**	**445**	**27 Hr**	**625**

** Non-University Examination (NUE) - The subject experts at college level shall conduct examinations*

L: Lectures, P/T: Practicals/Tutorial, C: Credits
LPW: Laboratory / Project Work
SEE: Semester End Examination
CE: Continuous Evaluation

B. Pharm. Semester III

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP301T	Pharmaceutical Organic Chemistry II – Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP305P	Pharmaceutical Organic Chemistry II – Practical	5	10	4 Hr	15	35	4 Hr	50
3	BP302T	Physical Pharmaceutics I – Theory	10	15	1 Hr	25	75	3 Hr	100
4	BP306P	Physical Pharmaceutics I– Practical	5	10	4 Hr	15	35	4 Hr	50
5	BP303T	Pharmaceutical Microbiology – Theory	10	15	1 Hr	25	75	3 Hr	100
6	BP307P	Pharmaceutical Microbiology – Practical	5	10	4 Hr	15	35	4 Hr	50
5	BP309T	Biochemistry – Theory	10	15	1 Hr	25	75	3 Hr	100
6	BP310P	Biochemistry – Practical	5	10	4 Hr	15	35	4 Hr	50
7	BP311T	Pathophysiology – Theory	10	15	1 Hr	25	75	3 Hr	100
		Total	**15**	**25**	**20 Hr**	**40**	**110**	**28 Hr**	**150**

L: Lectures, P/T: Practicals/Tutorial, C: Credits
LPW: Laboratory / Project Work
SEE: Semester End Examination
CE: Continuous Evaluation

B. Pharm. Semester IV

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP401T	Pharmaceutical Organic Chemistry III – Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP402T	Medicinal Chemistry I – Theory	10	15	1 Hr	25	75	3 Hr	100
3	BP406P	Medicinal Chemistry I – Practical	5	10	4 Hr	15	35	4 Hr	50
4	BP403T	Physical Pharmaceutics II – Theory	10	15	1 Hr	25	75	3 Hr	100
5	BP407P	Physical Pharmaceutics II – Practical	5	10	4 Hr	15	35	4 Hr	50
6	BP404T	Pharmacology I – Theory	10	15	1 Hr	25	75	3 Hr	100
7	BP408P	Pharmacology I - Practical	5	10	4 Hr	15	35	4 Hr	50
8	BP405T	Pharmacognosy and Phytochemistry I - Theory	10	15	1 Hr	25	75	3 Hr	100
9	BP409P	Pharmacognosy and Phytochemistry I - Practical	5	10	4 Hr	15	35	4 Hr	50
		Total	**70**	**115**	**21 Hr**	**185**	**515**	**31 Hr**	**700**

L: Lectures, P/T: Practicals/Tutorial, C: Credits
LPW: Laboratory / Project Work
SEE: Semester End Examination
CE: Continuous Evaluation

B. Pharm. Semester V

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP501T	Medicinal Chemistry II – Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP502T	Industrial Pharmacy I – Theory	10	15	1 Hr	25	75	3 Hr	100
3	BP506P	Industrial Pharmacy I– Practical	5	10	4 Hr	15	35	4 Hr	50
4	BP503T	Pharmacology II – Theory	10	15	1 Hr	25	75	3 Hr	100
5	BP507P	Pharmacology II – Practical	5	10	4 Hr	15	35	4 Hr	50
6	BP504T	Pharmacognosy and Phytochemistry II – Theory	10	15	1 Hr	25	75	3 Hr	100
7	BP508P	Pharmacognosy and Phytochemistry II - Practical	5	10	4 Hr	15	35	4 Hr	50
8	BP505T	Pharmaceutical Jurisprudence - Theory	10	15	1 Hr	25	75	3 Hr	100
		Total	**65**	**105**	**17 Hr**	**170**	**480**	**27 Hr**	**650**

L: Lectures, P/T: Practicals/Tutorial, C: Credits
LPW: Laboratory / Project Work
SEE: Semester End Examination
CE: Continuous Evaluation

B. Pharm. Semester VI

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP601T	Medicinal Chemistry III – Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP607P	Medicinal Chemistry III – Practical	5	10	4 Hr	15	35	4 Hr	50
3	BP602T	Pharmacology III – Theory	10	15	1 Hr	25	75	3 Hr	100
4	BP608P	Pharmacology III – Practical	5	10	4 Hr	15	35	4 Hr	50
5	BP603T	Herbal Drug Technology - Theory	10	15	1 Hr	25	75	3 Hr	100
6	BP609P	Herbal Drug Technology - Practical	5	10	4 Hr	15	35	4 Hr	50
7	BP604T	Biopharmaceutics and Pharmacokinetics - Theory	10	15	1 Hr	25	75	3 Hr	100
8	BP605T	Pharmaceutical Biotechnology - Theory	10	15	1 Hr	25	75	3 Hr	100
9	BP606T	Quality Assurance - Theory	10	15	1 Hr	25	75	3 Hr	100
		Total	**75**	**120**	**18 Hr**	**195**	**555**	**30 Hr**	**750**

L: Lectures, P/T: Practicals/Tutorial, C: Credits
LPW: Laboratory / Project Work
SEE: Semester End Examination
CE: Continuous Evaluation

B. Pharm. Semester VII

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP701T	Instrumental Methods of Analysis - Theory	10	15	1 Hr	25	75	3 Hr	100
2	BP702T	Industrial Pharmacy – Theory	10	15	1 Hr	25	75	3 Hr	100
3	BP703T	Pharmacy Practice – Theory	10	15	1 Hr	25	75	3 Hr	100
4	BP704T	Novel Drug Delivery System – Theory	10	15	1 Hr	25	75	3 Hr	100
5	BP705 P	Instrumental Methods of Analysis - Practical	5	10	4 Hr	15	35	4 Hr	50
6	BP706 PS	Practice School*	25	-	-	25	125	5 Hr	150
7	BPVAC707T	Soft Skills and Personality Development**	10	-	-	10	-	-	-
		Total	**80**	**70**	**8 Hr**	**150**	**460**	**21 Hr**	**600**

**Non-University Examination*

*** Value Added Course*

L: Lectures, P/T: Practicals/Tutorial, C: Credits

LPW: Laboratory / Project Work

SEE: Semester End Examination

CE: Continuous Evaluation

B. Pharm. Semester VIII

Sr. No.	Course Code	Course Title	Internal Assessment				Semester End Examination		
			Sessional Exams						
			Continuous Mode	Marks	Duration	Total	Marks	Duration	Total Marks
1	BP801T	Biostatistics and Research Methodology - Theory	10	15	1 Hr	25	75	3 Hrs	100
2	BP802T	Social and Preventive Pharmacy - Theory	10	15	1 Hr	25	75	3 Hrs	100
3	BP803ET	Pharmaceutical Marketing – Theory	10+10= 20	15+15 =30	1+1 =2 Hr	25+25 =50	75+75 =150	3+3 =6 Hr	100+ 100 =200
4	BP804ET	Pharmaceutical Regulatory Science - Theory							
5	BP805ET	Pharmacovigilance – Theory							
6	BP806ET	Quality Control and Standardization of Herbals – Theory							
7	BP807ET	Computer Aided Drug Design – Theory							
8	BP808ET	Cell and Molecular Biology – Theory							
9	BP809ET	Cosmetic Science – Theory							
10	BP810ET	Experimental Pharmacology – Theory							
11	BP811ET	Advanced Instrumentation Techniques – Theory							
12	BP812ET	Dietary Supplements and Nutraceuticals – Theory							
13	BP813ET	Pharmaceutical Product Development – Theory							
14	BP812PW	Project Work	-	-	-	-	150	4 Hrs	150
15	UEIP*	--	10*	15*	1* Hr	25*	75*	3* Hrs	100*
		Total	**40+ 10***	**60+ 15***	**4+ 1*Hr**	**100+ 25***	**450+ 75***	**16+ 3* Hr**	**550+ 100***

L: Lectures, P/T: Practicals/Tutorial, C: Credits
LPW: Laboratory / Project Work
SEE: Semester End Examination
CE: Continuous Evaluation

**Additional credit*

SECTION D

Academic Rules and Examination Regualtions

ACADEMIC RULES AND REGULATIONS

Definitions in these Regulations, unless the context otherwise requires:

PROGRAMME	B.Pharm. (Bachelor of Pharmacy)
COURSE	One of the constituent subject of the Programme
SEMESTER	Duration for studying the courses offered in odd or even terms.
TERM	A portion of an academic year, normally coinciding with a semester. The words "Term" and "Semester" are generally used synonymously.
REGISTRATION	Procedure for registering the course in the semester.
LETTER GRADE	A letter associated with a particular performance level of the student. A qualitative meaning and a numerical index are attached to each grade. O to D are Passing grades, F and Abs – Fail
CREDIT	A numerical figure associated with a course. On passing the course, the student earns this "credit"
GRANTING A TERM	This expression is used to indicate whether the in-semester performance of the student is up to acceptable standards. GT – Term granted, NT – Term not granted

UNIVERSITY EXAMINATION COURSES (UE)

The Semester End Examination of UE will be taken by the University.

NON UNIVERSITY EXAMINATION COURSES (NUE)

The Semester End Examination of NUE will be taken at Institute level only. The subject experts at Institute level shall conduct examinations and the marks/grades shall be submitted to the university.

DURATION FOR COMPLETION OF THE PROGRAMME

The duration for the completion of the programme shall be fixed as double the actual duration of the programme and the students have to pass within the said period, otherwise they have to get fresh Registration.

REGULAR APPROVAL

If a student is unable to attend the institute or appear in an examination on account of unavoidable reasons like illness, accident or unforeseen circumstances, prior / prompt intimation and request to HOI/Director is necessary for seeking approval for the absence. The approval of HOI/Director so obtained will be referred as Regular Approval.

SHORT FORMS

Institute	Institute of Pharmacy
Director	Director of Institute of Pharmacy
HOI	Head of the Institute
Faculty	Faculty of Pharmacy
The Dean	The Dean, Faculty of Pharmacy
HoD	Head of concerned Department
Appeal Committee	Appeal Committee consisting of Director/HOI, Dean and Two Senior Faculty Members nominated by Director/HOI
IR	Initial Registration
RS	Repeat Registration for Studying all components of a course
RES	Re - examination Registration for SEE component of a theory course
RL	Repeat Registration for studying all components of a practical course
REL	Re - examination Registration for SEE component of a practical course
CM	Continuous Mode
LPW	Laboratory/Project work
SE	Semester End Examination
SPE	Supplementary Examination
UE	University Examination Course
NUE	Non-University Examination Course

UG (B.PHARM.) PROGRAMME

The Under Graduate Degree Programme in Pharmacy, leading to the degree of B. Pharm., is offered by Institute of Pharmacy. The Programme is full time of four years duration and is approved by Nirma University.

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, New Delhi.

Medium of instruction and examination shall be in English.

Working days in each semester

Each semester shall consist of not less than 100 working days including examinations. 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.

ELIGIBILITY FOR ADMISSION

Eligibility Criteria for Candidates seeking admission in the First Year B. Pharm. Programme under Nirma University are as follows:

A. The students seeking admission in the 1st year of Degree Programme leading to Bachelor of Pharmacy (B.Pharm.) shall have passed the Qualifying Examination with minimum eligibility criteria of percentage of marks in the subjects as prescribed by the Govt. of Gujarat from time to time.

B. The following rules will be applicable to the Diploma holders in Pharmacy joining the B. Pharm. course through lateral entry to the III semester:

- The students seeking admission to the Bachelor of Pharmacy Programme after Diploma or the examination considered equivalent thereto by Nirma University will register for Semester III, subject to the condition that such students will pass following courses as pre-requisites. Cases of students who do not still pass these course/s will be referred to the Appeal Committee. Its decision in such cases will be final.

- Such students shall take up additional remedial courses of 'Communication Skills' (Theory and Practical) and 'Computer Applications in Pharmacy' (Theory and Practical) equivalent to 3 and 4 credit points respectively, a total of 7 credit points to attain 59 credit points, the maximum of I and II semesters.

Determination of merits of the admission:

The admission to both the above category (A) and (B) shall be given on merit by adopting the methods as prescribed by Pharmacy Council of India/ Govt. of Gujarat from time to time.

CATEGORIES OF COURSES

The following categories of courses are offered in the programme.

Credit Courses

These are compulsory courses, i.e., (i) University Examination Courses, and (ii) Non-University Examination Courses. They are included in the schedules of various semesters. Credits earned for these courses will be considered for evaluating the academic performance levels of the student.

Supplementary Courses

These are compulsory courses. They are not included in the schedules of the semesters, but are shown as additional courses, wherever applicable. No credits are assigned to these courses. The student shall have to pass a supplementary course(s) as per mentioned regulations. Failure to satisfy this criterion at any stage will disqualify the student from registering in any higher semester. Such students can appeal to the Appeal Committee. The Committee may grant an extension upto one additional attempt in genuine cases.

Elective Courses

These are credit courses. The student has to select from a large number of courses. Credits earned for these courses will be considered for evaluating the academic performance levels of the student. They will be separately notified. The student shall have to pass an elective course(s) as per mentioned regulations. Failure to satisfy this criterion at any stage will disqualify the student from registering in any higher semester. Such students can appeal to the Appeal Committee. The Committee may grant an extension upto one additional attempt in genuine cases.

COMPONENTS OF A COURSE

The academic schedule of the courses may consist of one or more of the following components with their respective scope as described:

Theory Courses

LECTURES (LECT) - Teaching learning processes conducted in real and virtual classrooms with various multimedia aids, etc.

TUTORIAL (TUT) - Supplementary to classroom teaching. It consists of one or more of the following teaching strategies. Each strategy will form a UNIT.

Self Study Exercises, Tests, Synopsis, Quizzes, Objective Questions, Viva, Case Study Analysis, Seminars, etc.

Practical Courses

LABORATORY / PROJECT WORK (LPW) -This component consists of one or more of the following practical exercises. Each set of practical exercises will form a UNIT. Laboratory Experiments and their reports, Viva, Synopsis, Industrial / Professional Training, Analysis, Design, Research Problems, etc.

CREDIT ASSIGNMENT

In the Credit Based Semester System, certain quantum of academic work viz. theory classes, tutorial hours, 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.

Theory and Practical courses

Courses are broadly classified as Theory and Practical. Theory courses consist of lecture (L) and /or tutorial (T) hours, and Practical (P) courses consist of hours spent in the laboratory. Credits (C) for a course is dependent on the number of hours of instruction per week in that course, and is obtained by using a multiplier of one (1) for lecture and tutorial hours, and a multiplier of half (1/2) for practical (laboratory) hours. Thus, for example, a theory course having three lectures and one tutorial per week throughout the semester carries a credit of 4. Similarly, a practical having four laboratory hours per week throughout semester carries a credit of 2.

Minimum credit requirements

The minimum credit points required for award of a B. Pharm. degree is 208. These credits are divided into Theory courses, Tutorials, Practical, Practice School and Project over the duration of eight semesters. The credits are distributed semester-wise as shown as under:

Semester wise credits distribution:

Semester	Credit Points
I	27/29$/30#
II	29
III	26
IV	28
V	26
VI	26
VII	24
VIII	22
Extracurricular/ Co-curricular activities	01*
Total credit points for the programme	209 / 211$ / 212#

* The credit points assigned for extracurricular and or co-curricular activities shall be given by the Director/HOI of the colleges on the recommendation of the committee constituted by the Director/HOI from time to time and the same shall be submitted to the University.

$ Applicable ONLY for the students studied Physics / Chemistry / Botany / Zoology at HSC and appearing for Remedial Mathematics course.

Applicable ONLY for the students studied Mathematics / Physics / Chemistry at HSC and appearing for Remedial Biology course.

Courses generally progress in sequences, building competencies and their positioning indicates certain 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 get 52 credit points transferred from their D. Pharm. programme. Such students shall take up additional remedial courses of 'Communication Skills' (Theory and Practical) and 'Computer Applications in Pharmacy' (Theory and Practical) equivalent to 3 and 4 credit points respectively, a total of 7 credit points, to attain 59 credit points of semester I and II.

Academic work

A regular record of attendance both in Theory and Practical shall be maintained by the teaching staff of respective courses.

Course of study

The course of study for B. Pharm shall include Semester Wise Theory & Practical as approved by the Academic Council from time to time.

EXAMINATIONS RULES AND REGULATIONS

For assessment of the course, each component corresponds to certain examination/s. These examinations are as follows.

THEORY COURSES	--	Semester End Examination - Theory Internal Assessment (includes continuous mode and sessional exams)
PRACTICAL COURSES	--	Semester End Examination – Practical Internal Assessment (includes continuous mode and sessional exams)

PROGRAMME COMMITTEE, COURSE COORDINATOR & FACULTY ADVISOR

Programme Committee:

- The B. Pharm. programme shall have a Programme Committee constituted by the Head of the institution in consultation with all the Heads of the departments.
- The composition of the Program Committee shall be as follows:

A senior teacher shall be the Chairperson; One Teacher from each department handling B.Pharm courses; and four student representatives of the programme (one from each academic year), nominated by the Head of the Institution.

Duties of the Programme Committee:

i. Periodically reviewing the progress of the classes.

ii. Discussing the problems concerning curriculum, syllabus and the conduct of classes.

iii. Discussing with the course teachers on the nature and scope of assessment for the course and the same shall be announced to the students at the beginning of respective semesters.

iv. Communicating its recommendation to the Head of the institution on academic matters.

v. The Programme Committee shall meet at least thrice in a semester preferably in start & mid of semester and before the semester end exam.

The Dean will appoint faculty members for the following designations. The main functions of each designation are also mentioned.

Course Coordinator (to be appointed for each course) – to coordinate all matters related to the conduct and assessment of a course.

Faculty Advisor (to be appointed for each semester) – to look after all matters, at the department level, regarding Registrations and Re-registrations of courses and also to provide guidance and counseling to students regarding these issues.

TEACHING AND EXAMINATION SCHEME

The Academic Council shall approve the teaching and examination scheme, syllabus and all relevant academic matters including modifications, addition, deletion etc., on the recommendation of the Faculty of Pharmacy.

SEMESTER AND TERM

Normally courses will be offered semester-wise as given in the teaching scheme. However the Institute may offer certain course/s of a semester in both terms of an academic year in order to help students to pursue their study more expeditiously.

REGISTRATION IN COURSES

There will be five categories of Registrations. All five categories will be collectively referred to simply as Registration. Individual categories will be referred to by their symbols. All Registrations, wherever applicable, will be subject to availability of courses. Registration will be done course-wise. The Five categories of Registration are:

IR - Initial Registration

RS - Repeat Registration for studying all components of a theory course

RES - Re-examination Registration for SEE component of a theory course

RL - Repeat Registration for studying all components of a practical course

REL - Re-examination Registration for SEE component of a practical course

Initial Registration (IR) –

In order to study a course for the first time, the student will register under the IR category. This will imply regular attendance for study of all components of that course and appearing at all examinations thereof.

IR registrations for courses of a semester are to be done for all courses of that Semester as shown in the Teaching Scheme; IR registration will not be permitted for lesser number of courses. The student who so registers (IR) for all courses of a semester will be considered as having been registered in that semester.

New entrants admitted to the programme on the basis of HSCE or equivalent will register (IR) for the first semester.

Diploma students admitted to the Degree programme will register (IR) for the semester as notified by Nirma University.

Repeat Registration for studying all components of a theory course (RS) –

The student whose Term is not granted, due to shortfall in attendance or disciplinary issues, for any registered theory course will repeat the study of all components of a theory course. The student will seek fresh registration for this purpose.

This category will imply regular attendance to study all components (i.e. LECT, as applicable) and appearing at all examinations thereof.

Re-examination Registration for SEE component of a theory course (RES)-

This registration is necessary for appearing again in a SEE component of a Theory course. It will not involve regular teaching for studying that course.

Repeat Registration for studying all components of a practical course (RL)-

The student whose Term is not granted, due to shortfall in attendance or disciplinary issues, for any registered practical course will repeat the study of all components of a practical course. The student will seek fresh registration for this purpose.

This category will imply regular attendance to study all components (i.e. Practical, as applicable) and appearing at all examinations thereof.

Re-examination Registration for SEE component of a practical course (REL)-

This registration is necessary for appearing again in a SEE component of a Practical course. It will not involve regular teaching for studying that course.

Approval of Registration

Every student must apply in the prescribed form for registrations, as applicable.

The decision on the student's request will be based on the availability of courses and applicable Regulations. The Director/HOI will issue appropriate orders for processing the application, including scrutiny, verification and final orders.

Simultaneous Registration and Re-registration

a) All re-registrations as applicable must be done before any registration.

b) Partial registration in the scheduled courses of a semester is not permitted.

c) A student will be permitted to register for higher semester after meeting requirements.

d) All students admitted through lateral entry will be required to pass courses as prescribed. On passing these courses, they will be deemed to have earned credits of all credit courses of Semester I and II. However, these credits will not be considered for calculating their performance indices.

ATTENDANCE REQUIREMENT TO APPEAR AT SEMESTER END EXAMINATION

- A student has to comply with the following condition course wise to be eligible to admit for Examination:
- Students under category of (IR, RS) should have at least 85% attendance, including Academic Leave on all teaching components of the course (applicable).

  Note: In the case of long duration training or project work, where final examination is not possible before the semester ends, a certificate by the course coordinator that the student's progress is satisfactory will be acceptable.
- The student who has not completed the minimum requirement of attendance may appeal to the Appeal Committee (consisting of Director/Dean, and Two Senior Faculty Members nominated by Director) giving full reasons for his/her default. The decision of the Appeal Committee in all such cases will be final.
- If the committee rejects the appeal of the student, then the student will not be permitted to appear in SEE of the concerned course. Accordingly, S/he will also be given grade F in that course and S/he will have to seek RS category registration.

GRADING IN EXAMINATIONS

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 as under:

Letter grades and grade points equivalent to percentage of marks and performances:

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	Abs	0	Fail

INTERPRETATION OF GRADES

The interpretation of Grade and Grade point of individual course with its performance are as follows:

Letter grade 'O' and grade point – 10 is equivalent to Outstanding performances.

Letter grade 'A' and grade point – 9 is equivalent to Excellent performances.

Letter grade 'B' and grade point – 8 is equivalent to Good performances.

Letter grade 'C' and grade point – 7 is equivalent to Fair performances.

Letter grade 'D' and grade point – 6 is equivalent to Average performances.

Letter grade 'F' and grade point – 0 is equivalent to Fail performances.

Letter grade 'Abs' and grade point – 0 is equivalent to Fail performances.

SCOPE OF EXAMINATIONS AND ASSESSMENT

The scope of the examinations and the method of assessment will be as follows:

- In internal mark-based assessment, the overall percentage marks, if fractional, will be rounded off to the next higher integer value.
- Internal Assessment (IR, RS and RL registration)

  All exercises in Internal Assessment will be continuously assessed during the semester and given marks.

  Oral examination may be included in the assessment at all possible stages.

  The total marks of all units of Internal Assessment will be aggregated based on their inter se weights to give the overall percentage of marks in the Internal Assessment examination.
- The assessment will be carried out based on the schemes for Internal Assessments and semester end examinations semester wise as approved by Academic Council, from time to time.
- Semester-End Examination (SEE)-

  The expression "Semester End Examination" refers to the written examination of a respective Theory course taken at the end of a semester. This will cover the entire theory syllabus of a particular course.

  The expression "Semester End Examination" refers to the final practical examination of a respective Practical course taken at the end of a semester. This will cover the entire practical syllabus of a particular course.

For courses with Non-University Examination, examinations shall be conducted by the subject experts at college level and the marks/grades shall be submitted to the university.

- Supplementary Examination (SPE)

  (RES and REL registration, grade F or Abs in a course)

  The Institute may decide to hold Supplementary Examination after SEE for the students who have obtained grade F or Abs in SEE. Such students will have to seek RES or REL registration.

- Schedule of SEE and SPE

  SEEs of all courses of the programme, as per the teaching scheme, will be held at the end of both terms.

  The term end Supplementary Examinations (SPE), if held, will be for only those courses that are offered in the semesters of that term.

- Absence in any examination will be treated as absent (Abs) and no marks will be given.

GRANTING OF TERM

- The Term will be granted course-wise.
- Compliance of attendance

  The granting of Term for all the students (IR) will depend on the compliance of maintaining minimum 85% attendance in all components of the course (as applicable). Regular approval for remaining absent up to 15% is necessary.

- The student who has not completed the minimum requirement of attendance may appeal to the Appeal Committee giving full reasons for his/her default. The decision of the Appeal Committee in all such cases will be final.

Note: In the case of long duration training or project work, where final examination is not possible before the Term ends, a certificate by the course coordinator that the student's progress is satisfactory will be acceptable.

PASSING STANDARDS

- A student shall be declared PASS and eligible for getting a grade in a course of B.Pharm. Programme if he/she secures at least 50% marks in that particular course including Internal Assessment. For example, to be declared as PASS and to get a grade, the student has to secure a minimum of 50 marks for the total of 100 including continuous mode of assessment and semester end theory examination and has to secure a minimum of 25 marks for the total 50 including Internal Assessment and semester end practical examination.

- Carry forward of marks and Improvement of Internal Assessment

  In case a student fails to secure the minimum 50% in any Theory or Practical course, then he/she shall reappear for the semester end 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.

However, the Dean, Faculty of Pharmacy be authorized to decide to allow improvement for Internal Assessment to the student on his/her request depending upon the situation.

Academic Progression: No student shall be admitted to any examination unless he/she fulfills the norms given. Academic progression rules are applicable as follows:

- A student shall be eligible to carry forward all the courses of I, II and III semesters till the IV semester examinations. However, he/she shall not be eligible to attend the courses of V semester until all the courses of I and II semesters are successfully completed.
- A student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of I, II, III and IV semesters are successfully completed.
- A student shall be eligible to carry forward all the courses of V, VI and VII semesters till the VIII semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of I, II, III, IV, V and VI semesters are successfully completed.
- A student shall be eligible to get his/her CGPA upon successful completion of the courses of I to VIII semesters within the stipulated time period as per the norms specified.
- A lateral entry student shall be eligible to carry forward all the courses of III, IV and V semesters till the VI semester examinations. However, he/she shall not be eligible to attend the courses of VII semester until all the courses of III and IV semesters are successfully completed.
- A lateral entry student shall be eligible to carry forward all the courses of V, VI and VII semesters till the VIII semester examinations. However, he/she shall not be eligible to get the course completion certificate until all the courses of III, IV, V and VI semesters are successfully completed.
- A lateral entry student shall be eligible to get his/her CGPA upon successful completion of the courses of III to VIII semesters within the stipulated time period as per the norms specified.
- Any student who has given more than 4 chances for successful completion of I / III semester courses and more than 3 chances for successful completion of II / IV semester courses shall be permitted to attend V / VII semester classes ONLY during the subsequent academic year as the case may be. In simpler terms there shall NOT be any ODD BATCH for any semester.

Note: Grade Abs should be considered as failed and treated as one head for deciding academic progression. Such rules are also applicable for those students who fail to register for examination(s) of any course in any semester.

PERFORMANCE LEVELS

Indices

The performance level of the student in credit courses at different stages of his/her study is given by the following indices. All index values will be rounded off to the second place of decimal.

SGPA (Semester Grade Point Average) - This grade point average is calculated when the student passes all the courses of the semester and it refers to the progress of the student in a semester.

PGPA (Progressive Grade Point Average)- This grade point average is calculated at the end of any semester upto the stage under consideration and it refers to the progress of the student.

CGPA (Cumulative Grade Point Average)- This grade point average refers to the entire programme. It is calculated when the student passes the programme. The method of calculation is the same as for SGPA or PGPA but the summation is for the courses of all semesters of the programme.

Class and percentage

The class shall be awarded on the basis of CGPA as follows:

First Class with Distinction = CGPA of 7.50 and above

First Class = CGPA of 6.50 to 7.49

Second Class = CGPA of 6 to 6.49

In case an equivalence between CGPA values and Class / % marks is desired, the same can be obtained as given below:

Percentage marks (%) = (CGPA – 0.5)* 10

CANCELLATION OF ADMISSION

The admission of following categories of students is liable to be cancelled:

i. Failure to earn credits of all courses of any semesters as per prescribed regulations. However, the duration to earn credits shall be fixed as double the actual duration of the programme.

ii. Failure to earn requisite credits and CGPA of min. 6 to pass the programme within a stipulated period (after admission to the programme).

The student, whose admission is so cancelled under category (i), can appeal to the Appeal Committee. The Committee may grant an extension upto the one additional semester for deserving cases, provided the student gives a viable assurance to make up the shortfall within that period.

Notwithstanding anything contained above, the President may consider the cases of such students falling under category (i), if the student has cleared all the courses and has earned the requisite number of credits except one course, on an appeal filed. The President will consider such an appeal on the recommendation of the appeal committee prescribed under the regulations for the purpose and after considering the genuineness of the case may give one additional attempt to the student concerned to clear the remaining course.

EXAMINERS

All continuous assessments will be carried out by the faculty concerned. All other assessments / examinations will be carried out by a panel of at least two examiners. The extent of associating external experts with the examination, selection and appointment of all examiners will be decided by the Dean in consultation with a committee appointed for this purpose.

SUPPLEMENTARY COURSES

This category includes courses in General Development, Language and Communication skills, Entrepreneurship etc. It also includes NCC, NSS etc.

The teaching schemes for these courses will be shown separately. Components of the courses will in general be the same as for credit courses, except in courses like NCC, NSS, etc.

Except in the case of NCC or NSS training, the Regulations for registrations, granting of terms, examinations, assessment, grading and passing will be the same as those for the credit courses. However no Gracing will be allowed.

The students will have to pass these course/s as per prescribed regulations. Cases of students who do not still pass this course/s will be referred to the Appeal Committee. Its decision in such cases will be final. The institute will issue separate instructions for NCC or NSS training.

The Transcript will contain an appropriate reference to these courses. Since no credits are allotted to them, they will not affect Performance Indices.

AWARD OF DEGREE

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

SECTION E

B.PHARM.
Course Details

ASSESSMENTS OF COURSES IN B.PHARM. PROGRAMME

A student has to secure at least 50% marks separately in the theory examinations and the practical examinations.

Internal Exam Weighted 25% (Theory) (25 marks)

- There will be one sessional examination during each semester and three Continuous Modes of Examination (CM). CM-1 (Online Quiz on LMS); CM-2 (Online Quiz on LMS) and CM-3 (Assignment). The date of each CM will be as per the academic calendar.
- Sessional examination will be conducted tentatively on 8th or 9th week of study week. For the exact date of exam, refer the Academic Calendar.

Semester-End Exam Weighted 75% (Theory) (75 marks)

- 3-hour written examination
- Consists of two section, Section I and Section II
- Section I: 40 Marks (Internal Examiner)
    - Objective type questions (5 Questions, 2 Marks each, No Choice or 10 MCQs, 1 Mark Each, No Choice)
    - Short Answer Questions (4 Questions, 5 Marks each, Answer 4 out of 5)
    - Long Answer Questions (1 Question, 10 Mark, Answer 1 out of 2, No subsections)
- Section II: 35 Marks (External Examiner)
    - Objective type questions (5 Questions, 2 Marks each, No Choice or 10 MCQs, 1 Mark Each, No Choice)
    - Short Answer Questions (3 Questions, 5 Marks each, Answer 3 out of 4)
    - Long Answer Questions (1 Question, 10 Mark, Answer 1 out of 2, No subsections)
- Date of final exam to be confirmed by the examination section, NU.

Internal Laboratory Practical Work Weighted 30% (Practical) (15 marks)

- An internal practical (LPW) examination will be conducted each semester, carrying 40 marks, which will be scaled down to 10 marks.

- The duration of the exam will be 4 hours.
- The question paper pattern for the practical sessional examination is as follows:
  - Synopsis - 10 Marks
  - Experiments - 25 Marks
  - Viva-Voce - 5 Marks
- The date of the practical sessional exam will be announced 7 days in advance, tentatively after the theory sessional exam

Final Practical Examination Weighted 70% (Practical) (35 marks)

- Duration of Final Practical Exam: 4 hours
- The marks allotment shall be:
  - Synopsis : 05 Marks
  - Major Experiment : 15 Marks
  - Minor Experiment : 10 Marks
  - Viva Marks : 05 Marks
- Date of final exam to be confirmed by the examination section, NU

DETAILS OF THE COURSE

B.Pharm. Sem I

Name of Course **Human Anatomy and Physiology-I (Theory and Practical)**

Course Code BP101T and BP107P

Scope The subject provides a comprehensive understanding of the human body, explores the structure and functions. It encompasses the study of cells, tissues, organs, and organ systems, as well as the biochemical and biophysical processes that underlie their activities. It provides a foundational understanding of human biology, essential for healthcare professionals, researchers to understand the advancement in the area.

References

- Tortora G, Palmetto, G.A. Principles of Anatomy and Physiology. U.S.A. John Wiley & sons
- Guyton, A.C, Hall J.E, Miamisburg, O.H. Text book of Medical Physiology. U.S.A. Elseveir Saunders
- Chatterrje, C.C. Human Physiology (vol 1 and 2). Kolkata, Academic Publishers
- Sembulingam, K. Sembulingam, P. Essentials of Medical Physiology. New Delhi, Jaypee Brother's Medical Publishers
- Wilson, K.J.W. Anatomy and Physiology in Health and Illness. New York, Churchill Livingstone.

Name of Course **Pharmaceutical Analysis (Theory and Practical)**

Course Code BP102T and BP108P

Scope This course deals with the fundamentals of analytical chemistry and principles of electrochemical analysis of drugs. It covers the fundamental principles of titration including acid-base, redox, complexometric, and precipitation titrations as well as gravimetric analysis used to determine the concentration of analytes.

References

- Beckett, A. H., & Stenlake, J. B. (Eds.). Practical Pharmaceutical Chemistry: Part I & II.A&C Black.

- Mendham, J. Vogel's textbook of quantitative chemical analysis. Pearson Education India.
- Kennedy, J. H. Analytical Chemistry: Principles. Harcourt School.

Name of Course	**Pharmaceutics – I (Theory and Practical)**
Course Code	BP103T and BP109P
Scope	This course is designed to impart a fundamental knowledge on the preparatory pharmacy with arts and science of preparing the different conventional dosage forms.
References	• Ansel H.C., Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems by Lippincott Williams & Wilkins. • Carter S.J., Cooper and Gunn's Dispensing for Pharmaceutical Students, CBS Publishers. • Aulton M.E., Pharmaceutics - The Science of Dosage Form Design, Churchill Livingstone.

Name of Course	**Pharmaceutical Inorganic Chemistry (Theory and Practical)**
Course Code	BP104T and BP110P
Scope	This subject covers the detailed study of monographs of inorganic drugs and pharmaceuticals, focusing on their chemical properties, therapeutic applications, and quality control standards. It provides foundational knowledge essential for understanding the role of inorganic compounds in pharmacy.
References	• Anand & Chetwal. Inorganic Pharmaceutical Chemistry • Kennedy, J.H. Analytical chemistry principles, Cengage Publishers • I.P.1985 and 1996, Indian Pharmacopoeial Commission, Ministry of health and Family Welfare, Govt. of India.

Name of Course	**Communication Skills (Theory and Practical)**
Course Code	BP105T and BP111P

Scope	This subject aims to equip students with essential communication abilities. Students will learn to speak effectively, write clearly, understand and respond to others, and communicate across different cultures. These skills will enable them to build relationships, succeed in their careers, and contribute positively to society. By developing strong communication skills, students can build meaningful connections, achieve their goals, and contribute positively to society.
References	• Rutherford, Andrea J ., Basic Communication Skills for Technology • Pushplata S.K. Communication Skills, Oxford press • Robbins, SP Organizational Behaviour, pearsons. • Gopalaswamy R., The ACE of Soft Skills: Attitude, Communication and Etiquette for Success

Name of Course	**Remedial Mathematics (Theory)**
Course Code	BP 106RMT
Scope	This is an introductory course in mathematics. This subject deals with theintroduction to Partial fraction, Logarithm, matrices and Determinant, Analytical geometry, Calculus, differential equation and Laplace transform.
References	• Differential Calculus by Shanthinarayan • Pharmaceutical Mathematics with application to Pharmacy by Panchaksharappa Gowda D.H. • Integral Calculus by Shanthinarayan • Higher Engineering Mathematics by Dr.B.S.Grewal

Name of Course	**Remedial Biology (Theory and Practical)**
Course Code	BP106RBT and BP112RBP
Scope	This course focusses on the components of living world, structure and functional system of plant and animal kingdom.
References	• Text book of Biology by S. B. Gokhale • A Text book of Biology by Dr. Thulajappa and Dr. Seetaram.

- A Text book of Biology by B.V. Sreenivasa Naidu
- A Text book of Biology by Naidu and Murthy
- Botany for Degree students By A.C.Dutta.

B.Pharm. Sem II

Name of Course	**Human Anatomy and Physiology-II (Theory and Practical)**
Course Code	BP201T and BP207P
Scope	The subject offers the biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It is also emphasizing on genetic organization of mammalian genome and hetero & autocatalytic functions of DNA.
References	• Tortora G, Palmetto, G.A. Principles of Anatomy and Physiology. U.S.A. John Wiley & sons • Guyton, A.C, Hall J.E, Miamisburg, O.H. Text book of Medical Physiology. U.S.A. Elseveir Saunders • Chatterrje, C.C. Human Physiology (vol 1 and 2). Kolkata, Academic Publishers • Sembulingam, K. Sembulingam, P. Essentials of Medical Physiology. New Delhi, Jaypee Brother's Medical Publishers • Wilson, K.J.W. Anatomy and Physiology in Health and Illness. New York, Churchill Livingstone.

Name of Course	**Pharmaceutical Organic Chemistry - I (Theory and Practical)**
Course Code	BP202T and BP208P
Scope	The course content includes the classification and systematic naming of organic compounds, structural isomerism, reaction intermediates, and their physical properties. It emphasizes reactions, preparation methods, and mechanisms, with a focus on understanding orientation in organic reactions.
References	• Organic Chemistry by Morrison and Boyd • Organic Chemistry by I.L. Finar , Volume-I

- Organic Chemistry By P.Y.Bruice
- Textbook of Organic Chemistry by B.S. Bahl & Arun Bahl.
- Vogel's text book of Practical Organic Chemistry
- Reaction and reaction mechanism by Ahluwaliah/Chatwal

Name of Course **Computer Applications in Pharmacy (Theory and Practical)**

Course Code BP205T and BP210P

Scope This course on databases and computer applications in pharmacy covers essential topics like the types of databases, their applications in pharmacy practice, and the role of bioinformatics. Students will learn to identify various computer applications in pharmacy, differentiate between database types, and analyze real-world applications such as electronic health records and drug management systems. Key outcomes include understanding data analysis techniques and the importance of informatics in improving patient care and drug development. Through practical assignments and projects, students will gain hands-on experience in database design and implementation, preparing them for modern challenges in the pharmaceutical field.

References

- Passct, W. E. Compare Application in Pharmacy. South Washington Square, USA: Lea and Febiger
- Ekins. S. Computer Applications in Pharmaceutical Research and Development. USA: Wiley- Interscience.
- Rastogi. SC. Bioinformatics-Concept, Skills and Applications, New Delhi, CBS Publishers & Distributors.
- Prague, CN. Microsoft Office Access 2003, Application Development Using VBA, SOL Server, DAP and Infopath. New Delhi, Wiley Dreamtech India (P) Ltd.

Name of Course **Environmental Sciences - Theory**

Course Code BP206T

Scope The Environmental Sciences course will help pharmacy students understand how the environment affects health. It covers topics like pollution, natural resources, and ecosystems. Students will learn about the impact of

environmental issues on public health and the importance of sustainability in pharmacy practices. The course aims to develop awareness and problem-solving skills, encouraging students to promote healthier, eco-friendly practices in the pharmaceutical industry. By the end, they will be better equipped to address environmental challenges and contribute to a healthier world.

References

- Singh. Y.K. Environmental Science Bangalore, New Age International Pvt, Publishers.
- Agarwal, K.C. Environmental Biology, Bikaner, Nidhi Publ. Ltd.
- Bharucha, E. The Biodiversity of India. Ahmedabad, Mapin Publishing Pvt. Lid.
- Brunner, R.C. Hazardous Waste Incineration. McGraw Hill Inc.
- Clark, R.S. Marine Pollutina Oxford, Clanderson Press.
- Cunningham, W.P., Cooper, TH, Gorham, E & Hepworth, M.T. Environmental Encyclopedia. Mumbai. Jaico Publ. House
- De. A.K. Environmental Chemistry. New Delhi, Wiley Eastem Ltd.
- Down to Earth, Centre for Science and Environment. New Delhi.

Name of Course **Pharmaceutical Engineering (Theory & Practical)**

Course Code BP211T and BP212P

Scope This course is designed to impart a fundamental knowledge on the art and science of various unit operations used in pharmaceutical industry viz. fluid flow, size reduction, size separation, heat transfer, evaporation, distillation, mixing, drying, filtration, and centrifugation along with material for plant construction and corrosion.

References

- Carter S. J. Cooper and Gunn's Tutorial pharmacy. C. B. S. Publishers & Distributors, Delhi.
- Max S. Peters. Elementary Chemical Engineering. McGraw Hill Inc., USA.
- M.E. Aulton. Pharmaceutics: The Science of Dosage Form Design. Churchill Livingstone, USA.
- Lachman l., Lieberman H. A., Kanig L. Theory and practice of industrial pharmacy. Varghese Publishing House, Mumbai.

- Nigel J. K. S., Solid phase extraction, Principles, techniques and applications. Marcel Dekker Inc., USA.
- Warren L. M., Julian C. S., Peter H. Unit operation of chemical engineering. McGraw-Hill Companies, Inc. USA.
- Gennaro A. R. Remington the science and practice of pharmacy. Lippincott Williams & Wilkins, USA.

B.Pharm. Sem III

Name of Course	**Pharmaceutical Organic Chemistry - II (Theory and Practical)**
Course Code	BP301T and BP305P
Scope	This subject focuses on general methods of preparation and the reactivity of organic compounds. Emphasis is given to understanding reaction mechanisms and product orientation, and also includes a section on the chemistry of fats and oils.
References	• Organic Chemistry by Morrison and Boyd • Organic Chemistry by I.L. Finar , Volume-I • Organic Chemistry By P.Y.Bruice • Textbook of Organic Chemistry by B.S. Bahl & Arun Bahl. • Vogel's text book of Practical Organic Chemistry

Name of Course	**Physical Pharmaceutics I (Theory and Practical)**
Course Code	BP302T and BP306P
Scope	The course deals with the various physical and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas like solubility, interfacial tension, complexation, buffers etc. of pharmaceutical dosage forms.
References	• Physical Pharmacy by Alfred Martin, Sixth edition • Experimental pharmaceutics by Eugene, Parott.

- Tutorial pharmacy by Cooper and Gunn.
- Liberman H.A, Lachman C, Pharmaceutical dosage forms. Disperse systems, volume 1,2, 3. Marcel Dekkar Inc.
- Physical Pharmaceutics by Ramasamy C, and Manavalan R.

Name of Course **Pharmaceutical Microbiology (Theory and Practical)**

Course Code BP303T and BP307P

Scope The course explores microorganisms thereby focusing on contamination control, sterilization, and disinfection. Students will learn the basics of microbiology (identification of bacteria, fungi, and viruses), bacterial classification, and growth, alongside techniques like microscopy and staining which is helpful for development of pharmaceutical, biotechnological products and diagnostic products.

References

- Carter SJ , Cooper and Gunn's Dispensing for Pharmaceutical Students. Publ. CBS Publishers & Distributors Pvt. Ltd., New Delhi, India.
- Jain N.K, Pharmaceutical Microbiology, Vallabh Prakashan, Ahmedabad, India.
- Kar A, Essentials of Pharmaceutical Microbiology. Pub. New Age International (P) Ltd., New Delhi, India.

Name of Course **Biochemistry (Theory and Practical)**

Course Code BP309T and BP310P

Scope Biochemistry deals with complete understanding of the molecular levels of the chemical process associated with living cells. The scope of the subject is providing biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It is also emphasizing on genetic organization of mammalian genome and hetero & autocatalytic functions of DNA.

References

- Principles of Biochemistry by Lehninger.
- Harper's Biochemistry by Robert K. Murry, Daryl K. Granner and Victor W. Rodwell.

- Biochemistry by D. Satyanarayan and U. Chakrapani
- Practical Biochemistry by R.C. Gupta and S. Bhargavan.

B.Pharm. Sem IV

Name of Course	**Pharmaceutical Organic Chemistry - III (Theory)**
Course Code	BP401T
Scope	The course provides an understanding of the stereochemical aspects of organic compounds and reactions, important named reactions, and the chemistry of key heterocyclic compounds. It also highlights the medicinal and other uses of organic compounds.
References	• Organic Chemistry by Morrison and Boyd • Organic Chemistry by I.L. Finar , Volume-I • Organic Chemistry By P.Y.Bruice • Textbook of Organic Chemistry by B.S. Bahl & Arun Bahl. • Heterocyclic Chemistry by Raj K. Bansal

Name of Course	**Medicinal Chemistry I (Theory and Practical)**
Course Code	BP402T and BP406P
Scope	This subject provides fundamental knowledge on the structure, chemistry, and therapeutic value of drugs, emphasizing structure-activity relationships (SAR), physicochemical properties, and drug metabolism. It also covers the chemical synthesis of significant drugs.
References	• Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry • Foye's Principles of Medicinal Chemistry • Burger's Medicinal Chemistry, Vol I to IV • Introduction to principles of drug design- Smith and Williams

Name of Course	**Physical Pharmaceutics II (Theory and Practical)**
Course Code	BP403T and BP407P
Scope	The course deals with the various physical and physicochemical properties, and principles involved in dosage forms/formulations. Theory and practical components of the subject help the student to get a better insight into various areas of formulation research and development, and stability studies of pharmaceutical dosage forms.
References	• Physical Pharmacy by Alfred Martin, Sixth edition • Experimental pharmaceutics by Eugene, Parott. • Tutorial pharmacy by Cooper and Gunn. • Liberman H.A, Lachman C, Pharmaceutical dosage forms. Disperse systems, volume 1,2, 3. Marcel Dekkar Inc. • Physical Pharmaceutics by Ramasamy C, and Manavalan R.

Name of Course	**Pharmacology-I (Theory and Practical)**
Course Code	BP404T and BP408P
Scope	The main purpose of the subject is to understand what drugs do to the living organisms and how their effects can be applied to therapeutics. The subject covers the information about general pharmacology like the mechanism of action, physiological and biochemical effects (pharmacodynamics) of drugs as well as absorption, distribution, metabolism and excretion (pharmacokinetics). It also encompasses the information about the adverse effects, clinical uses, interactions, doses, contraindications and routes of administration of different classes of drugs like peripheral nervous system, central nervous system.
References	• Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchill Livingstone Elsevier. • Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-Hill. • Goodman and Gilman's, The Pharmacological Basis of Therapeutics • K. D. Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi.

- Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins.
- Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews-Pharmacology.
- Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher Modern Pharmacology with clinical Applications, by Charles R. Craig & Robert.
- Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
- Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan.

Name of Course	**Pharmacognosy and Phytochemistry I (Theory and Practical)**
Course Code	BP405T and BP408P
Scope	The subject involves the fundamentals of Pharmacognosy like scope, classification of crude drugs, their identification and evaluation, phytochemicals present in them and their medicinal properties. It also includes the cultivation aspects of medicinal plants, concepts of plant tissue culture and principles of complementary and alternative systems of medicine.
References	• W.C.Evans, Trease Pharmacognosy, 16th edition, W.B. Sounders & Co., London, 2009. • Tyler, V.E., Brady, L.R. and Robbers, J.E., Pharmacognosy, 9th Edn., Lea and Febiger, Philadelphia, 1988. • Text Book of Pharmacognosy by T.E. Wallis • Mohammad Ali. Pharmacognosy and Phytochemistry, CBS Publishers & Distribution, New Delhi. • Text book of Pharmacognosy by C.K. Kokate, Purohit, Gokhlae (2007), 37th Edition, Nirali Prakashan, New Delhi.

B.Pharm. Sem V

Name of Course **Medicinal Chemistry II (Theory)**

Course Code BP501T

Scope This subject covers the chemistry of drugs concerning their pharmacological activity, with a focus on structure-activity relationships, drug metabolism, and the synthesis of essential drugs.

References
- Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry
- Foye's Principles of Medicinal Chemistry
- Burger's Medicinal Chemistry, Vol I to IV
- Introduction to principles of drug design- Smith and Williams

Name of Course **Industrial Pharmacy I (Theory and Practical)**

Course Code BP502T and BP506P

Scope This course covers detailed study of various pharmaceutical dosage forms and their manufacturing techniques. It provides foundational knowledge essential for formulation of solid, liquid and semisolid dosage forms and evaluate them for their quality.

References
- Banker, G. S. & Rhodes, C. T, Modern pharmaceutics, New York: Marcel Dekkar Inc.
- Lieberman, H.A., Lachman, L., & Schwartz, J.B. Pharmaceutical Dosage forms - Tablets, volume 1 to 3. New York: Marcel Dekkar Inc.
- Lieberman, H.A, Rieger, M.M., & Banker, G.S. Pharmaceutical dosage forms - Disperse systems, volume 1 to 3. New York: Marcel Dekkar Inc.
- Lieberman, H.A, Lachman, L., & Avis, K. E.. Pharmaceutical dosage forms - Parentral medications, volume 1 to 3. New York: Marcel Dekkar Inc.
- Aulton, M. E., Pharmaceutics: The science of dosage form design. London: Churchill livingstone,
- Alfonso R., Gennaro, A. M., Remington: The science and practice of pharmacy, volume 1& 2. Newyork: Lippincott Williams & Wilkins.

Name of Course	**Pharmacology-II (Theory and Practical)**
Course Code	BP503T and BP507P
Scope	The course offers a comprehensive overview of the scientific principles underlying drug therapy. It is structured to provide students the core understanding of the effects of drugs on different body systems like cardiovascular and endocrine system. It also covers various aspects such as drug classification, mechanisms of action, pharmacokinetics, therapeutic indications, side/adverse effects and contraindications.
References	• Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchil Livingstone Elsevier. • Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-Hill. • Goodman and Gilman's, The Pharmacological Basis of Therapeutics • K. D.Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi. • Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins. • Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews-Pharmacology. • Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher Modern Pharmacology with clinical Applications, by Charles R. Craig & Robert. • Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata. • Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan

Name of Course	**Pharmacognosy and Phytochemistry II (Theory and Practical)**
Course Code	BP504T and BP508P
Scope	The main purpose of subject is to impart the students the knowledge of how the secondary metabolites is produced in the crude drugs, how to isolate and identify and produce them industrially. Also, this subject involves the study of

producing the plants and phytochemicals through plant tissue culture, drug interactions and basic principles of traditional system of medicines.

References

- Text book of Pharmacognosy by C.K. Kokate, Purohit, Gokhlae (2007), 37th Edition, Nirali Prakashan, New Delhi.
- Dewick, P. M. (2002). Medicinal natural products: a biosynthetic approach. John Wiley & Sons.
- B Baviskar , Dr Sl Deore, Dr SS Khadabadi, Plant Biosynthesis, Nirali Prakashan (1 August 2015)
- Perveen, S., & Al-Taweel, A. (Eds.). (2018). Terpenes and terpenoids. BoD–Books on Demand.
- Evans, W. C. (2009). Trease and Evans' Pharmacognosy E-Book. Elsevier Health Sciences.
- Ali, M. (2009). Pharmacognosy and Phytochemistry. Vol. I, II, CBS Publication & Distributors, New Delhi.
- Kokate, C. K., Purohit, A. P., & Gokhale, S. B. (2007). Hand Book of Pharmacognosy.

Name of Course **Pharmaceutical Jurisprudence – theory**

Course Code BP505T

Scope This course is designed to impart basic knowledge on important legislations related to the profession of pharmacy in India.

References

- Suresh, B. Forensic Pharmacy: Pharmaceutical Jurisprudence. Delhi, Birla Publications.
- Mithal, B.M. A Text book of Forensic Pharmacy.Delhi, Vallabh Prakashan.
- Mehra, M.L. The Handbook of Drug Laws. Allahbad, The University Book Agency.
- Jain N.K. A text book of Forensic Pharmacy. Delhi, Vallabh Prakash. India publications.

B.Pharm. Sem VI

Name of Course **Medicinal Chemistry III (Theory and Practical)**

Course Code BP601T and BP607P

Scope This subject covers the structure, chemistry, and therapeutic value of drugs, with an emphasis on modern drug design techniques such as QSAR, prodrugs, combinatorial chemistry, and computer-aided drug design (CADD). It also discusses the chemistry, metabolism, adverse effects, and synthesis of key drugs.

References
- Wilson and Giswold's Organic medicinal and Pharmaceutical Chemistry
- Foye's Principles of Medicinal Chemistry
- Burger's Medicinal Chemistry, Vol I to IV
- Introduction to principles of drug design- Smith and Williams
- Martindale's Extra Pharmacopoeia

Name of Course **Pharmacology-III (Thoery and Practical)**

Course Code BP602T and BP608P

Scope This subject is intended to impart the fundamental knowledge on various aspects (classification, mechanism of action, therapeutic effects, clinical uses, side effects and contraindications) of drugs acting on respiratory and gastrointestinal system, infectious diseases, immuno-pharmacology. It also emphasizes on the principles of toxicology and chronopharmacology.

References
- Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchill Livingstone Elsevier.
- Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-Hill.
- Goodman and Gilman's, The Pharmacological Basis of Therapeutics
- K. D.Tripathi. Essentials of Medical Pharmacology, JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi.
- Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins.

- Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews-Pharmacology.
- Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher Modern Pharmacology with clinical Applications, by Charles R. Craig & Robert.
- Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata.
- Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan

Name of Course	**Pharmacognosy and Phytochemistry II (Theory and Practical)**
Course Code	BP603T and BP609P
Scope	Scope: This subject gives the student the knowledge of basic understanding of herbal drug industry, the quality of raw material, guidelines for quality of herbal drugs, herbal cosmetics, natural sweeteners, nutraceutical etc. The subject also emphasizes on Good Manufacturing Practices (GMP), patenting and regulatory issues of herbal drugs
References	• Textbook of Pharmacognosy by Trease & Evans. • Textbook of Pharmacognosy by Tyler, Brady & Robber. • Pharmacognosy by Kokate, Purohit and Gokhale • Essential of Pharmacognosy by Dr.S.H.Ansari • Pharmacognosy & Phytochemistry by V.D.Rangari • Pharmacopoeal standards for Ayurvedic Formulation (Council of Research in Indian Medicine & Homeopathy) • Mukherjee, P.W. Quality Control of Herbal Drugs: An Approach to Evaluation of Botanicals. Business Horizons Publishers, New Delhi, India, 2002.

Name of Course	**Biopharmaceutics and Pharmacokinetics (Theory)**
Course Code	BP604T
Scope	This course is designed to impart knowledge and skills of Biopharmaceutics and pharmacokinetics and their applications in pharmaceutical development,

design of dose and dosage regimen and in solving the problems arised therein.

References

- Shargel L., Applied Biopharmaceutics and Pharmacokinetics and Mc-Graw Hill, New York.
- Madan P.L., Biopharmaceutics and Pharmacokinetics, Jaypee Brothers Medical Publishers.
- Jambhekar S.S., Breen P.J. Basic Pharmacokinetics, Pharmaceutical Press.

Name of Course **Pharmaceutical Biotechnology - Theory**

Course Code BP605T

Scope The course aims to hold significant potential to transform the biological sciences and associated technologies. Its scientific applications in genetic engineering, medicine, and fermentation technology render the discipline particularly compelling. It also covers advances in biotechnology, which are driving novel biological revolutions in the diagnosis, prevention, and treatment of diseases, as well as the development of cost-effective pharmaceutical drugs.

References

- Tortora, Gerard J; Funke, Berdell R; Case, Christine L., Microbiology: An Introduction, USA: Pearson Education Inc.
- Carter, S. J., Cooper and Gunn's Tutorial Pharmacy, India: C. B. S. Publishers & Distributors.
- Prescott and Dunn., Industrial Microbiology, India: CBS Publishers & Distributors.
- El-Mansi, Mansi, Fermentation Microbiology and Biotechnology, USA: Taylor & Francis.

Name of Course **Pharmaceutical Quality Assurance (Theory)**

Course Code BP606T

Scope This course deals with the various aspects of quality control and quality assurance aspects of pharmaceutical industries. It deals with the important aspects like cGMP, QC tests, documentation, quality certifications and regulatory affairs.

References

- Quality Assurance Guide by Organisation of Pharmaceutical Producers of India.
- Ghosh, S.K. Introduction to ISO 9000 and Total Quality Management. Oxford Publishing House.
- World Health Organization. International Pharmacopoeia. Vol. 1-4.
- ICH guidelines, ISO 9000 and 4000 guidelines.

BPharm Sem VII

Name of Course **Instrumental Methods of Analysis (Theory and Practical)**

Course Code BP701T and BP705P

Scope This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs. This subject is designed to impart a fundamental knowledge on the principles and instrumentation of spectroscopic and chromatographic technique. This also emphasizes on theoretical and practical knowledge on modern analytical instruments that are used for drug testing.

References

- Sharma, B. K. Instrumental methods of chemical analysis. Krishna Prakashan Media.
- Connors, K. A. A textbook of pharmaceutical analysis. John Wiley & Sons.
- Vogel, A. I., & Jeffery, G. H. Vogel's textbook of quantitative chemical analysis. Wiley.
- Beckett, A. H., & Stenlake, J. B. (Eds.). Practical Pharmaceutical Chemistry: Part I & II. A&C Black.

Name of Course **Industrial Pharmacy II (Theory)**

Course Code BP702T

Scope This course is designed to provide fundamental knowledge on the entire process of pharmaceutical product development, focusing on the critical stages of translating a product from the laboratory to the market. It covers key aspects of scale-up, technology transfer, regulatory requirements, and the approval process for drug products.

References

- Lachman L., Lieberman H., Kanig J., The Theory and Practice of Industrial Pharmacy, Lippincott Williams & Wilkins, USA, latest edition.
- Sharma U. et al. New Approach to Industrial Pharmacy – II. Publ. S. Vikas and Company, India, latest edition.
- Official website of US FDA for GLP, Out of specification, quality by design
- Official website of National Accreditation Board for Testing and Calibration Laboratories (NABL) {https://nabl-india.org/about-nabl/introduction}
- Official website of international organisation for standardisation
- Health and family welfare department, Gujarat state official website
- Central drug standard control organisation official website Official website of WHO for COPP

Name of Course **Pharmacy Practice (Theory)**

Course Code BP703T

Scope

As per the changing scenario of pharmacy practice in India, for successful practice of Hospital Pharmacy, the subject covers detailed study on drug distribution, drug information, and therapeutic drug monitoring for improved patient care. The students learn about dispensing of drugs, responding to minor ailments by providing suitable safe medication, patient counseling for improved patient care in the community pharmacy set up.

References

- Merchant S. H., Quadry J. S., A textbook of hospital pharmacy. B. S. Shah Prakashan, Ahmedabad.
- Parthasarathi G., Nyfort-Hansen K., Nahata M. C., A textbook of Clinical Pharmacy Practice- Essential concepts and skills. Orient Longman Private Limited, Chennai.
- William E. H., Hospital pharmacy. Lea & Febiger, Philadelphia.
- Bajaj T., Hospital Pharmacy. Career Publications, Maharashtra.
- Scott L. T., Basic skills in interpreting laboratory data. American Society of Health System Pharmacists Inc, USA.
- Parmar N. S., Health Education and Community Pharmacy. CBS Publishers & Distributers, Ahmedabad.

- Journals:

a) Therapeutic drug monitoring. ISSN: 0163-4356, David Myers, Philadelphia.

b) Journal of pharmacy practice. ISSN: 0974-8326, Association of Pharmaceutical Teachers of India, Lucknow.

c) American journal of health system pharmacy. ISSN: 1535-2900, American Society of Health-System Pharmacists, USA.

Name of Course	**Novel Drug Delivery Systems - Theory**
Course Code	BP704T
Scope	This subject aims to provide a foundational understanding of the principles and methodologies underlying advanced drug delivery systems. It helps in gaining a comprehensive understanding of the diverse strategies employed in creating innovative drug delivery systems. Familiarize yourself with the criteria used to choose appropriate drugs and polymers for these systems, and delve into the processes involved in their formulation and evaluation.
References	• Chien, Y.W. Novel Drug Delivery Systems. Marcel Dekker, Inc., New York, USA. • Robinson, J. R., & Lee V. H. L. Controlled Drug Delivery Systems. Marcel Dekker, Inc., New York, USA. • Edith M. Encyclopedia of Controlled Delivery, Wiley Interscience Publication, John Wiley and Sons Inc., New York, USA. • Jain, N.K. Controlled and Novel Drug Delivery. CBS Publishers & Distributors, New Delhi, India. • Vyas, S.P., & Khar, R.K. Controlled Drug Delivery -concepts and advances. Vallabh Prakashan, New Delhi, India.

Name of Course	**Practice School**
Course Code	BP706PS
Scope	Every student will undergo practice school for a period of 150 hours evenly distributed throughout the semester. Students will work in the domain of interest in Pharmaceutical Sciences.
References	--

B.Pharm. Sem VIII

Name of Course **Biostatistics and Research Methodology (Theory and Tutorial)**

Course Code BP801T

Scope This course deals with understanding the basic concepts of biostatistics and research methodology. It covers different parametric and nonparametric tests utilized for data analysis and experimental designs for formulation development of dosage forms. It also covers the basics of research methodology, data presentation, and interpretation of different graphs

References

- Bolton, S. Pharmaceutical Statistics – Practical and Clinical Applications, New York, Marcel Dekker Inc. Publishers.
- Gupta, S.C. Fundamentals of Mathematical Statistics. (2018). United Kingdom: Sultan Chand & Sons.
- Advanced mathematics for pharmacy with biostatistics. G.C. Patel, Dr. Girish K Jani, Atul Prakashan
- Advanced Mathematics and Biostatistics For Pharmacy", Dr. K. R. Kachot
- Research methodology, methods and techniques (second revised edition), C.R. Kothari, New Age International Publisher

Name of Course **Social and Preventive Pharmacy**

Course Code BP802T

Scope The purpose of this course is to introduce to students a number of health issues and their challenges. This course also introduces the students to a number of national health programmes run by Government of India and the role of the pharmacists in these contexts are also discussed.

References

- Short Textbook of Preventive and Social Medicine, Prabhakara GN, 2nd Edition, 2010, ISBN: 9789380704104, JAYPEE Publications.
- Textbook of Preventive and Social Medicine (Mahajan and Gupta), Edited by Roy .
- Rabindra Nath, Saha Indranil, 4th Edition, 2013, ISBN: 9789350901878, JAYPEE Publications.
- Review of Preventive and Social Medicine (Including Biostatistics), Jain Vivek, 6 Edition, 2014, ISBN: 9789351522331, JAYPEE Publications

- Essentials of Community Medicine—A Practical Approach, Hiremath Lalita D, Hiremath Dhananjaya A, 2nd Edition, 2012, ISBN: 9789350250440, JAYPEE Publications.
- Park Textbook of Preventive and Social Medicine, K Park, 21 ISBN-14: 9788190128285, Banarsidas Bhanot Publishers.
- Edition, 2011, 6. Community Pharmacy Practice, Ramesh Adepu, BSP publishers, Hyderabad

Name of Course	**Pharmaceutical Marketing (Theory)**
Course Code	BP803ET
Scope	The pharmaceutical industry not only needs highly qualified researchers, chemists and technical people, but also requires skilled managers who can take the industry forward by managing and taking the complex decisions which are imperative for the growth of the industry The Knowledge and Know-how of marketing management groom the people for taking a challenging role in Sales and Product management. This course aims to provide an understanding of marketing concepts and techniques and their applications in the pharmaceutical industry
References	• Philip Kotler and Kevin Lane Keller: Marketing Management, Prentice Hall of India, New Delhi • Walker, Boyd and Larreche : Marketing Strategy- Planning and Implementation, Tata, MC GrawHill, New Delhi. • Dhruv Grewal and Michael Levy: Marketing, Tata MC Graw Hill • Arun Kumar and N Menakshi: Marketing Management, Vikas Publishing, India • Rajan Saxena: Marketing Management; Tata MC Graw-Hill (India Edition) • Ramaswamy, U.S & Nanakamari, S: Marketing Managemnt:Global Perspective, IndianContext,Macmilan India, New Delhi. • Shanker, Ravi: Service Marketing, Excell Books, New Delhi • Subba Rao Changanti, Pharmaceutical Marketing in India (GIFT – Excel series) Excel.

Name of Course	**Pharmaceutical Regulatory Science (Theory)**
Course Code	BP804ET
Scope	This course is designed to impart the fundamental knowledge on the regulatory requirements for approval of new drugs, and drug products in regulated markets of India & other countries like US, EU, Japan, Australia, UK etc. It prepares the students to learn in detail on the regulatory requirements, documentation requirements, and registration procedures for marketing the drug products.
References	• Krishna Vyawahare, Ns. & Itkar, S.C. Drug regulatory affairs, Nirali Prakashan. • Berry, I. R., & Martin, R. P. The pharmaceutical regulatory process. CRC Press. • Guarino, R. A., & Guarino, R. (Eds.). New drug approval process. CRC Press. • Weinberg, S. Guidebook for Drug Regulatory Submissions. John Wiley & Sons. • Pisano, D. J., & Mantus, D. S. FDA regulatory affairs: a guide for prescription drugs, medical devices, and biologics. CRC Press.

Name of Course	**Pharmacovigilance**
Course Code	BP805ET
Scope	This subject provides an opportunity for the student to learn about development of pharmacovigilance as a science, basic terminologies used in pharmacovigilance, global scenario of Pharmacovigilance. It also guides the students regarding establishing pharmacovigilance programme in an organization, various methods that can be used to generate safety data and signal detection. This subject also develops the skills of classifying drugs, diseases and adverse drug reactions.
References	• Textbook of Pharmacovigilance: S K Gupta, Jaypee Brothers, Medical Publishers. • Practical Drug Safety from A to Z By Barton Cobert, Pierre Biron, Jones and Bartlett Publishers. • Mann's Pharmacovigilance: Elizabeth B. Andrews, Nicholas, Wiley Publishers.

- Stephens' Detection of New Adverse Drug Reactions: John Talbot, Patrick Walle, Wiley Publishers.
- An Introduction to Pharmacovigilance: Patrick Waller,Wiley Publishers.
- Cobert's Manual of Drug Safety and Pharmacovigilance: Barton Cobert,Jones& Bartlett Publishers.
- Textbook of Pharmacoepidemiolog edited by Brian L. Strom, Stephen E Kimmel, Sean Hennessy,Wi- ley Publishers.
- A Textbook of Clinical Pharmacy Practice -Essential Concepts and Skills:G. Parthasarathi, Karin NyfortHansen,Milap C. Nahata

Name of Course **Quality Control and Standardization of Herbals (Theory)**

Course Code BP806ET

Scope In this subject the student learns about the various methods and guidelines for evaluation and standardization of herbs and herbal drugs. The subject also provides an opportunity for the student to learn cGMP, GAP and GLP in traditional system of medicines.

References

- Mukherjee, P.W. Quality Control of Herbal Drugs: An Approach to Evaluation of Botanicals. Business Horizons Publishers, New Delhi, India, 2002.
- Shinde M.V., Dhalwal K., Potdar K., Mahadik K. Application of quality control principles to herbal drugs. International Journal of Phytomedicine 1(2009); p. 4-8.
- WHO. Quality Control Methods for Medicinal Plant Materials, World Health Organization, Geneva, 1998. WHO. Guidelines for the Appropriate Use of Herbal Medicines. WHO Regional Publications, Western Pacific Series No 3, WHO Regional office for the Western Pacific, Manila, 1998.
- WHO. The International Pharmacopeia, Vol. 2: Quality Specifications, 3rd edn.
- World Health Organization, Geneva, 1981.
- WHO. Quality Control Methods for Medicinal Plant Materials. World Health Organization, Geneva, 1999.
- WHO. WHO Global Atlas of Traditional, Complementary and Alternative Medicine. 2 vol. set. Vol. 1 contains text and Vol. 2, maps. World Health Organization, Geneva, 2005.

- WHO. Guidelines on Good Agricultural and Collection Practices (GACP) for Medicinal Plants. World Health Organization, Geneva, 2004.

Name of Course **Computer Aided Drug Design (Theory)**

Course Code BP807ET

Scope This subject is designed to provide detailed knowledge of rational drug design process and various techniques used in rational drug design process.

References

- Robert GCK, ed., "Drug Action at the Molecular Level" University Prak Press Baltimore.
- Martin YC. "Quantitative Drug Design" Dekker, New York.
- Delgado JN, Remers WA eds "Wilson & Gisvolds's Text Book of Organic Medicinal & Pharmaceutical Chemistry" Lippincott, New York.
- Foye WO "Principles of Medicinal chemistry 'Lea & Febiger.

Name of Course **Cell and Molecular Biology**

Course Code BP808ET

Scope Cell biology is a branch of biology that studies cells – their physiological properties, their structure, the organelles they contain, interactions with their environment, their life cycle, division, death and cell function. Cell biology research encompasses both the great diversity of single-celled organisms like bacteria and protozoa, as well as the many specialized cells in multi-cellular organisms such as humans, plants, and sponges.

References

- W.B. Hugo and A.D. Russel: Pharmaceutical Microbiology, Blackwell Scientific publications, Oxford London.
- Prescott and Dunn., Industrial Microbiology, 4th edition, CBS Publishers & Distributors, Delhi.
- Pelczar, Chan Kreig, Microbiology, Tata McGraw Hill edn.
- Malcolm Harris, Balliere Tindall and Cox: Pharmaceutical Microbiology.
- Rose: Industrial Microbiology.
- Probisher, Hinsdill et al: Fundamentals of Microbiology, 9th ed. Japan

- Cooper and Gunn's: Tutorial Pharmacy, CBS Publisher and Distribution.
- Edward: Fundamentals of Microbiology.
- N.K.Jain: Pharmaceutical Microbiology, Vallabh Prakashan, Delhi

Name of Course	**Cosmetic Science (Theory) Elective**
Course Code	BP809ET
Scope	The subject includes the concepts of formulation and evaluation of skin-care, hair-care and oral care cosmetics. It also focusses on various cosmetic problems of skin, hair and oral cavity and their treatment.
References	• Harry's Cosmeticology, Wilkinson, Moore, Seventh Edition, George Godwin. • Cosmetics – Formulations, Manufacturing and Quality Control, P.P. Sharma, 4th Edition, Vandana Publications Pvt. Ltd., Delhi. • Text book of Cosmeticology by Sanju Nanda & Roop K. Khar, Tata Publishers.

Name of Course	**Experimental Pharmacology**
Course Code	BP810ET
Scope	This subject is designed to impart the basic knowledge of preclinical studies in experimental animals. It also includes design, conduct and interpretations of results of preclinical experiments.
References	• Fundamentals of experimental Pharmacology-by M. N. Ghosh • Hand book of Experimental Pharmacology-S. K. Kulakarni • CCSEA guidelines for laboratory animal facility. • Drug discovery and Evaluation by Vogel H.G. • Drug Screening Methods by Suresh Kumar Gupta and S. K. Gupta • Introduction to biostatistics and research methods by PSS Sundar Rao and J Richard

Name of Course	**Advanced Instrumentation Techniques (Theory)**
Course Code	BP811ET
Scope	This subject deals with the application of instrumental methods in qualitative and quantitative analysis of drugs. This subject is designed to impart advanced knowledge on the principles and instrumentation of spectroscopic and chromatographic hyphenated techniques. This also emphasizes on theoretical and practical knowledge on modern analytical instruments that are used for drug testing.
References	• Sharma, B. K. Instrumental methods of chemical analysis. Krishna Prakashan Media. • Connors, K. A. A textbook of pharmaceutical analysis. John Wiley & Sons. • Vogel, A. I., & Jeffery, G. H. Vogel's textbook of quantitative chemical analysis. Wiley. • Beckett, A. H., & Stenlake, J. B. (Eds.). Practical Pharmaceutical Chemistry: Part I & II. A&C Black.

Name of Course	**Cosmetic Science (Theory) Elective**
Course Code	BP812ET
Scope	This subject covers foundational topic that are important for understanding the need and requirements of dietary supplements among different groups in the population.
References	• Role of dietary fibres and nutraceuticals in preventing diseases by K.T Agusti and P.Faizal: B S Publication. • Advanced Nutritional Therapies by Cooper. K.A., (1996). • The Food Pharmacy by Jean Carper, Simon & Schuster, UK Ltd., (1988). • Prescription for Nutritional Healing by James F.Balch and Phyllis A.Balch 2nd Edn., Avery Publishing Group, NY (1997). • G. Gibson and C.williams Editors 2000 Functional foods Woodhead Publ.Co.London. • Goldberg, I. Functional Foods. 1994. Chapman and Hall, New York.

- Labuza, T.P. 2000 Functional Foods and Dietary Supplements: Safety, Good Manufacturing Practice (GMPs) and Shelf Life Testing in Essentials of Functional Foods M.K. Sachmidl and T.P. Labuza eds. Aspen Press.
- Handbook of Nutraceuticals and Functional Foods, Third Edition (Modern Nutrition)

Name of Course	**Pharmaceutical Product Development (Theory- elective)**
Course Code	BP813ET
Scope	The course deals with the pharmaceutical product development and various excipients like solubilizer, suspending agents, diluents, complexing agent etc. This also include the packaging materials and optimization and quality control parameters for various dosage forms
References	• Bolton, Stanford; Bon, Charles, Pharmaceutical Statistics Practical and Clinical Applications, USA: Marcel Dekker Inc. • Lieberman, Herbert; Lachman, Leon, Pharmaceutical Dosage Forms, Tablets, USA: Marcel Dekker Inc. • Khar, Roop; Vyas, S. P.; Ahmad, Farhan; Jain, Gaurav, The Theory and Practice of Industrial Pharmacy, India: CBS Publishers and Distributors Pvt. Ltd. • Sinko, Patrick, Martin's Physical Pharmacy and Pharmaceutical Sciences, USA: Lippincott Williams & Wilkins.

Name of Course	**Project Work**
Course Code	BP 812PW
Scope	The scope of an undergraduate research project in pharmaceutical sciences can be quite broad, depending on the focus of the research, the resources available, and the student's interests. It covers exposure of research proposal writing, research methodology and project report writing.
References	--

SECTION F

FORMS & DECLARATION

(For reference purpose only)

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

Declaration to be submitted by the Students Admitted to Different Programmes of the University (Code of Conduct)

DECLARATION

I, _____ admitted in _____ (programme) of the Institute of _____, Nirma University do hereby declare and undertake that I will abide by the Code of Conduct, Procedure to inquire and decide with misconduct/indiscipline by students Rules 2020 and other related provisions like dress code on the campus, rules for maintaining vehicles on the campus, and public display of affection (PDA) and etiquette on the campus etc.

I will abide by all the rules and regulations and if I am found violating any rules then, I shall be subjected to the major/minor penalties as per the provision of aforesaid rules.

In case any legal issue arises, the jurisdiction shall be Ahmedabad, Gujarat only.

Date:

Place: Signature of the student

Name of the student: _____

Signature of the Parent/ Local Guardian _____

Name of the Parent/ Local Guardian: _____

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

Undertaking for Rules & Regulations of the Examination

I, _____ Roll No. _____

studying in First year of _____ programme at Institute of _____,

Nirma University, Ahmedabad do hereby undertake that I have read and understood all the Rules & Regulations related to Academic Dishonesty at examinations/tests/assignments and punishment in case of using unfair means, I have also gone through the Academic Regulations related to Granting of Term and Cancellation of admission, and I shall observe, follow and abide by all these rules and regulations.

I shall abide by all the rules and regulations and if I am found violating any rules then, I shall be subjected to the necessary action/penalties as per provision of rules/regulations.

In case any legal issue arises, the jurisdiction shall be Ahmedabad, Gujarat only.

Signature _____

Name _____

Address _____

_____

Signature of Parents _____

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

UNDERTAKING

(To refrain from consumption of Drugs and Alcohol)

I, _____ bearing Roll No. _____ admitted in _____ (programme) of Institute of _____, Nirma University, do hereby declare and undertake that I will refrain myself from consumption of Drugs and Alcohol.

I have read the relevant instruction with regard to bane on consumption of drugs and alcohol. I am aware that the use/possession of narcotics drugs and alcohol is a punishable offence under the law of the Government of Gujarat and if I am found guilty of using such thing/s, then it will amount to a criminal offence and I am liable for the appropriate penalty as per laws.

I hereby give an undertaking to the Institute that I will refrain myself from consumption of Drugs and Alcohol.

Date _____

Place _____ Signature of Student

I undertake that I will take utmost care to see that my ward does not get involved in any such incident.

Name of Parent/Guardian _____

Signature of Parent/Guardian _____

Address of Parent/Guardian with contact nos. _____

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

FORM OF MEDICAL FITNESS CERTIFICATE

(To be produced at the time of reporting at the institute)

I / Dr. _____ (Name & Designation) posted in _____ (Name of Hospital & Place) certify that I have carefully examined _____ (Name of Candidate) S/o. D/o. Shri _____ and according to his/her medical examination, I have diagnosed nothing that may prevent him/her pursuing under graduate/post graduate degree courses.

He/She has no disease or mental or bodily infirmity making him/her unfit or likely to make him/her unfit in the near future for visits / training / internships / projects etc. at industries, and active out door duty, as a student.

Mark of identification: _____

Signature of Medical Officer

Seal of Designation and Hospital

Dated:

Photograph of candidate duly attested by the Medical Officer

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

UNDERTAKING FOR CONDUCT AND DISCIPLINE RULES FOR THE STUDENTS

I,.....IT,NU Merit No. / Roll No. ..... admitted in ..... (programme) of the Institute of Technology, Nirma University do hereby declare and undertake that I shall comply with followings:

1. I always carry the identity card while I remain in the campus and produce if required by the competent authorities.
2. I attend all the scheduled classes from the beginning to the end of the term/semester. I am aware that absence due to illness or any unavoidable circumstances shall be considered only if the application is supported by medical certificates and/or if the leave application is submitted to the Director through the parents.
3. I shall be polite individually or in groups and show respect to the faculty (teachers) as well as to the staff of the Institute. I shall follow the Instructions in connection with academic or other matters as instructed by the teachers from time to time. I shall not participate in activities that may cause harm to the academic environment or teacher-student relation.
4. I am aware that the action of any individual, group or wing which amounts to interference in the regular administration of the Institute/University is prohibited.
5. I am aware that Causing disfiguration or damage to the property of the Institute/University or belongings of staff members or students is forbidden.
6. I am aware that No student shall indulge in any activity in the college campus that might be illegal or may lead to disorderliness.
7. I am aware that I should not be in possession of any intoxicant or intoxicating materials and should not consume such things.
8. I am aware that use of any kind of mobile phones; whether ordinary, camera phone or smart phone in the academic areas during academic activities, is prohibited. However, for academic purpose or in exceptional cases, the students can be allowed to use mobile with prior permission. Unauthorized use of mobile phone in the academic area specifically in the classrooms is prohibited failing to which the fine of Rs. 5000/- can be imposed.

   During the examinations; specified rules for the same shall be followed.
9. I shall abide by the Code of Conduct, Procedure to inquire and decide with misconduct/indiscipline by students Rules 2020 and other related provisions like dress code on the campus, rules for maintaining vehicles on the campus, and public display of affection (PDA) and etiquette on the campus etc.

Signature of Student _____ Date : _____

Declaration

I,……,solemnly affirm, declare and undertake that I shall abide by all the rules and regulations and if I found violating any rules then, I shall be subjected to the necessary action/penalties as per provision of rules/regulations. In case of any legal issue arises, the jurisdiction shall be Ahmedabad, Gujarat only.

Sign .....

Date:

Place: Ahmadabad

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

UNDERTAKING FOR ACADEMIC RULES AND REGULATIONS

Registration No./Merit No. _____

I, Mr./Ms. _____ son/daughter of _____ have secured admission at the Institute of Technology, Nirma University in the year 2024-25 for the Six Year Pharm D Programme. I hereby confirm that I have gone through the academic rules and regulations of the programme/Institute very carefully and I assure you that I will abide by the same.

_____ _____

Name & signature of student Endorsement by parent/guardian

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

UNDERTAKING FOR NOT INVOLVING HIMSELF/ HERSELF FOR RAGGING

I, _____ admitted in the First Year of the Four Year B. Pharm. Programme at the Institute of Pharmacy, Nirma University, do hereby declare and undertake that I am fully aware of the rules and regulations regarding ragging and aware of the University's policy towards zero tolerance on ragging which are in line with the Directives of the Hon'ble Supreme Court of India. I am also aware about the punishment, if I found guilty of ragging or violating the rules.

Date:

Place: Signature of the student

Name of the student: _____

Signature of the Parent/ Local Guardian _____

Name of the Parent/ Local Guardian: _____

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A+' GRADE

ATTENDANCE POLICY

1.0 Purpose

The purpose of this policy is to establish clear and consistent attendance guidelines for students, ensuring that they understand the importance of regular and punctual attendance in achieving academic success.

2.0 Scope

This is applicable to all students registered at Institute of Pharmacy, Nirma University.

3.0 Definition

Course	It is a series of lessons or lectures on a particular subject in any programme in Institute of Pharmacy, Nirma University.
Course Coordinator	Faculty in charge for course any progrmme at Institute of Pharmacy, Nirma University.
Events	It is organized gatherings such as academic conferences, workshops, social activities, sports and cultural performances, aimed at enhancing the educational experience, fostering community engagement, and promoting professional and personal development among students and faculty.
Assessment	Assessment refers to a systematic process of evaluating, measuring, and documenting the knowledge, skills, attitudes, and beliefs of learners (Formative and Summative Assessment).

4.0 Policy Statement

4.1 Students are required to attend all classes, practical work, and tutorials conducted throughout the day.

4.2 Attendance will be taken by the course coordinator or faculty in charge of each class. The objective is not mere attendance but fostering a positive interaction and learning environment.

4.3 Attendance will be taken within the first 5 minutes of the class. Students must be present before the faculty enters. Students entering after 5 minutes will not be granted attendance under any circumstances.

4.4 Students must seek prior permission from the Director to be absent from any theory, practical, or tutorial sessions by submitting a leave application form available with the Personal Assistant (PA) to the Director. Absence without prior permission will be treated as an act of indiscipline and processed accordingly.

4.5 In case of emergencies or medical reasons, students may take medical leave. Upon returning, they must submit the required documents (medical certificate, prescription) along with the official leave form to Personal Assistant (PA) to the Director, covering the period they could not attend the Institute.

4.6 As per University regulations, students are required to attend 85% of the classes conducted in each course. However, the Director may consider up to 75% attendance with valid reasons for absence, if the appeal committee is convinced by the reasons provided by the student.

4.7 Students with less than 75% attendance will not be allowed to sit for the final semester or year-end examinations (theory and practical).

4.8 Students who are barred from taking the final semester or year-end examination due to insufficient attendance (in either theory or practical classes, or both) must retake the semester with mandatory attendance. They are required to attend all theory and/or practical classes again, participate in all continuous assessments, and meet the attendance requirements before they are eligible to sit for the final semester or year-end examination.

4.9 Attendance will be reviewed three times in a semester, and the report will be sent to parents. The dates of the attendance review committee meetings will be provided in the academic calendar.

4.10 Students with attendance shortfalls will be called before the appeal committee. The committee will hear the cases on an individual basis and decide accordingly.

4.11 Students wishing to participate in internal or external academic, sports, or cultural events must seek approval seven (7) days before the event. They must write a letter, get an endorsement signature from the respective event coordinator, and obtain approval from the Director, Institute of Pharmacy.

4.12 The approved letter must be submitted with the leave form and other necessary documents to Personal Assistant (PA) to the Director, at least three (3) days before the commencement of the event.

4.13 Post-event approval is not accepted, and attendance will not be granted for the day or for lectures/tutorials/practicals missed.

4.14 Attendance for practicing any type of event will not be considered without prior approval from the respective event coordinator and the Director, Institute of Pharmacy, Nirma University.

4.15 Every student is allowed to participate in a maximum of 3 internal events (at the institute or University level) and 2 external events (outside Nirma University) per semester/year.

4.16 The Institute will not be responsible for students missing any component of examination due to their leave.

5.0 Related Policies, legislations, rules or regulations

5.1 Examination Regulation, IPNU

5.2 Academic Regulation, IPNU

LEGEND:

1 - SECURITY MAIN GATE - 60 mt. FROM HERE
2 - PARKING SPACE - 180 mt.
2-A - PARKING SPACE - 495 mt.
3 - TRANSPORT OFFICE - [T] -175 mt.
4 - CAR GARAGE - 225 mt.
5 - PETROL PUMP - 380 mt.
6 - POLICE STATION - 190 mt.
7 - SECURITY GATE 1 - 150 mt.
8 - SEWAGE TREATMENT PLANT - 118 mt.
9 - BLOCK-A MECHANICAL & CHEMICAL ENGG. DEPARTMENT - [A] - 140 mt.
10 - POST GRADUATE AND RESEARCH CENTER - [PG] - INSTITUTE OF TECH. DIRECTOR OFFICE - 215 mt.
11 - BLOCK-C INSTITUTE OF ARCHITECTURE AUDITORIUM - [C] - 330 mt.
12 - SPORT GROUND, HOCKEY & FOOTBALL - 130 mt.
13 - CONVOCATION STAGE - 130 mt.
14 - OPEN AIR THEATRE - 110 mt.
15 - WORK SHOP - [W] - 145 mt.
16 - HEALTH CENTER,DIESEL GENERATOR ROOM & ELEC. SUB STATION - 390 mt.
17 - BLOCK-B CIVIL ENGG. DEPT. , IT & COMP., M.C.A. DEPARTMENT, LIBRARY (INST. OF TECH.) - [B] - 175 mt.
18 - CANTEEN BUILDING, III CELL, STUDENT STORE, STUDENT SECTION, ATM & BANK - [K] - 270 mt.

19 - BLOCK-D ELECTRICAL ENGG., EC & IC DEPT. - [D] - 360 mt.
20 - SECURITY GATE 2 - 315 mt.
21 - WATER FALL STRUCTURE - 205 mt.
22 - UNIVERSITY BUILDING, AUDITORIUM, CENTRAL LIBRARY & CLASS ROOMS (WORK IN PROGRESS) - 355 mt.
23 - INSTITUTE OF LAW - [L] - 505 mt.
24 - FOOD COURT 2 - [F] - 595 mt.
25 - BOY'S HOSTEL - [H] - 630 mt.
26 - GIRL'S HOSTEL - [H] - 805 mt.
27 - STUDENT ACTIVITY CENTER (DINING HALL, CANTEEN, GYMNASIUM, ROBOTIC LAB, YOGA HALL, INDOOR GAMES ROOM) - 685 mt.
28 - UNDER GROUND WATER TANK (5 LACS LITER) - 680 mt.
29 - OVER HEAD WATER TANK (2 LACS LITER) - 715 mt.
30 - BOYS HOSTEL - [H] - 880 mt.
30-A - GUEST HOUSE - [G] - 715 mt.
31 - SECURITY GATE 3 - 495 mt.

32 - INSTITUTE OF MANAGEMENT, AUDITORIUM - [M] - 575 mt.
32-A - UNIVERSITY OFFICE - 575 mt.
33 - FOOD COURT 1 - [F] - 755 mt.
33-A - MULTI PURPOSE ACTIVITY LAWN
34 - CRICKET GROUND - 700 mt.
35 - BADMINTON COURT - 700 mt.
36 - TENNIS COURT, BASKET BALL COURT, VOLLEY BALL COURT & CRICKET PITCH FOR PRACTICE - 780 mt.
37 - INSTITUTE OF PHARMACY - [P] - 670 mt.
38 - ANIMAL HOUSE - [AH] - 670 mt.
39 - ELECTRICAL SUBSTATION BUILDING & A.C. PLANT ROOM - 780 mt.
40 - INSTITUTE OF SCIENCE - [S] - 825 mt.
41 - HERBAL GARDEN - 630 mt.
42 - PROPOSED GIRL'S HOSTEL (15 STOREY) - [H] - 538 mt.
43 - NIRMA VIDHYAVIHAR (SCHOOL BUILDING)

0 10 30 60 100 150 Mt.

LAYOUT FOR NIRMA UNIVERSITY CAMPUS, AHMEDABAD.

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NIRMA UNIVERSITY

INSTITUTE OF PHARMACY

NAAC ACCREDITED 'A+' GRADE

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